(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

CORRECTED VERSION

(54) **Title:** NEISSERIA GENOMIC SEQUENCES AND METHODS OF THEIR USE

A
919 (46 kDa)
PURIFICATION
M1   919

B
919 (46 kDa)
WESTERN BLOT
OMV   TP   PP

C
919 (46 kDa)
FACS
100

D
919 (46 kDa)
BACTERICIDAL ASSAY
◆ preimmune
▲ GST
● 919
400
300
200
100
0
colonies
t0   t1
time

E
919 (46 kDa)
ELISA assay: positive
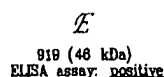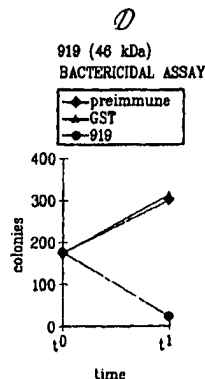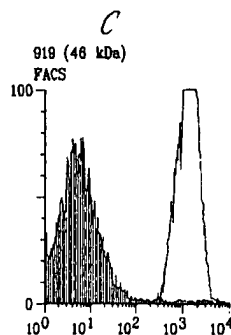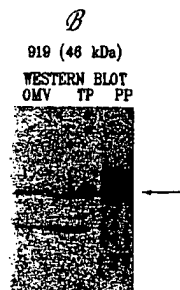
(57) **Abstract:** The invention provides methods of obtaining immunogenic proteins from genomic sequences including *Neisseria*, including the amino acid sequences and the corresponding nucleotide sequences, as well as the genomic sequence of *Neisseria meningitidis B.* The proteins so obtained are useful antigens for vaccines, immunogenic compositions, and/or diagnostics.

WO 00/022430 A3

1, I-53100 Siena (IT). **MORA, Marirosa** [IT/IT]; Chiron SpA, Via Fiorentina 1, I-53100 Siena (IT). **RATTI, Giulio** [IT/IT]; Chiron SpA, Via Fiorentina 1, I-53100 Siena (IT). **SCARSELLI, Maria** [IT/IT]; Chiron SpA, Via Fiorentina 1, I-53100 Siena (IT). **SCARLATO, Vincenzo** [IT/IT]; Chiron SpA, Via Fiorentina 1, I-53100 Siena (IT). **RAPPUOLI, Rino** [IT/IT]; Chiron SpA, Via Fiorentina 1, I-53100 Siena (IT). **PIZZA, Mariagratia** [IT/IT]; Chiron SpA, Via Fiorentina 1, I-53100 Siena (IT).

(74) **Agent: HARBIN, Alisa, A.;** Chiron Corporation, Intellectual Property - R440, P.O. Box 8097, Emeryville, CA 94662-8097 (US).

(81) **Designated States** *(national)*: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) **Designated States** *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

(88) **Date of publication of the international search report:**
6 June 2002

(48) **Date of publication of this corrected version:**
4 July 2002

(15) **Information about Correction:**
see PCT Gazette No. 27/2002 of 4 July 2002, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

NEISSERIA GENOMIC SEQUENCES AND METHODS OF THEIR USE

This application claims priority to provisional U.S. applications serial nos.
60/103,794, filed 9 October, 1998 and 60/132,068, filed 30 April, 1999, both of which are
5   incorporated in full herein by reference.

This invention relates to methods of obtaining antigens and immunogens, the antigens
and immunogens so obtained, and nucleic acids from the bacterial species: *Neisseria
meningitidis*. In particular, it relates to genomic sequences from the bacterium; more
particularly its "B" serogroup.

10

BACKGROUND

Neisseria meningitidis is a non-motile, gram negative diplococcus human pathogen.
It colonizes the pharynx, causing meningitis and, occasionally, septicaemia in the absence of
meningitis. It is closely related to *N. gonorrhoea*, although one feature that clearly
15   differentiates meningococcus from gonococcus is the presence of a polysaccharide capsule
that is present in all pathogenic meningococci.

N. meningitidis causes both endemic and epidemic disease. In the United States the
attack rate is 0.6-1 per 100,000 persons per year, and it can be much greater during outbreaks.
(see Lieberman *et al.* (1996) Safety and Immunogenicity of a Serogroups A/C *Neisseria*
20   *meningitidis* Oligosaccharide-Protein Conjugate Vaccine in Young Children. *JAMA*
275(19):1499-1503; Schuchat *et al* (1997) Bacterial Meningitis in the United States in 1995.
N Engl J Med 337(14):970-976). In developing countries, endemic disease rates are much
higher and during epidemics incidence rates can reach 500 cases per 100,000 persons per
year. Mortality is extremely high, at 10-20% in the United States, and much higher in
25   developing countries. Following the introduction of the conjugate vaccine against
Haemophilus influenzae, *N. meningitidis* is the major cause of bacterial meningitis at all ages
in the United States (Schuchat *et al* (1997) *supra*).

Based on the organism's capsular polysaccharide, 12 serogroups of *N. meningitidis*
have been identified. Group A is the pathogen most often implicated in epidemic disease in
30   sub-Saharan Africa. Serogroups B and C are responsible for the vast majority of cases in the
United States and in most developed countries. Serogroups W135 and Y are responsible for

- 2 -

the rest of the cases in the United States and developed countries. The meningococcal
vaccine currently in use is a tetravalent polysaccharide vaccine composed of serogroups A, C,
Y and W135. Although efficacious in adolescents and adults, it induces a poor immune
response and short duration of protection, and cannot be used in infants (e.g., Morbidity and

5   Mortality weekly report, Vol. 46, No. RR-5 (1997)). This is because polysaccharides are T-
cell independent antigens that induce a weak immune response that cannot be boosted by
repeated immunization. Following the success of the vaccination against *H. influenzae*,
conjugate vaccines against serogroups A and C have been developed and are at the final stage
of clinical testing (Zollinger WD "New and Improved Vaccines Against Meningococcal

10   Disease". In: *New Generation Vaccines, supra*, pp. 469-488; Lieberman *et al* (1996) *supra*;
Costantino *et al* (1992) Development and phase I clinical testing of a conjugate vaccine
against meningococcus A (menA) and C (menC) (*Vaccine* 10:691-698)).

      Meningococcus B (MenB) remains a problem, however. This serotype currently is
responsible for approximately 50% of total meningitis in the United States, Europe, and

15   South America. The polysaccharide approach cannot be used because the MenB capsular
polysaccharide is a polymer of α(2-8)-linked *N*-acetyl neuraminic acid that is also present in
mammalian tissue. This results in tolerance to the antigen; indeed, if an immune response
were elicited, it would be anti-self, and therefore undesirable. In order to avoid induction of
autoimmunity and to induce a protective immune response, the capsular polysaccharide has,

20   for instance, been chemically modified substituting the *N*-acetyl groups with *N*-propionyl
groups, leaving the specific antigenicity unaltered (Romero & Outschoorn (1994) Current
status of Meningococcal group B vaccine candidates: capsular or non-capsular? *Clin
Microbiol Rev* 7(4):559-575).

      Alternative approaches to MenB vaccines have used complex mixtures of outer

25   membrane proteins (OMPs), containing either the OMPs alone, or OMPs enriched in porins,
or deleted of the class 4 OMPs that are believed to induce antibodies that block bactericidal
activity. This approach produces vaccines that are not well characterized. They are able to
protect against the homologous strain, but are not effective at large where there are many
antigenic variants of the outer membrane proteins. To overcome the antigenic variability,

30   multivalent vaccines containing up to nine different porins have been constructed (e.g.,
Poolman JT (1992) Development of a meningococcal vaccine. *Infect. Agents Dis.* 4:13-28).

- 3 -

Additional proteins to be used in outer membrane vaccines have been the opa and opc proteins, but none of these approaches have been able to overcome the antigenic variability (e.g., Ala'Aldeen & Borriello (1996) The meningococcal transferrin-binding proteins 1 and 2 are both surface exposed and generate bactericidal antibodies capable of killing homologous and heterologous strains. *Vaccine* 14(1):49-53).

A certain amount of sequence data is available for meningococcal and gonococcal genes and proteins (e.g., EP-A-0467714, WO96/29412), but this is by no means complete. The provision of further sequences could provide an opportunity to identify secreted or surface-exposed proteins that are presumed targets for the immune system and which are not antigenically variable or at least are more antigenically conserved than other and more variable regions. Thus, those antigenic sequences that are more highly conserved are preferred sequences. Those sequences specific to *Neisseria meningitidis* or *Neisseria gonorrhoeae* that are more highly conserved are further preferred sequences. For instance, some of the identified proteins could be components of efficacious vaccines against meningococcus B, some could be components of vaccines against all meningococcal serotypes, and others could be components of vaccines against all pathogenic *Neisseriae*. The identification of sequences from the bacterium will also facilitate the production of biological probes, particularly organism-specific probes.

It is thus an object of the invention is to provide Neisserial DNA sequences which (1) encode proteins predicted and/or shown to be antigenic or immunogenic, (2) can be used as probes or amplification primers, and (3) can be analyzed by bioinformatics.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 illustrates the products of protein expression and purification of the predicted ORF 919 as cloned and expressed in *E. coli*.

Fig. 2 illustrates the products of protein expression and purification of the predicted ORF 279 as cloned and expressed in *E. coli*.

Fig. 3 illustrates the products of protein expression and purification of the predicted ORF 576-1 as cloned and expressed in *E. coli*.

Fig. 4 illustrates the products of protein expression and purification of the predicted ORF 519-1 as cloned and expressed in *E. coli*.

- 4 -

Fig. 5 illustrates the products of protein expression and purification of the predicted ORF 121-1 as cloned and expressed in *E. coli*.

Fig. 6 illustrates the products of protein expression and purification of the predicted ORF 128-1 as cloned and expressed in *E. coli*.

5   Fig. 7 illustrates the products of protein expression and purification of the predicted ORF 206 as cloned and expressed in *E. coli*.

Fig. 8 illustrates the products of protein expression and purification of the predicted ORF 287 as cloned and expressed in *E. coli*.

Fig. 9 illustrates the products of protein expression and purification of the predicted

10   ORF 406 as cloned and expressed in *E. coli*.

Fig. 10 illustrates the hydrophilicity plot, antigenic index and AMPHI regions of the products of protein expression the predicted ORF 919 as cloned and expressed in *E. coli*.

Fig. 11 illustrates the hydrophilicity plot, antigenic index and AMPHI regions of the products of protein expression the predicted ORF 279 as cloned and expressed in *E. coli*.

15   Fig. 12 illustrates the hydrophilicity plot, antigenic index and AMPHI regions of the products of protein expression the predicted ORF 576-1 as cloned and expressed in *E. coli*.

Fig. 13 illustrates the hydrophilicity plot, antigenic index and AMPHI regions of the products of protein expression the predicted ORF 519-1 as cloned and expressed in *E. coli*.

Fig. 14 illustrates the hydrophilicity plot, antigenic index and AMPHI regions of the

20   products of protein expression the predicted ORF 121-1 as cloned and expressed in *E. coli*.

Fig. 15 illustrates the hydrophilicity plot, antigenic index and AMPHI regions of the products of protein expression the predicted ORF 128-1 as cloned and expressed in *E. coli*.

Fig. 16 illustrates the hydrophilicity plot, antigenic index and AMPHI regions of the products of protein expression the predicted ORF 206 as cloned and expressed in *E. coli*.

25   Fig. 17 illustrates the hydrophilicity plot, antigenic index and AMPHI regions of the products of protein expression the predicted ORF 287 as cloned and expressed in *E. coli*.

Fig. 18 illustrates the hydrophilicity plot, antigenic index and AMPHI regions of the products of protein expression the predicted ORF 406 as cloned and expressed in *E. coli*.

- 5 -

THE INVENTION

  The invention is based on the 961 nucleotide sequences from the genome of
N. meningitidis shown as SEQ ID NOs:1-961 of Appendix C, and the full length genome of
N. meningitidis shown as SEQ ID NO. 1068 in Appendix D. The 961 sequences in Appendix
5 C represent substantially the whole genome of serotype B of *N. meningitidis* (>99.98%).
There is partial overlap between some of the 961 contiguous sequences ("contigs") shown in
the sequences in Appendix C, which overlap was used to construct the single full length
sequence shown in SEQ ID NO. 1068 in Appendix D, using the TIGR Assembler [G.S.
Sutton et al., *TIGR Assembler: A New Tool for Assembling Large Shotgun Sequencing*
10 *Projects*, Genome Science and Technology, 1:9-19 (1995)]. Some of the nucleotides in the
contigs had been previously released. (See ftp:11ftp.tigr.org/pub/data/n_meningitidis on the
world-wide web or "WWW"). The coordinates of the 2508 released sequences in the present
contigs are presented in Appendix A. These data include the contig number (or i.d.) as
presented in the first column; the name of the sequence as found on WWW is in the second
15 column; with the coordinates of the contigs in the third and fourth columns, respectively.
The sequences of certain MenB ORFs presented in Appendix B feature in International
Patent Application filed by Chiron SpA on October 9, 1998 (PCT/IB98/01665) and January
14, 1999 (PCT/IB99/00103) respectively.

  In a first aspect, the invention provides nucleic acid including one or more of the
20 *N. meningitidis* nucleotide sequences shown in SEQ ID NOs:1-961 and 1068 in Appendices
C and E. It also provides nucleic acid comprising sequences having sequence identity to the
nucleotide sequence disclosed herein. Depending on the particular sequence, the degree of
sequence identity is preferably greater than 50% (e.g., 60%, 70%, 80%, 90%, 95%, 99% or
more). These sequences include, for instance, mutants and allelic variants. The degree of
25 sequence identity cited herein is determined across the length of the sequence determined by
the Smith-Waterman homology search algorithm as implemented in MPSRCH program
(Oxford Molecular) using an affine gap search with the following parameters: gap open
penalty 12, gap extension penalty 1.

  The invention also provides nucleic acid including a fragment of one or more of the
30 nucleotide sequences set out herein. The fragment should comprise at least *n* consecutive
nucleotides from the sequences and, depending on the particular sequence, *n* is 10 or more

- 6 -

(e.g., 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 30, 35, 40, 45, 50, 60, 75, 100 or more). Preferably, the fragment is unique to the genome of *N. meningitidis*, that is to say it is not present in the genome of another organism. More preferably, the fragment is unique to the genome of strain B of *N. meningitidis*. The invention also provides nucleic acid that

5   hybridizes to those provided herein. Conditions for hybridizing are disclosed herein.

The invention also provides nucleic acid including sequences complementary to those described above (e.g., for antisense, for probes, or for amplification primers).

Nucleic acid according to the invention can, of course, be prepared in many ways (e.g., by chemical synthesis, from DNA libraries, from the organism itself, etc.) and can take

10   various forms (e.g., single-stranded, double-stranded, vectors, probes, primers, etc.). The term "nucleic acid" includes DNA and RNA, and also their analogs, such as those containing modified backbones, and also peptide nucleic acid (PNA) etc.

It will be appreciated that, as SEQ ID NOs:1-961 represent the substantially complete genome of the organism, with partial overlap, references to SEQ ID NOs:1-961 include

15   within their scope references to the complete genomic sequence, e.g., where two SEQ ID NOs overlap, the invention encompasses the single sequence which is formed by assembling the two overlapping sequences. Thus, for instance, a nucleotide sequence which bridges two SEQ ID NOs but is not present in its entirety in either SEQ ID NO is still within the scope of the invention. Additionally, such a sequence will be present in its entirety in the single full

20   length sequence of SEQ ID NO. 1068.

The invention also provides vectors including nucleotide sequences of the invention (e.g., expression vectors, sequencing vectors, cloning vectors, etc.) and host cells transformed with such vectors.

According to a further aspect, the invention provides a protein including an amino

25   acid sequence encoded within a *N. meningitidis* nucleotide sequence set out herein. It also provides proteins comprising sequences having sequence identity to those proteins. Depending on the particular sequence, the degree of sequence identity is preferably greater than 50% (e.g., 60%, 70%, 80%, 90%, 95%, 99% or more). Sequence identity is determined as above disclosed. These homologous proteins include mutants and allelic variants, encoded

30   within the *N. meningitidis* nucleotide sequence set out herein.

- 7 -

The invention further provides proteins including fragments of an amino acid sequence encoded within a *N. meningitidis* nucleotide sequence set out in the sequence listing. The fragments should comprise at least *n* consecutive amino acids from the sequences and, depending on the particular sequence, *n* is 7 or more (e.g., 8, 10, 12, 14, 16, 18, 20 or more). Preferably the fragments comprise an epitope from the sequence.

The proteins of the invention can, of course, be prepared by various means (e.g., recombinant expression, purification from cell culture, chemical synthesis, *etc.*) and in various forms (e.g. native, fusions *etc.*). They are preferably prepared in substantially isolated form (*i.e.*, substantially free from other *N. meningitidis* host cell proteins).

Various tests can be used to assess the *in vivo* immunogenicity of the proteins of the invention. For example, the proteins can be expressed recombinantly or chemically synthesized and used to screen patient sera by immunoblot. A positive reaction between the protein and patient serum indicates that the patient has previously mounted an immune response to the protein in question; i.e., the protein is an immunogen. This method can also be used to identify immunodominant proteins.

The invention also provides nucleic acid encoding a protein of the invention.

In a further aspect, the invention provides a computer, a computer memory, a computer storage medium (e.g., floppy disk, fixed disk, CD-ROM, etc.), and/or a computer database containing the nucleotide sequence of nucleic acid according to the invention. Preferably, it contains one or more of the *N. meningitidis* nucleotide sequences set out herein.

This may be used in the analysis of the *N. meningitidis* nucleotide sequences set out herein. For instance, it may be used in a search to identify open reading frames (ORFs) or coding sequences within the sequences.

In a further aspect, the invention provides a method for identifying an amino acid sequence, comprising the step of searching for putative open reading frames or protein-coding sequences within a *N. meningitidis* nucleotide sequence set out herein. Similarly, the invention provides the use of a *N. meningitidis* nucleotide sequence set out herein in a search for putative open reading frames or protein-coding sequences.

Open-reading frame or protein-coding sequence analysis is generally performed on a computer using standard bioinformatic techniques. Typical algorithms or program used in the analysis include ORFFINDER (NCBI), GENMARK [Borodovsky & McIninch (1993)

- 8 -

Computers Chem 17:122-133], and GLIMMER [Salzberg et al. (1998) *Nucl Acids Res* 26:544-548].

A search for an open reading frame or protein-coding sequence may comprise the steps of searching a *N. meningitidis* nucleotide sequence set out herein for an initiation codon and searching the upstream sequence for an in-frame termination codon. The intervening codons represent a putative protein-coding sequence. Typically, all six possible reading frames of a sequence will be searched.

An amino acid sequence identified in this way can be expressed using any suitable system to give a protein. This protein can be used to raise antibodies which recognize epitopes within the identified amino acid sequence. These antibodies can be used to screen *N. meningitidis* to detect the presence of a protein comprising the identified amino acid sequence.

Furthermore, once an ORF or protein-coding sequence is identified, the sequence can be compared with sequence databases. Sequence analysis tools can be found at NCBI (http://www.ncbi.nlm.nih.gov) e.g., the algorithms BLAST, BLAST2, BLASTn, BLASTp, tBLASTn, BLASTx, & tBLASTx [see also Altschul *et al.* (1997) Gapped BLAST and PSI-BLAST: new generation of protein database search programs. *Nucleic Acids Research* 25:2289-3402]. Suitable databases for comparison include the nonredundant GenBank, EMBL, DDBJ and PDB sequences, and the nonredundant GenBank CDS translations, PDB, SwissProt, Spupdate and PIR sequences. This comparison may give an indication of the function of a protein.

Hydrophobic domains in an amino acid sequence can be predicted using algorithms such as those based on the statistical studies of Esposti *et al.* [Critical evaluation of the hydropathy of membrane proteins (1990) *Eur J Biochem* 190:207-219]. Hydrophobic domains represent potential transmembrane regions or hydrophobic leader sequences, which suggest that the proteins may be secreted or be surface-located. These properties are typically representative of good immunogens.

Similarly, transmembrane domains or leader sequences can be predicted using the PSORT algorithm (http://www.psort.nibb.ac.jp), and functional domains can be predicted using the MOTIFS program (GCG Wisconsin & PROSITE).

- 9 -

The invention also provides nucleic acid including an open reading frame or protein-coding sequence present in a *N. meningitidis* nucleotide sequence set out herein. Furthermore, the invention provides a protein including the amino acid sequence encoded by this open reading frame or protein-coding sequence.

According to a further aspect, the invention provides antibodies which bind to these proteins. These may be polyclonal or monoclonal and may be produced by any suitable means known to those skilled in the art.

The antibodies of the invention can be used in a variety of ways, e.g., for confirmation that a protein is expressed, or to confirm where a protein is expressed. Labeled antibody (e.g., fluorescent labeling for FACS) can be incubated with intact bacteria and the presence of label on the bacterial surface confirms the location of the protein, for instance.

According to a further aspect, the invention provides compositions including protein, antibody, and/or nucleic acid according to the invention. These compositions may be suitable as vaccines, as immunogenic compositions, or as diagnostic reagents.

The invention also provides nucleic acid, protein, or antibody according to the invention for use as medicaments (e.g., as vaccines) or as diagnostic reagents. It also provides the use of nucleic acid, protein, or antibody according to the invention in the manufacture of (I) a medicament for treating or preventing infection due to Neisserial bacteria (ii) a diagnostic reagent for detecting the presence of Neisserial bacteria or of antibodies raised against Neisserial bacteria. Said Neisserial bacteria may be any species or strain (such as *N. gonorrhoeae*) but are preferably *N. meningitidis*, especially strain A, strain B or strain C.

In still yet another aspect, the present invention provides for compositions including proteins, nucleic acid molecules, or antibodies. More preferable aspects of the present invention are drawn to immunogenic compositions of proteins. Further preferable aspects of the present invention contemplate pharmaceutical immunogenic compositions of proteins or vaccines and the use thereof in the manufacture of a medicament for the treatment or prevention of infection due to Neisserial bacteria, preferably infection of MenB.

The invention also provides a method of treating a patient, comprising administering to the patient a therapeutically effective amount of nucleic acid, protein, and/or antibody according to the invention.

- 10 -

According to further aspects, the invention provides various processes.

A process for producing proteins of the invention is provided, comprising the step of culturing a host cell according to the invention under conditions which induce protein expression. A process which may further include chemical synthesis of proteins and/or chemical synthesis (at least in part) of nucleotides.

A process for detecting polynucleotides of the invention is provided, comprising the steps of: (a) contacting a nucleic probe according to the invention with a biological sample under hybridizing conditions to form duplexes; and (b) detecting said duplexes.

A process for detecting proteins of the invention is provided, comprising the steps of: (a) contacting an antibody according to the invention with a biological sample under conditions suitable for the formation of an antibody-antigen complexes; and (b) detecting said complexes.

Another aspect of the present invention provides for a process for detecting antibodies that selectably bind to antigens or polypeptides or proteins specific to any species or strain of Neisserial bacteria and preferably to strains of *N. gonorrhoeae* but more preferably to strains of *N. meningitidis*, especially strain A, strain B or strain C, more preferably MenB, where the process comprises the steps of: (a) contacting antigen or polypeptide or protein according to the invention with a biological sample under conditions suitable for the formation of an antibody-antigen complexes; and (b) detecting said complexes.

Having now generally described the invention, the same will be more readily understood through reference to the following examples which are provided by way of illustration, and are not intended to be limiting of the present invention, unless specified.

Methodology - Summary of standard procedures and techniques.

General

This invention provides *Neisseria meningitidis* MenB nucleotide sequences, amino acid sequences encoded therein. With these disclosed sequences, nucleic acid probe assays and expression cassettes and vectors can be produced. The proteins can also be chemically synthesized. The expression vectors can be transformed into host cells to produce proteins. The purified or isolated polypeptides can be used to produce antibodies to detect MenB proteins. Also, the host cells or extracts can be utilized for biological assays to isolate

- 11 -

agonists or antagonists. In addition, with these sequences one can search to identify open reading frames and identify amino acid sequences. The proteins may also be used in immunogenic compositions and as vaccine components.

The practice of the present invention will employ, unless otherwise indicated,
5   conventional techniques of molecular biology, microbiology, recombinant DNA, and immunology, which are within the skill of the art. Such techniques are explained fully in the literature e.g., Sambrook *Molecular Cloning; A Laboratory Manual, Second Edition* (1989); *DNA Cloning, Volumes I and ii* (D.N Glover ed. 1985); *Oligonucleotide Synthesis* (M.J. Gait ed, 1984); *Nucleic Acid Hybridization* (B.D. Hames & S.J. Higgins eds. 1984); *Transcription*
10   *and Translation* (B.D. Hames & S.J. Higgins eds. 1984); *Animal Cell Culture* (R.I. Freshney ed. 1986); *Immobilized Cells and Enzymes* (IRL Press, 1986); B. Perbal, *A Practical Guide to Molecular Cloning* (1984); the *Methods in Enzymology* series (Academic Press, Inc.), especially volumes 154 & 155; *Gene Transfer Vectors for Mammalian Cells* (J.H. Miller and M.P. Calos eds. 1987, Cold Spring Harbor Laboratory); Mayer and Walker, eds. (1987),
15   *Immunochemical Methods in Cell and Molecular Biology* (Academic Press, London); Scopes, (1987) *Protein Purification: Principles and Practice*, Second Edition (Springer-Verlag, N.Y.), and *Handbook of Experimental Immunology, Volumes I-IV* (D.M. Weir and C.C. Blackwell eds 1986).

Standard abbreviations for nucleotides and amino acids are used in this specification.
20   All publications, patents, and patent applications cited herein are incorporated <u>in full</u> by reference.

Expression systems

The *Neisseria* MenB nucleotide sequences can be expressed in a variety of different
25   expression systems; for example those used with mammalian cells, plant cells, baculoviruses, bacteria, and yeast.

i.   Mammalian Systems

Mammalian expression systems are known in the art. A mammalian promoter is any
30   DNA sequence capable of binding mammalian RNA polymerase and initiating the downstream (3') transcription of a coding sequence (e.g., structural gene) into mRNA. A

- 12 -

promoter will have a transcription initiating region, which is usually placed proximal to the 5' end of the coding sequence, and a TATA box, usually located 25-30 base pairs (bp) upstream of the transcription initiation site. The TATA box is thought to direct RNA polymerase II to begin RNA synthesis at the correct site. A mammalian promoter will also contain an

5   upstream promoter element, usually located within 100 to 200 bp upstream of the TATA box. An upstream promoter element determines the rate at which transcription is initiated and can act in either orientation (Sambrook et al. (1989) "Expression of Cloned Genes in Mammalian Cells." In *Molecular Cloning: A Laboratory Manual, 2nd ed.*).

Mammalian viral genes are often highly expressed and have a broad host range;

10   therefore sequences encoding mammalian viral genes provide particularly useful promoter sequences. Examples include the SV40 early promoter, mouse mammary tumor virus LTR promoter, adenovirus major late promoter (Ad MLP), and herpes simplex virus promoter. In addition, sequences derived from non-viral genes, such as the murine metallothionein gene, also provide useful promoter sequences. Expression may be either constitutive or regulated

15   (inducible). Depending on the promoter selected, many promotes may be inducible using known substrates, such as the use of the mouse mammary tumor virus (MMTV) promoter with the glucocorticoid responsive element (GRE) that is induced by glucocorticoid in hormone-responsive transformed cells (see for example, U.S. Patent 5,783,681).

The presence of an enhancer element (enhancer), combined with the promoter

20   elements described above, will usually increase expression levels. An enhancer is a regulatory DNA sequence that can stimulate transcription up to 1000-fold when linked to homologous or heterologous promoters, with synthesis beginning at the normal RNA start site. Enhancers are also active when they are placed upstream or downstream from the transcription initiation site, in either normal or flipped orientation, or at a distance of more

25   than 1000 nucleotides from the promoter (Maniatis et al. (1987) *Science 236:*1237; Alberts et al. (1989) *Molecular Biology of the Cell*, 2nd ed.). Enhancer elements derived from viruses may be particularly useful, because they usually have a broader host range. Examples include the SV40 early gene enhancer (Dijkema et al (1985) *EMBO J. 4:*761) and the enhancer/promoters derived from the long terminal repeat (LTR) of the Rous Sarcoma Virus

30   (Gorman et al. (1982b) *Proc. Natl. Acad. Sci. 79:*6777) and from human cytomegalovirus (Boshart et al. (1985) *Cell 41:*521). Additionally, some enhancers are regulatable and

- 13 -

become active only in the presence of an inducer, such as a hormone or metal ion (Sassone-
Corsi and Borelli (1986) *Trends Genet. 2*:215; Maniatis et al. (1987) Science 236:1237).

A DNA molecule may be expressed intracellularly in mammalian cells. A promoter
sequence may be directly linked with the DNA molecule, in which case the first amino acid
5 at the N-terminus of the recombinant protein will always be a methionine, which is encoded
by the ATG start codon. If desired, the N-terminus may be cleaved from the protein by *in
vitro* incubation with cyanogen bromide.

Alternatively, foreign proteins can also be secreted from the cell into the growth
media by creating chimeric DNA molecules that encode a fusion protein comprised of a
10 leader sequence fragment that provides for secretion of the foreign protein in mammalian
cells. Preferably, there are processing sites encoded between the leader fragment and the
foreign gene that can be cleaved either *in vivo* or *in vitro*. The leader sequence fragment
usually encodes a signal peptide comprised of hydrophobic amino acids which direct the
secretion of the protein from the cell. The adenovirus tripartite leader is an example of a
15 leader sequence that provides for secretion of a foreign protein in mammalian cells.

Usually, transcription termination and polyadenylation sequences recognized by
mammalian cells are regulatory regions located 3' to the translation stop codon and thus,
together with the promoter elements, flank the coding sequence. The 3' terminus of the
mature mRNA is formed by site-specific post-transcriptional cleavage and polyadenylation
20 (Birnstiel et al. (1985) *Cell 41*:349; Proudfoot and Whitelaw (1988) "Termination and 3' end
processing of eukaryotic RNA. In *Transcription and splicing* (ed. B.D. Hames and D.M.
Glover); Proudfoot (1989) *Trends Biochem. Sci. 14*:105). These sequences direct the
transcription of an mRNA which can be translated into the polypeptide encoded by the DNA.
Examples of transcription terminator/polyadenylation signals include those derived from
25 SV40 (Sambrook et al (1989) "Expression of cloned genes in cultured mammalian cells." In
Molecular Cloning: A Laboratory Manual).

Usually, the above-described components, comprising a promoter, polyadenylation
signal, and transcription termination sequence are put together into expression constructs.
Enhancers, introns with functional splice donor and acceptor sites, and leader sequences may
30 also be included in an expression construct, if desired. Expression constructs are often
maintained in a replicon, such as an extrachromosomal element (e.g., plasmids) capable of

- 14 -

stable maintenance in a host, such as mammalian cells or bacteria. Mammalian replication systems include those derived from animal viruses, which require trans-acting factors to replicate. For example, plasmids containing the replication systems of papovaviruses, such as SV40 (Gluzman (1981) *Cell 23*:175) or polyomavirus, replicate to extremely high copy

5   number in the presence of the appropriate viral T antigen. Additional examples of mammalian replicons include those derived from bovine papillomavirus and Epstein-Barr virus. Additionally, the replicon may have two replication systems, thus allowing it to be maintained, for example, in mammalian cells for expression and in a prokaryotic host for cloning and amplification. Examples of such mammalian-bacteria shuttle vectors include

10   pMT2 (Kaufman et al. (1989) *Mol. Cell. Biol. 9*:946) and pHEBO (Shimizu et al. (1986) *Mol. Cell. Biol. 6*:1074).

The transformation procedure used depends upon the host to be transformed. Methods for introduction of heterologous polynucleotides into mammalian cells are known in the art and include dextran-mediated transfection, calcium phosphate precipitation, polybrene

15   mediated transfection, protoplast fusion, electroporation, encapsulation of the polynucleotide(s) in liposomes, and direct microinjection of the DNA into nuclei.

Mammalian cell lines available as hosts for expression are known in the art and include many immortalized cell lines available from the American Type Culture Collection (ATCC), including but not limited to, Chinese hamster ovary (CHO) cells, HeLa cells, baby

20   hamster kidney (BHK) cells, monkey kidney cells (COS), human hepatocellular carcinoma cells (e.g., Hep G2), and a number of other cell lines.

ii.   Plant Cellular Expression Systems

There are many plant cell culture and whole plant genetic expression systems known

25   in the art. Exemplary plant cellular genetic expression systems include those described in patents, such as: U.S. 5,693,506; US 5,659,122; and US 5,608,143. Additional examples of genetic expression in plant cell culture has been described by Zenk, *Phytochemistry* 30:3861-3863 (1991). Descriptions of plant protein signal peptides may be found in addition to the references described above in Vaulcombe et al., *Mol. Gen. Genet.* 209:33-40 (1987);

30   Chandler et al., *Plant Molecular Biology* 3:407-418 (1984); Rogers, *J. Biol. Chem.* 260:3731-3738 (1985); Rothstein et al., *Gene* 55:353-356 (1987); Whittier et al., Nucleic Acids

- 15 -

Research 15:2515-2535 (1987); Wirsel et al., *Molecular Microbiology* 3:3-14 (1989); Yu et al., *Gene* 122:247-253 (1992). A description of the regulation of plant gene expression by the phytohormone, gibberellic acid and secreted enzymes induced by gibberellic acid can be found in R.L. Jones and J. MacMillin, Gibberellins: in: *Advanced Plant Physiology,*.

5   Malcolm B. Wilkins, ed., 1984 Pitman Publishing Limited, London, pp. 21-52. References that describe other metabolically-regulated genes: Sheen, *Plant Cell*, 2:1027-1038(1990); Maas et al., *EMBO J.* 9:3447-3452 (1990); Benkel and Hickey, *Proc. Natl. Acad. Sci.* 84:1337-1339 (1987)

        Typically, using techniques known in the art, a desired polynucleotide sequence is

10   inserted into an expression cassette comprising genetic regulatory elements designed for operation in plants. The expression cassette is inserted into a desired expression vector with companion sequences upstream and downstream from the expression cassette suitable for expression in a plant host. The companion sequences will be of plasmid or viral origin and provide necessary characteristics to the vector to permit the vectors to move DNA from an

15   original cloning host, such as bacteria, to the desired plant host. The basic bacterial/plant vector construct will preferably provide a broad host range prokaryote replication origin; a prokaryote selectable marker; and, for Agrobacterium transformations, T DNA sequences for Agrobacterium-mediated transfer to plant chromosomes. Where the heterologous gene is not readily amenable to detection, the construct will preferably also have a selectable marker

20   gene suitable for determining if a plant cell has been transformed. A general review of suitable markers, for example for the members of the grass family, is found in Wilmink and Dons, 1993, *Plant Mol. Biol. Reptr*, 11(2):165-185.

        Sequences suitable for permitting integration of the heterologous sequence into the plant genome are also recommended. These might include transposon sequences and the like

25   for homologous recombination as well as Ti sequences which permit random insertion of a heterologous expression cassette into a plant genome. Suitable prokaryote selectable markers include resistance toward antibiotics such as ampicillin or tetracycline. Other DNA sequences encoding additional functions may also be present in the vector, as is known in the art.

30   The nucleic acid molecules of the subject invention may be included into an expression cassette for expression of the protein(s) of interest. Usually, there will be only

- 16 -

one expression cassette, although two or more are feasible. The recombinant expression cassette will contain in addition to the heterologous protein encoding sequence the following elements, a promoter region, plant 5' untranslated sequences, initiation codon depending upon whether or not the structural gene comes equipped with one, and a transcription and

5   translation termination sequence. Unique restriction enzyme sites at the 5' and 3' ends of the cassette allow for easy insertion into a pre-existing vector.

A heterologous coding sequence may be for any protein relating to the present invention. The sequence encoding the protein of interest will encode a signal peptide which allows processing and translocation of the protein, as appropriate, and will usually lack any

10   sequence which might result in the binding of the desired protein of the invention to a membrane. Since, for the most part, the transcriptional initiation region will be for a gene which is expressed and translocated during germination, by employing the signal peptide which provides for translocation, one may also provide for translocation of the protein of interest. In this way, the protein(s) of interest will be translocated from the cells in which

15   they are expressed and may be efficiently harvested. Typically secretion in seeds are across the aleurone or scutellar epithelium layer into the endosperm of the seed. While it is not required that the protein be secreted from the cells in which the protein is produced, this facilitates the isolation and purification of the recombinant protein.

Since the ultimate expression of the desired gene product will be in a eucaryotic cell it

20   is desirable to determine whether any portion of the cloned gene contains sequences which will be processed out as introns by the host's splicosome machinery. If so, site-directed mutagenesis of the "intron" region may be conducted to prevent losing a portion of the genetic message as a false intron code, Reed and Maniatis, *Cell* 41:95-105, 1985.

The vector can be microinjected directly into plant cells by use of micropipettes to

25   mechanically transfer the recombinant DNA. Crossway, *Mol. Gen. Genet*, 202:179-185, 1985. The genetic material may also be transferred into the plant cell by using polyethylene glycol, Krens, et al., *Nature*, 296, 72-74, 1982. Another method of introduction of nucleic acid segments is high velocity ballistic penetration by small particles with the nucleic acid either within the matrix of small beads or particles, or on the surface, Klein, et al., *Nature*,

30   327, 70-73, 1987 and Knudsen and Muller, 1991, *Planta*, 185:330-336 teaching particle bombardment of barley endosperm to create transgenic barley. Yet another method of

- 17 -

introduction would be fusion of protoplasts with other entities, either minicells, cells, lysosomes or other fusible lipid-surfaced bodies, Fraley, et al., *Proc. Natl. Acad. Sci. USA*, 79, 1859-1863, 1982.

5   The vector may also be introduced into the plant cells by electroporation. (Fromm et al., *Proc. Natl Acad. Sci. USA* 82:5824, 1985). In this technique, plant protoplasts are electroporated in the presence of plasmids containing the gene construct. Electrical impulses of high field strength reversibly permeabilize biomembranes allowing the introduction of the plasmids. Electroporated plant protoplasts reform the cell wall, divide, and form plant callus.

          All plants from which protoplasts can be isolated and cultured to give whole
10   regenerated plants can be transformed by the present invention so that whole plants are recovered which contain the transferred gene. It is known that practically all plants can be regenerated from cultured cells or tissues, including but not limited to all major species of sugarcane, sugar beet, cotton, fruit and other trees, legumes and vegetables. Some suitable plants include, for example, species from the genera *Fragaria, Lotus, Medicago, Onobrychis,*
15   *Trifolium, Trigonella, Vigna, Citrus, Linum, Geranium, Manihot, Daucus, Arabidopsis, Brassica, Raphanus, Sinapis, Atropa, Capsicum, Datura, Hyoscyamus, Lycopersion, Nicotiana, Solanum, Petunia, Digitalis, Majorana, Cichorium, Helianthus, Lactuca, Bromus, Asparagus, Antirrhinum, Hererocallis, Nemesia, Pelargonium, Panicum, Pennisetum, Ranunculus, Senecio, Salpiglossis, Cucumis, Browaalia, Glycine, Lolium, Zea, Triticum,*
20   *Sorghum,* and *Datura.*

          Means for regeneration vary from species to species of plants, but generally a suspension of transformed protoplasts containing copies of the heterologous gene is first provided. Callus tissue is formed and shoots may be induced from callus and subsequently rooted. Alternatively, embryo formation can be induced from the protoplast suspension.
25   These embryos germinate as natural embryos to form plants. The culture media will generally contain various amino acids and hormones, such as auxin and cytokinins. It is also advantageous to add glutamic acid and proline to the medium, especially for such species as corn and alfalfa. Shoots and roots normally develop simultaneously. Efficient regeneration will depend on the medium, on the genotype, and on the history of the culture. If these three
30   variables are controlled, then regeneration is fully reproducible and repeatable.

- 18 -

In some plant cell culture systems, the desired protein of the invention may be excreted or alternatively, the protein may be extracted from the whole plant. Where the desired protein of the invention is secreted into the medium, it may be collected. Alternatively, the embryos and embryoless-half seeds or other plant tissue may be

5   mechanically disrupted to release any secreted protein between cells and tissues. The mixture may be suspended in a buffer solution to retrieve soluble proteins. Conventional protein isolation and purification methods will be then used to purify the recombinant protein. Parameters of time, temperature pH, oxygen, and volumes will be adjusted through routine methods to optimize expression and recovery of heterologous protein.

10

iii.   Baculovirus Systems

The polynucleotide encoding the protein can also be inserted into a suitable insect expression vector, and is operably linked to the control elements within that vector. Vector construction employs techniques which are known in the art. Generally, the components of

15   the expression system include a transfer vector, usually a bacterial plasmid, which contains both a fragment of the baculovirus genome, and a convenient restriction site for insertion of the heterologous gene or genes to be expressed; a wild type baculovirus with a sequence homologous to the baculovirus-specific fragment in the transfer vector (this allows for the homologous recombination of the heterologous gene in to the baculovirus genome); and

20   appropriate insect host cells and growth media.

After inserting the DNA sequence encoding the protein into the transfer vector, the vector and the wild type viral genome are transfected into an insect host cell where the vector and viral genome are allowed to recombine. The packaged recombinant virus is expressed and recombinant plaques are identified and purified. Materials and methods for

25   baculovirus/insect cell expression systems are commercially available in kit form from, *inter alia*, Invitrogen, San Diego CA ("MaxBac" kit). These techniques are generally known to those skilled in the art and fully described in Summers and Smith, *Texas Agricultural Experiment Station Bulletin No. 1555* (1987) (hereinafter "Summers and Smith").

Prior to inserting the DNA sequence encoding the protein into the baculovirus

30   genome, the above described components, comprising a promoter, leader (if desired), coding sequence of interest, and transcription termination sequence, are usually assembled into an

- 19 -

intermediate transplacement construct (transfer vector). This construct may contain a single gene and operably linked regulatory elements; multiple genes, each with its owned set of operably linked regulatory elements; or multiple genes, regulated by the same set of regulatory elements. Intermediate transplacement constructs are often maintained in a
5   replicon, such as an extrachromosomal element (e.g., plasmids) capable of stable maintenance in a host, such as a bacterium. The replicon will have a replication system, thus allowing it to be maintained in a suitable host for cloning and amplification.

Currently, the most commonly used transfer vector for introducing foreign genes into AcNPV is pAc373. Many other vectors, known to those of skill in the art, have also been
10   designed. These include, for example, pVL985 (which alters the polyhedrin start codon from ATG to ATT, and which introduces a BamHI cloning site 32 basepairs downstream from the ATT; see Luckow and Summers, *Virology* (1989) *17*:31.

The plasmid usually also contains the polyhedrin polyadenylation signal (Miller et al. (1988) *Ann. Rev. Microbiol.*, *42*:177) and a prokaryotic ampicillin-resistance (*amp*) gene and
15   origin of replication for selection and propagation in *E. coli*.

Baculovirus transfer vectors usually contain a baculovirus promoter. A baculovirus promoter is any DNA sequence capable of binding a baculovirus RNA polymerase and initiating the downstream (5' to 3') transcription of a coding sequence (e.g., structural gene) into mRNA. A promoter will have a transcription initiation region which is usually placed
20   proximal to the 5' end of the coding sequence. This transcription initiation region usually includes an RNA polymerase binding site and a transcription initiation site. A baculovirus transfer vector may also have a second domain called an enhancer, which, if present, is usually distal to the structural gene. Expression may be either regulated or constitutive.

Structural genes, abundantly transcribed at late times in a viral infection cycle,
25   provide particularly useful promoter sequences. Examples include sequences derived from the gene encoding the viral polyhedron protein, Friesen et al., (1986) "The Regulation of Baculovirus Gene Expression," in: *The Molecular Biology of Baculoviruses* (ed. Walter Doerfler); EPO Publ. Nos. 127 839 and 155 476; and the gene encoding the p10 protein, Vlak et al., (1988), *J. Gen. Virol. 69*:765.

30   DNA encoding suitable signal sequences can be derived from genes for secreted insect or baculovirus proteins, such as the baculovirus polyhedrin gene (Carbonell et al.

- 20 -

(1988) *Gene*, *73*:409). Alternatively, since the signals for mammalian cell posttranslational
modifications (such as signal peptide cleavage, proteolytic cleavage, and phosphorylation)
appear to be recognized by insect cells, and the signals required for secretion and nuclear
accumulation also appear to be conserved between the invertebrate cells and vertebrate cells,

5   leaders of non-insect origin, such as those derived from genes encoding human (alpha) α-
interferon, Maeda et al., (1985), *Nature 315*:592; human gastrin-releasing peptide, Lebacq-
Verheyden et al., (1988), *Molec. Cell. Biol. 8*:3129; human IL-2, Smith et al., (1985) *Proc.
Nat'l Acad. Sci. USA, 82*:8404; mouse IL-3, (Miyajima et al., (1987) *Gene 58*:273; and
human glucocerebrosidase, Martin et al. (1988) *DNA, 7*:99, can also be used to provide for

10   secretion in insects.

       A recombinant polypeptide or polyprotein may be expressed intracellularly or, if it is
expressed with the proper regulatory sequences, it can be secreted. Good intracellular
expression of nonfused foreign proteins usually requires heterologous genes that ideally have
a short leader sequence containing suitable translation initiation signals preceding an ATG

15   start signal. If desired, methionine at the N-terminus may be cleaved from the mature protein
by *in vitro* incubation with cyanogen bromide.

       Alternatively, recombinant polyproteins or proteins which are not naturally secreted
can be secreted from the insect cell by creating chimeric DNA molecules that encode a fusion
protein comprised of a leader sequence fragment that provides for secretion of the foreign

20   protein in insects. The leader sequence fragment usually encodes a signal peptide comprised
of hydrophobic amino acids which direct the translocation of the protein into the endoplasmic
reticulum.

       After insertion of the DNA sequence and/or the gene encoding the expression product
precursor of the protein, an insect cell host is co-transformed with the heterologous DNA of

25   the transfer vector and the genomic DNA of wild type baculovirus -- usually by co-
transfection. The promoter and transcription termination sequence of the construct will
usually comprise a 2-5kb section of the baculovirus genome. Methods for introducing
heterologous DNA into the desired site in the baculovirus virus are known in the art. (See
Summers and Smith *supra*; Ju et al. (1987); Smith et al., *Mol. Cell. Biol.* (1983) *3*:2156; and

30   Luckow and Summers (1989)). For example, the insertion can be into a gene such as the
polyhedrin gene, by homologous double crossover recombination; insertion can also be into a

- 21 -

restriction enzyme site engineered into the desired baculovirus gene. Miller et al., (1989), *Bioessays 4*:91. The DNA sequence, when cloned in place of the polyhedrin gene in the expression vector, is flanked both 5' and 3' by polyhedrin-specific sequences and is positioned downstream of the polyhedrin promoter.

5   The newly formed baculovirus expression vector is subsequently packaged into an infectious recombinant baculovirus. Homologous recombination occurs at low frequency (between about 1% and about 5%); thus, the majority of the virus produced after cotransfection is still wild-type virus. Therefore, a method is necessary to identify recombinant viruses. An advantage of the expression system is a visual screen allowing

10   recombinant viruses to be distinguished. The polyhedrin protein, which is produced by the native virus, is produced at very high levels in the nuclei of infected cells at late times after viral infection. Accumulated polyhedrin protein forms occlusion bodies that also contain embedded particles. These occlusion bodies, up to 15 μm in size, are highly refractile, giving them a bright shiny appearance that is readily visualized under the light microscope. Cells

15   infected with recombinant viruses lack occlusion bodies. To distinguish recombinant virus from wild-type virus, the transfection supernatant is plaqued onto a monolayer of insect cells by techniques known to those skilled in the art. Namely, the plaques are screened under the light microscope for the presence (indicative of wild-type virus) or absence (indicative of recombinant virus) of occlusion bodies. *Current Protocols in Microbiology* Vol. 2 (Ausubel

20   et al. eds) at 16.8 (Supp. 10, 1990); Summers and Smith, *supra*; Miller et al. (1989).

         Recombinant baculovirus expression vectors have been developed for infection into several insect cells. For example, recombinant baculoviruses have been developed for, *inter alia*: *Aedes aegypti* , *Autographa californica, Bombyx mori, Drosophila melanogaster, Spodoptera frugiperda*, and *Trichoplusia ni* (PCT Pub. No. WO 89/046699; Carbonell et al.,

25   (1985) *J. Virol. 56*:153; Wright (1986) *Nature 321*:718; Smith et al., (1983) *Mol. Cell. Biol. 3*:2156; and see generally, Fraser, *et al.* (1989) *In Vitro Cell. Dev. Biol. 25*:225).

         Cells and cell culture media are commercially available for both direct and fusion expression of heterologous polypeptides in a baculovirus/expression system; cell culture technology is generally known to those skilled in the art. *See*, e.g., Summers and Smith

30   *supra.*

- 22 -

The modified insect cells may then be grown in an appropriate nutrient medium, which allows for stable maintenance of the plasmid(s) present in the modified insect host. Where the expression product gene is under inducible control, the host may be grown to high density, and expression induced. Alternatively, where expression is constitutive, the product

5   will be continuously expressed into the medium and the nutrient medium must be continuously circulated, while removing the product of interest and augmenting depleted nutrients. The product may be purified by such techniques as chromatography, e.g., HPLC, affinity chromatography, ion exchange chromatography, etc.; electrophoresis; density gradient centrifugation; solvent extraction, or the like. As appropriate, the product may be

10   further purified, as required, so as to remove substantially any insect proteins which are also secreted in the medium or result from lysis of insect cells, so as to provide a product which is at least substantially free of host debris, e.g., proteins, lipids and polysaccharides.

In order to obtain protein expression, recombinant host cells derived from the transformants are incubated under conditions which allow expression of the recombinant

15   protein encoding sequence. These conditions will vary, dependent upon the host cell selected. However, the conditions are readily ascertainable to those of ordinary skill in the art, based upon what is known in the art.

       iv.   Bacterial Systems

20   Bacterial expression techniques are known in the art. A bacterial promoter is any DNA sequence capable of binding bacterial RNA polymerase and initiating the downstream (3') transcription of a coding sequence (e.g. structural gene) into mRNA. A promoter will have a transcription initiation region which is usually placed proximal to the 5' end of the coding sequence. This transcription initiation region usually includes an RNA polymerase

25   binding site and a transcription initiation site. A bacterial promoter may also have a second domain called an operator, that may overlap an adjacent RNA polymerase binding site at which RNA synthesis begins. The operator permits negative regulated (inducible) transcription, as a gene repressor protein may bind the operator and thereby inhibit transcription of a specific gene. Constitutive expression may occur in the absence of negative

30   regulatory elements, such as the operator. In addition, positive regulation may be achieved by a gene activator protein binding sequence, which, if present is usually proximal (5') to the

- 23 -

RNA polymerase binding sequence. An example of a gene activator protein is the catabolite activator protein (CAP), which helps initiate transcription of the lac operon in Escherichia coli (*E. coli*) (Raibaud *et al.* (1984) *Annu. Rev. Genet. 18*:173). Regulated expression may therefore be either positive or negative, thereby either enhancing or reducing transcription.

Sequences encoding metabolic pathway enzymes provide particularly useful promoter sequences. Examples include promoter sequences derived from sugar metabolizing enzymes, such as galactose, lactose (*lac*) (Chang *et al.* (1977) *Nature 198*:1056), and maltose. Additional examples include promoter sequences derived from biosynthetic enzymes such as tryptophan (*trp*) (Goeddel *et al.* (1980) *Nuc. Acids Res. 8*:4057; Yelverton *et al.* (1981) *Nucl. Acids Res. 9*:731; U.S. Patent 4,738,921; EPO Publ. Nos. 036 776 and 121 775). The beta-lactamase (*bla*) promoter system (Weissmann (1981) "The cloning of interferon and other mistakes." In *Interferon 3* (ed. I. Gresser)), bacteriophage lambda PL (Shimatake *et al.* (1981) *Nature 292*:128) and T5 (U.S. Patent 4,689,406) promoter systems also provide useful promoter sequences.

In addition, synthetic promoters which do not occur in nature also function as bacterial promoters. For example, transcription activation sequences of one bacterial or bacteriophage promoter may be joined with the operon sequences of another bacterial or bacteriophage promoter, creating a synthetic hybrid promoter (U.S. Patent 4,551,433). For example, the *tac* promoter is a hybrid *trp-lac* promoter comprised of both *trp* promoter and *lac* operon sequences that is regulated by the *lac* repressor (Amann *et al.* (1983) *Gene 25*:167; de Boer *et al.* (1983) *Proc. Natl. Acad. Sci. 80*:21). Furthermore, a bacterial promoter can include naturally occurring promoters of non-bacterial origin that have the ability to bind bacterial RNA polymerase and initiate transcription. A naturally occurring promoter of non-bacterial origin can also be coupled with a compatible RNA polymerase to produce high levels of expression of some genes in prokaryotes. The bacteriophage T7 RNA polymerase/promoter system is an example of a coupled promoter system (Studier *et al.* (1986) *J. Mol. Biol. 189*:113; Tabor *et al.* (1985) *Proc Natl. Acad. Sci. 82*:1074). In addition, a hybrid promoter can also be comprised of a bacteriophage promoter and an *E. coli* operator region (EPO Publ. No. 267 851).

In addition to a functioning promoter sequence, an efficient ribosome binding site is also useful for the expression of foreign genes in prokaryotes. In *E. coli*, the ribosome

- 24 -

binding site is called the Shine-Dalgarno (SD) sequence and includes an initiation codon
(ATG) and a sequence 3-9 nucleotides in length located 3-11 nucleotides upstream of the
initiation codon (Shine *et al.* (1975) *Nature 254*:34). The SD sequence is thought to promote
binding of mRNA to the ribosome by the pairing of bases between the SD sequence and the

5   3' end of *E. coli* 16S rRNA (Steitz *et al.* (1979) "Genetic signals and nucleotide sequences in
messenger RNA." In *Biological Regulation and Development: Gene Expression* (ed. R.F.
Goldberger)). To express eukaryotic genes and prokaryotic genes with weak ribosome-
binding site, it is often necessary to optimize the distance between the SD sequence and the
ATG of the eukaryotic gene (Sambrook *et al.* (1989) "Expression of cloned genes in

10   Escherichia coli." In *Molecular Cloning: A Laboratory Manual*).

A DNA molecule may be expressed intracellularly. A promoter sequence may be
directly linked with the DNA molecule, in which case the first amino acid at the N-terminus
will always be a methionine, which is encoded by the ATG start codon. If desired,
methionine at the N-terminus may be cleaved from the protein by *in vitro* incubation with

15   cyanogen bromide or by either *in vivo* or *in vitro* incubation with a bacterial methionine N-
terminal peptidase (EPO Publ. No. 219 237).

Fusion proteins provide an alternative to direct expression. Usually, a DNA sequence
encoding the N-terminal portion of an endogenous bacterial protein, or other stable protein, is
fused to the 5' end of heterologous coding sequences. Upon expression, this construct will

20   provide a fusion of the two amino acid sequences. For example, the bacteriophage lambda
cell gene can be linked at the 5' terminus of a foreign gene and expressed in bacteria. The
resulting fusion protein preferably retains a site for a processing enzyme (factor Xa) to cleave
the bacteriophage protein from the foreign gene (Nagai *et al.* (1984) *Nature 309*:810). Fusion
proteins can also be made with sequences from the *lacZ* (Jia *et al.* (1987) *Gene 60*:197), *trpE*

25   (Allen et al. (1987) J. Biotechnol. 5:93; Makoff *et al.* (1989) *J. Gen. Microbiol. 135*:11), and
Chey (EPO Publ. No. 324 647) genes. The DNA sequence at the junction of the two amino
acid sequences may or may not encode a cleavable site. Another example is a ubiquitin fusion
protein. Such a fusion protein is made with the ubiquitin region that preferably retains a site
for a processing enzyme (e.g. ubiquitin specific processing-protease) to cleave the ubiquitin

30   from the foreign protein. Through this method, native foreign protein can be isolated (Miller
et al. (1989) *Bio/Technology 7*:698).

- 25 -

Alternatively, foreign proteins can also be secreted from the cell by creating chimeric DNA molecules that encode a fusion protein comprised of a signal peptide sequence fragment that provides for secretion of the foreign protein in bacteria (U.S. Patent 4,336,336). The signal sequence fragment usually encodes a signal peptide comprised of hydrophobic

5   amino acids which direct the secretion of the protein from the cell. The protein is either secreted into the growth media (gram-positive bacteria) or into the periplasmic space, located between the inner and outer membrane of the cell (gram-negative bacteria). Preferably there are processing sites, which can be cleaved either *in vivo* or *in vitro* encoded between the signal peptide fragment and the foreign gene.

10   DNA encoding suitable signal sequences can be derived from genes for secreted bacterial proteins, such as the *E. coli* outer membrane protein gene (*ompA*) (Masui *et al.* (1983), in: *Experimental Manipulation of Gene Expression*; Ghrayeb *et al.* (1984) *EMBO J. 3*:2437) and the *E. coli* alkaline phosphatase signal sequence (*phoA*) (Oka *et al.* (1985) *Proc. Natl. Acad. Sci. 82*:7212). As an additional example, the signal sequence of the alpha-

15   amylase gene from various Bacillus strains can be used to secrete heterologous proteins from *B. subtilis* (Palva *et al.* (1982) *Proc. Natl. Acad. Sci. USA 79*:5582; EPO Publ. No. 244 042).

Usually, transcription termination sequences recognized by bacteria are regulatory regions located 3' to the translation stop codon, and thus together with the promoter flank the coding sequence. These sequences direct the transcription of an mRNA which can be

20   translated into the polypeptide encoded by the DNA. Transcription termination sequences frequently include DNA sequences of about 50 nucleotides capable of forming stem loop structures that aid in terminating transcription. Examples include transcription termination sequences derived from genes with strong promoters, such as the *trp* gene in *E. coli* as well as other biosynthetic genes.

25   Usually, the above described components, comprising a promoter, signal sequence (if desired), coding sequence of interest, and transcription termination sequence, are put together into expression constructs. Expression constructs are often maintained in a replicon, such as an extrachromosomal element (e.g., plasmids) capable of stable maintenance in a host, such as bacteria. The replicon will have a replication system, thus allowing it to be maintained in a

30   prokaryotic host either for expression or for cloning and amplification. In addition, a replicon may be either a high or low copy number plasmid. A high copy number plasmid will

- 26 -

generally have a copy number ranging from about 5 to about 200, and usually about 10 to about 150. A host containing a high copy number plasmid will preferably contain at least about 10, and more preferably at least about 20 plasmids. Either a high or low copy number vector may be selected, depending upon the effect of the vector and the foreign protein on the

5   host.

Alternatively, the expression constructs can be integrated into the bacterial genome with an integrating vector. Integrating vectors usually contain at least one sequence homologous to the bacterial chromosome that allows the vector to integrate. Integrations appear to result from recombinations between homologous DNA in the vector and the

10   bacterial chromosome. For example, integrating vectors constructed with DNA from various Bacillus strains integrate into the Bacillus chromosome (EPO Publ. No. 127 328). Integrating vectors may also be comprised of bacteriophage or transposon sequences.

Usually, extrachromosomal and integrating expression constructs may contain selectable markers to allow for the selection of bacterial strains that have been transformed.

15   Selectable markers can be expressed in the bacterial host and may include genes which render bacteria resistant to drugs such as ampicillin, chloramphenicol, erythromycin, kanamycin (neomycin), and tetracycline (Davies *et al.* (1978) *Annu. Rev. Microbiol. 32*:469). Selectable markers may also include biosynthetic genes, such as those in the histidine, tryptophan, and leucine biosynthetic pathways.

20   Alternatively, some of the above described components can be put together in transformation vectors. Transformation vectors are usually comprised of a selectable market that is either maintained in a replicon or developed into an integrating vector, as described above.

Expression and transformation vectors, either extra-chromosomal replicons or

25   integrating vectors, have been developed for transformation into many bacteria. For example, expression vectors have been developed for, *inter alia*, the following bacteria: Bacillus subtilis (Palva *et al.* (1982) *Proc. Natl. Acad. Sci. USA 79*:5582; EPO Publ. Nos. 036 259 and 063 953; PCT Publ. No. WO 84/04541), Escherichia coli (Shimatake *et al.* (1981) *Nature 292*:128; Amann *et al.* (1985) *Gene 40*:183; Studier *et al.* (1986) *J. Mol. Biol. 189*:113; EPO

30   Publ. Nos. 036 776, 136 829 and 136 907), Streptococcus cremoris (Powell *et al.* (1988)

- 27 -

Appl. Environ. Microbiol. 54:655); Streptococcus lividans (Powell *et al.* (1988) *Appl. Environ. Microbiol. 54*:655), Streptomyces lividans (U.S. Patent 4,745,056).

      Methods of introducing exogenous DNA into bacterial hosts are well-known in the art, and usually include either the transformation of bacteria treated with $CaCl_2$ or other

5   agents, such as divalent cations and DMSO. DNA can also be introduced into bacterial cells by electroporation. Transformation procedures usually vary with the bacterial species to be transformed. (See e.g., use of *Bacillus*: Masson *et al.* (1989) *FEMS Microbiol. Lett. 60*:273; Palva *et al.* (1982) *Proc. Natl. Acad. Sci. USA 79*:5582; EPO Publ. Nos. 036 259 and 063 953; PCT Publ. No. WO 84/04541; use of *Campylobacter*: Miller *et al.* (1988) *Proc. Natl.*

10   *Acad. Sci. 85*:856; and Wang *et al.* (1990) *J. Bacteriol. 172*:949; use of *Escherichia coli*: Cohen *et al.* (1973) *Proc. Natl. Acad. Sci. 69*:2110; Dower *et al.* (1988) *Nucleic Acids Res. 16*:6127; Kushner (1978) "An improved method for transformation of *Escherichia coli* with ColE1-derived plasmids. In *Genetic Engineering: Proceedings of the International Symposium on Genetic Engineering* (eds. H.W. Boyer and S. Nicosia); Mandel *et al.* (1970)

15   *J. Mol. Biol. 53*:159; Taketo (1988) *Biochim. Biophys. Acta 949*:318; use of *Lactobacillus*: Chassy *et al.* (1987) *FEMS Microbiol. Lett. 44*:173; use of *Pseudomonas*: Fiedler *et al.* (1988) *Anal. Biochem 170*:38; use of *Staphylococcus*: Augustin *et al.* (1990) *FEMS Microbiol. Lett. 66*:203; use of *Streptococcus*: Barany *et al.* (1980) *J. Bacteriol. 144*:698; Harlander (1987) "Transformation of Streptococcus lactis by electroporation, in:

20   *Streptococcal Genetics* (ed. J. Ferretti and R. Curtiss III); Perry *et al.* (1981) *Infect. Immun. 32*:1295; Powell *et al.* (1988) *Appl. Environ. Microbiol. 54*:655; Somkuti *et al.* (1987) *Proc. 4th Evr. Cong. Biotechnology 1*:412.

    v.   Yeast Expression

25   Yeast expression systems are also known to one of ordinary skill in the art. A yeast promoter is any DNA sequence capable of binding yeast RNA polymerase and initiating the downstream (3') transcription of a coding sequence (e.g. structural gene) into mRNA. A promoter will have a transcription initiation region which is usually placed proximal to the 5' end of the coding sequence. This transcription initiation region usually includes an RNA

30   polymerase binding site (the "TATA Box") and a transcription initiation site. A yeast promoter may also have a second domain called an upstream activator sequence (UAS),

- 28 -

which, if present, is usually distal to the structural gene. The UAS permits regulated (inducible) expression. Constitutive expression occurs in the absence of a UAS. Regulated expression may be either positive or negative, thereby either enhancing or reducing transcription.

5   Yeast is a fermenting organism with an active metabolic pathway, therefore sequences encoding enzymes in the metabolic pathway provide particularly useful promoter sequences. Examples include alcohol dehydrogenase (ADH) (EPO Publ. No. 284 044), enolase, glucokinase, glucose-6-phosphate isomerase, glyceraldehyde-3-phosphate-dehydrogenase (GAP or GAPDH), hexokinase, phosphofructokinase, 3-phosphoglycerate mutase, and

10   pyruvate kinase (PyK) (EPO Publ. No. 329 203). The yeast *PHO5* gene, encoding acid phosphatase, also provides useful promoter sequences (Myanohara *et al.* (1983) *Proc. Natl. Acad. Sci. USA 80*:1).

         In addition, synthetic promoters which do not occur in nature also function as yeast promoters. For example, UAS sequences of one yeast promoter may be joined with the

15   transcription activation region of another yeast promoter, creating a synthetic hybrid promoter. Examples of such hybrid promoters include the ADH regulatory sequence linked to the GAP transcription activation region (U.S. Patent Nos. 4,876,197 and 4,880,734). Other examples of hybrid promoters include promoters which consist of the regulatory sequences of either the *ADH2, GAL4, GAL10,* OR *PHO5* genes, combined with the transcriptional

20   activation region of a glycolytic enzyme gene such as GAP or PyK (EPO Publ. No. 164 556). Furthermore, a yeast promoter can include naturally occurring promoters of non-yeast origin that have the ability to bind yeast RNA polymerase and initiate transcription. Examples of such promoters include, *inter alia*, (Cohen *et al.* (1980) *Proc. Natl. Acad. Sci. USA 77*:1078; Henikoff *et al.* (1981) *Nature 283*:835; Hollenberg *et al.* (1981) *Curr. Topics Microbiol.*

25   *Immunol. 96*:119; Hollenberg *et al.* (1979) "The Expression of Bacterial Antibiotic Resistance Genes in the Yeast Saccharomyces cerevisiae," in: *Plasmids of Medical, Environmental and Commercial Importance* (eds. K.N. Timmis and A. Puhler); Mercerau-Puigalon *et al.* (1980) *Gene 11*:163; Panthier *et al.* (1980) *Curr. Genet. 2*:109;).

         A DNA molecule may be expressed intracellularly in yeast. A promoter sequence

30   may be directly linked with the DNA molecule, in which case the first amino acid at the N-terminus of the recombinant protein will always be a methionine, which is encoded by the

- 29 -

ATG start codon. If desired, methionine at the N-terminus may be cleaved from the protein by *in vitro* incubation with cyanogen bromide.

Fusion proteins provide an alternative for yeast expression systems, as well as in mammalian, plant, baculovirus, and bacterial expression systems. Usually, a DNA sequence 5   encoding the N-terminal portion of an endogenous yeast protein, or other stable protein, is fused to the 5' end of heterologous coding sequences. Upon expression, this construct will provide a fusion of the two amino acid sequences. For example, the yeast or human superoxide dismutase (SOD) gene, can be linked at the 5' terminus of a foreign gene and expressed in yeast. The DNA sequence at the junction of the two amino acid sequences may 10   or may not encode a cleavable site. See e.g., EPO Publ. No. 196056. Another example is a ubiquitin fusion protein. Such a fusion protein is made with the ubiquitin region that preferably retains a site for a processing enzyme (e.g. ubiquitin-specific processing protease) to cleave the ubiquitin from the foreign protein. Through this method, therefore, native foreign protein can be isolated (e.g., WO88/024066).

15   Alternatively, foreign proteins can also be secreted from the cell into the growth media by creating chimeric DNA molecules that encode a fusion protein comprised of a leader sequence fragment that provide for secretion in yeast of the foreign protein. Preferably, there are processing sites encoded between the leader fragment and the foreign gene that can be cleaved either *in vivo* or *in vitro*. The leader sequence fragment usually encodes a signal 20   peptide comprised of hydrophobic amino acids which direct the secretion of the protein from the cell.

DNA encoding suitable signal sequences can be derived from genes for secreted yeast proteins, such as the yeast invertase gene (EPO Publ. No. 012 873; JPO Publ. No. 62:096,086) and the A-factor gene (U.S. Patent 4,588,684). Alternatively, leaders of non- 25   yeast origin, such as an interferon leader, exist that also provide for secretion in yeast (EPO Publ. No. 060 057).

A preferred class of secretion leaders are those that employ a fragment of the yeast alpha-factor gene, which contains both a "pre" signal sequence, and a "pro" region. The types of alpha-factor fragments that can be employed include the full-length pre-pro alpha factor 30   leader (about 83 amino acid residues) as well as truncated alpha-factor leaders (usually about 25 to about 50 amino acid residues) (U.S. Patent Nos. 4,546,083 and 4,870,008; EPO Publ.

- 30 -

No. 324 274). Additional leaders employing an alpha-factor leader fragment that provides for secretion include hybrid alpha-factor leaders made with a presequence of a first yeast, but a pro-region from a second yeast alpha factor. (See e.g., PCT Publ. No. WO 89/02463.)

Usually, transcription termination sequences recognized by yeast are regulatory
5   regions located 3' to the translation stop codon, and thus together with the promoter flank the coding sequence. These sequences direct the transcription of an mRNA which can be translated into the polypeptide encoded by the DNA. Examples of transcription terminator sequence and other yeast-recognized termination sequences, such as those coding for glycolytic enzymes.

10   Usually, the above described components, comprising a promoter, leader (if desired), coding sequence of interest, and transcription termination sequence, are put together into expression constructs. Expression constructs are often maintained in a replicon, such as an extrachromosomal element (e.g., plasmids) capable of stable maintenance in a host, such as yeast or bacteria. The replicon may have two replication systems, thus allowing it to be
15   maintained, for example, in yeast for expression and in a prokaryotic host for cloning and amplification. Examples of such yeast-bacteria shuttle vectors include YEp24 (Botstein *et al.* (1979) *Gene 8*:17-24), pCl/1 (Brake *et al.* (1984) *Proc. Natl. Acad. Sci USA 81*:4642-4646), and YRp17 (Stinchcomb *et al.* (1982) *J. Mol. Biol. 158*:157). In addition, a replicon may be either a high or low copy number plasmid. A high copy number plasmid will generally have a
20   copy number ranging from about 5 to about 200, and usually about 10 to about 150. A host containing a high copy number plasmid will preferably have at least about 10, and more preferably at least about 20. Enter a high or low copy number vector may be selected, depending upon the effect of the vector and the foreign protein on the host. See e.g., Brake *et al., supra.*

25   Alternatively, the expression constructs can be integrated into the yeast genome with an integrating vector. Integrating vectors usually contain at least one sequence homologous to a yeast chromosome that allows the vector to integrate, and preferably contain two homologous sequences flanking the expression construct. Integrations appear to result from recombinations between homologous DNA in the vector and the yeast chromosome (Orr-
30   Weaver *et al.* (1983) *Methods in Enzymol. 101*:228-245). An integrating vector may be directed to a specific locus in yeast by selecting the appropriate homologous sequence for

- 31 -

inclusion in the vector. See Orr-Weaver *et al.*, *supra*. One or more expression construct may integrate, possibly affecting levels of recombinant protein produced (Rine *et al.* (1983) *Proc. Natl. Acad. Sci. USA 80*:6750). The chromosomal sequences included in the vector can occur either as a single segment in the vector, which results in the integration of the entire vector, or

5   two segments homologous to adjacent segments in the chromosome and flanking the expression construct in the vector, which can result in the stable integration of only the expression construct.

Usually, extrachromosomal and integrating expression constructs may contain selectable markers to allow for the selection of yeast strains that have been transformed.

10   Selectable markers may include biosynthetic genes that can be expressed in the yeast host, such as *ADE2*, *HIS4*, *LEU2*, *TRP1*, and *ALG7*, and the G418 resistance gene, which confer resistance in yeast cells to tunicamycin and G418, respectively. In addition, a suitable selectable marker may also provide yeast with the ability to grow in the presence of toxic compounds, such as metal. For example, the presence of *CUP1* allows yeast to grow in the

15   presence of copper ions (Butt *et al.* (1987) *Microbiol, Rev. 51*:351).

Alternatively, some of the above described components can be put together into transformation vectors. Transformation vectors are usually comprised of a selectable marker that is either maintained in a replicon or developed into an integrating vector, as described above.

20   Expression and transformation vectors, either extrachromosomal replicons or integrating vectors, have been developed for transformation into many yeasts. For example, expression vectors and methods of introducing exogenous DNA into yeast hosts have been developed for, *inter alia*, the following yeasts: *Candida albicans* (Kurtz, *et al.* (1986) *Mol. Cell. Biol. 6*:142); *Candida maltosa* (Kunze, *et al.* (1985) *J. Basic Microbiol. 25*:141);

25   *Hansenula polymorpha* (Gleeson, *et al.* (1986) *J. Gen. Microbiol. 132*:3459; Roggenkamp *et al.* (1986) *Mol. Gen. Genet. 202*:302); *Kluyveromyces fragilis* (Das, *et al.* (1984) *J. Bacteriol. 158*:1165); *Kluyveromyces lactis* (De Louvencourt *et al.* (1983) *J. Bacteriol. 154*:737; Van den Berg *et al.* (1990) *Bio/Technology 8*:135); *Pichia guillerimondii* (Kunze *et al.* (1985) *J. Basic Microbiol. 25*:141); *Pichia pastoris* (Cregg, *et al.* (1985) *Mol. Cell. Biol. 5*:3376; U.S.

30   Patent Nos. 4,837,148 and 4,929,555); *Saccharomyces cerevisiae* (Hinnen *et al.* (1978) *Proc. Natl. Acad. Sci. USA 75*:1929; Ito *et al.* (1983) *J. Bacteriol. 153*:163); *Schizosaccharomyces*

- 32 -

pombe (Beach and Nurse (1981) *Nature 300*:706); and *Yarrowia lipolytica* (Davidow, *et al.*
(1985) *Curr. Genet. 10*:380471 Gaillardin, *et al.* (1985) *Curr. Genet. 10*:49).

Methods of introducing exogenous DNA into yeast hosts are well-known in the art,
and usually include either the transformation of spheroplasts or of intact yeast cells treated
5   with alkali cations. Transformation procedures usually vary with the yeast species to be
transformed. See e.g., [Kurtz *et al.* (1986) *Mol. Cell. Biol. 6*:142; Kunze *et al.* (1985) *J. Basic
Microbiol. 25*:141; Candida]; [Gleeson *et al.* (1986) *J. Gen. Microbiol. 132*:3459;
Roggenkamp *et al.* (1986) *Mol. Gen. Genet. 202*:302; Hansenula]; [Das *et al.* (1984) *J.
Bacteriol. 158*:1165; De Louvencourt *et al.* (1983) *J. Bacteriol. 154*:1165; Van den Berg *et*
10   *al.* (1990) *Bio/Technology 8*:135; Kluyveromyces]; [Cregg *et al.* (1985) *Mol. Cell. Biol.
5*:3376; Kunze *et al.* (1985) *J. Basic Microbiol. 25*:141; U.S. Patent Nos. 4,837,148 and
4,929,555; Pichia]; [Hinnen *et al.* (1978) *Proc. Natl. Acad. Sci. USA 75*;1929; Ito *et al.*
(1983) *J. Bacteriol. 153*:163 Saccharomyces]; [Beach and Nurse (1981) *Nature 300*:706;
Schizosaccharomyces]; [Davidow *et al.* (1985) *Curr. Genet. 10*:39; Gaillardin *et al.* (1985)
15   *Curr. Genet. 10*:49; Yarrowia].

Definitions

A composition containing X is "substantially free of" Y when at least 85% by weight
of the total X+Y in the composition is X. Preferably, X comprises at least about 90% by
20   weight of the total of X+Y in the composition, more preferably at least about 95% or even
99% by weight.

The term "heterologous" refers to two biological components that are not found
together in nature. The components may be host cells, genes, or regulatory regions, such as
promoters. Although the heterologous components are not found together in nature, they can
25   function together, as when a promoter heterologous to a gene is operably linked to the gene.
Another example is where a Neisserial sequence is heterologous to a mouse host cell.

An "origin of replication" is a polynucleotide sequence that initiates and regulates
replication of polynucleotides, such as an expression vector. The origin of replication behaves
as an autonomous unit of polynucleotide replication within a cell, capable of replication
30   under its own control. An origin of replication may be needed for a vector to replicate in a
particular host cell. With certain origins of replication, an expression vector can be

- 33 -

reproduced at a high copy number in the presence of the appropriate proteins within the cell. Examples of origins are the autonomously replicating sequences, which are effective in yeast; and the viral T-antigen, effective in COS-7 cells.

5   A "mutant" sequence is defined as a DNA, RNA or amino acid sequence differing from but having homology with the native or disclosed sequence. Depending on the particular sequence, the degree of homology between the native or disclosed sequence and the mutant sequence is preferably greater than 50% (e.g., 60%, 70%, 80%, 90%, 95%, 99% or more) which is calculated as described above. As used herein, an "allelic variant" of a nucleic acid molecule, or region, for which nucleic acid sequence is provided herein is a
10   nucleic acid molecule, or region, that occurs at essentially the same locus in the genome of another or second isolate, and that, due to natural variation caused by, for example, mutation or recombination, has a similar but not identical nucleic acid sequence. A coding region allelic variant typically encodes a protein having similar activity to that of the protein encoded by the gene to which it is being compared. An allelic variant can also comprise an
15   alteration in the 5' or 3' untranslated regions of the gene, such as in regulatory control regions. (see, for example, U.S. Patent 5,753,235).

Antibodies

          As used herein, the term "antibody" refers to a polypeptide or group of polypeptides
20   composed of at least one antibody combining site. An "antibody combining site" is the three-dimensional binding space with an internal surface shape and charge distribution complementary to the features of an epitope of an antigen, which allows a binding of the antibody with the antigen. "Antibody" includes, for example, vertebrate antibodies, hybrid antibodies, chimeric antibodies, humanized antibodies, altered antibodies, univalent
25   antibodies, Fab proteins, and single domain antibodies.

          Antibodies against the proteins of the invention are useful for affinity chromatography, immunoassays, and distinguishing/identifying *Neisseria* MenB proteins. Antibodies elicited against the proteins of the present invention bind to antigenic polypeptides or proteins or protein fragments that are present and specifically associated with
30   strains of *Neisseria meningitidis* MenB. In some instances, these antigens may be associated with specific strains, such as those antigens specific for the MenB strains. The antibodies of

- 34 -

the invention may be immobilized to a matrix and utilized in an immunoassay or on an affinity chromatography column, to enable the detection and/or separation of polypeptides, proteins or protein fragments or cells comprising such polypeptides, proteins or protein fragments. Alternatively, such polypeptides, proteins or protein fragments may be
5   immobilized so as to detect antibodies bindably specific thereto.

Antibodies to the proteins of the invention, both polyclonal and monoclonal, may be prepared by conventional methods. In general, the protein is first used to immunize a suitable animal, preferably a mouse, rat, rabbit or goat. Rabbits and goats are preferred for the preparation of polyclonal sera due to the volume of serum obtainable, and the availability of
10   labeled anti-rabbit and anti-goat antibodies. Immunization is generally performed by mixing or emulsifying the protein in saline, preferably in an adjuvant such as Freund's complete adjuvant, and injecting the mixture or emulsion parenterally (generally subcutaneously or intramuscularly). A dose of 50-200 µg/injection is typically sufficient. Immunization is generally boosted 2-6 weeks later with one or more injections of the protein in saline,
15   preferably using Freund's incomplete adjuvant. One may alternatively generate antibodies by in vitro immunization using methods known in the art, which for the purposes of this invention is considered equivalent to *in vivo* immunization. Polyclonal antisera is obtained by bleeding the immunized animal into a glass or plastic container, incubating the blood at 25°C for one hour, followed by incubating at 4°C for 2-18 hours. The serum is recovered by
20   centrifugation (e.g., 1,000g for 10 minutes). About 20-50 ml per bleed may be obtained from rabbits.

Monoclonal antibodies are prepared using the standard method of Kohler & Milstein (*Nature* (1975) 256:495-96), or a modification thereof. Typically, a mouse or rat is immunized as described above. However, rather than bleeding the animal to extract serum,
25   the spleen (and optionally several large lymph nodes) is removed and dissociated into single cells. If desired, the spleen cells may be screened (after removal of nonspecifically adherent cells) by applying a cell suspension to a plate or well coated with the protein antigen. B-cells that express membrane-bound immunoglobulin specific for the antigen bind to the plate, and are not rinsed away with the rest of the suspension. Resulting B-cells, or all dissociated
30   spleen cells, are then induced to fuse with myeloma cells to form hybridomas, and are cultured in a selective medium (e.g., hypoxanthine, aminopterin, thymidine medium,

- 35 -

"HAT"). The resulting hybridomas are plated by limiting dilution, and are assayed for the production of antibodies which bind specifically to the immunizing antigen (and which do not bind to unrelated antigens). The selected MAb-secreting hybridomas are then cultured either *in vitro* (e.g., in tissue culture bottles or hollow fiber reactors), or *in vivo* (as ascites in

5   mice).

If desired, the antibodies (whether polyclonal or monoclonal) may be labeled using conventional techniques. Suitable labels include fluorophores, chromophores, radioactive atoms (particularly ^{32}P and ^{125}I), electron-dense reagents, enzymes, and ligands having specific binding partners. Enzymes are typically detected by their activity. For example,

10 horseradish peroxidase is usually detected by its ability to convert 3,3',5,5'-tetramethylbenzidine (TMB) to a blue pigment, quantifiable with a spectrophotometer. "Specific binding partner" refers to a protein capable of binding a ligand molecule with high specificity, as for example in the case of an antigen and a monoclonal antibody specific therefor. Other specific binding partners include biotin and avidin or

15 streptavidin, IgG and protein A, and the numerous receptor-ligand couples known in the art. It should be understood that the above description is not meant to categorize the various labels into distinct classes, as the same label may serve in several different modes. For example, ^{125}I may serve as a radioactive label or as an electron-dense reagent. HRP may serve as enzyme or as antigen for a MAb. Further, one may combine various labels for

20 desired effect. For example, MAbs and avidin also require labels in the practice of this invention: thus, one might label a MAb with biotin, and detect its presence with avidin labeled with ^{125}I, or with an anti-biotin MAb labeled with HRP. Other permutations and possibilities will be readily apparent to those of ordinary skill in the art, and are considered as equivalents within the scope of the instant invention.

25   Antigens, immunogens, polypeptides, proteins or protein fragments of the present invention elicit formation of specific binding partner antibodies. These antigens, immunogens, polypeptides, proteins or protein fragments of the present invention comprise immunogenic compositions of the present invention. Such immunogenic compositions may further comprise or include adjuvants, carriers, or other compositions that promote or

30 enhance or stabilize the antigens, polypeptides, proteins or protein fragments of the present

- 36 -

invention. Such adjuvants and carriers will be readily apparent to those of ordinary skill in the art.

Pharmaceutical Compositions

5   Pharmaceutical compositions can include either polypeptides, antibodies, or nucleic acid of the invention. The pharmaceutical compositions will comprise a therapeutically effective amount of either polypeptides, antibodies, or polynucleotides of the claimed invention.

          The term "therapeutically effective amount" as used herein refers to an amount of a
10   therapeutic agent to treat, ameliorate, or prevent a desired disease or condition, or to exhibit a detectable therapeutic or preventative effect. The effect can be detected by, for example, chemical markers or antigen levels. Therapeutic effects also include reduction in physical symptoms, such as decreased body temperature, when given to a patient that is febrile. The precise effective amount for a subject will depend upon the subject's size and health, the
15   nature and extent of the condition, and the therapeutics or combination of therapeutics selected for administration. Thus, it is not useful to specify an exact effective amount in advance. However, the effective amount for a given situation can be determined by routine experimentation and is within the judgment of the clinician.

          For purposes of the present invention, an effective dose will be from about 0.01 mg/
20   kg to 50 mg/kg or 0.05 mg/kg to about 10 mg/kg of the DNA constructs in the individual to which it is administered.

          A pharmaceutical composition can also contain a pharmaceutically acceptable carrier. The term "pharmaceutically acceptable carrier" refers to a carrier for administration of a therapeutic agent, such as antibodies or a polypeptide, genes, and other therapeutic agents.
25   The term refers to any pharmaceutical carrier that does not itself induce the production of antibodies harmful to the individual receiving the composition, and which may be administered without undue toxicity. Suitable carriers may be large, slowly metabolized macromolecules such as proteins, polysaccharides, polylactic acids, polyglycolic acids, polymeric amino acids, amino acid copolymers, and inactive virus particles. Such carriers are
30   well known to those of ordinary skill in the art.

- 37 -

Pharmaceutically acceptable salts can be used therein, for example, mineral acid salts such as hydrochlorides, hydrobromides, phosphates, sulfates, and the like; and the salts of organic acids such as acetates, propionates, malonates, benzoates, and the like. A thorough discussion of pharmaceutically acceptable excipients is available in Remington's

5 Pharmaceutical Sciences (Mack Pub. Co., N.J. 1991).

Pharmaceutically acceptable carriers in therapeutic compositions may contain liquids such as water, saline, glycerol and ethanol. Additionally, auxiliary substances, such as wetting or emulsifying agents, pH buffering substances, and the like, may be present in such vehicles. Typically, the therapeutic compositions are prepared as injectables, either as liquid

10 solutions or suspensions; solid forms suitable for solution in, or suspension in, liquid vehicles prior to injection may also be prepared. Liposomes are included within the definition of a pharmaceutically acceptable carrier.

Delivery Methods

15 Once formulated, the compositions of the invention can be administered directly to the subject. The subjects to be treated can be animals; in particular, human subjects can be treated.

Direct delivery of the compositions will generally be accomplished by injection, either subcutaneously, intraperitoneally, intravenously or intramuscularly or delivered to the

20 interstitial space of a tissue. The compositions can also be administered into a lesion. Other modes of administration include oral and pulmonary administration, suppositories, and transdermal and transcutaneous applications, needles, and gene guns or hyposprays. Dosage treatment may be a single dose schedule or a multiple dose schedule.

25 Vaccines

Vaccines according to the invention may either be prophylactic (i.e., to prevent infection) or therapeutic (i.e., to treat disease after infection).

Such vaccines comprise immunizing antigen(s) or immunogen(s), immunogenic polypeptide, protein(s) or protein fragments, or nucleic acids (e.g., ribonucleic acid or

30 deoxyribonucleic acid), usually in combination with "pharmaceutically acceptable carriers," which include any carrier that does not itself induce the production of antibodies harmful to

- 38 -

the individual receiving the composition. Suitable carriers are typically large, slowly metabolized macromolecules such as proteins, polysaccharides, polylactic acids, polyglycolic acids, polymeric amino acids, amino acid copolymers, lipid aggregates (such as oil droplets or liposomes), and inactive virus particles. Such carriers are well known to those of ordinary

5   skill in the art. Additionally, these carriers may function as immunostimulating agents ("adjuvants"). Furthermore, the immunogen or antigen may be conjugated to a bacterial toxoid, such as a toxoid from diphtheria, tetanus, cholera, *H. pylori*, etc. pathogens.

Preferred adjuvants to enhance effectiveness of the composition include, but are not limited to: (1) aluminum salts (alum), such as aluminum hydroxide, aluminum phosphate,

10   aluminum sulfate, etc; (2) oil-in-water emulsion formulations (with or without other specific immunostimulating agents such as muramyl peptides (see below) or bacterial cell wall components), such as for example (a) MF59 (PCT Publ. No. WO 90/14837), containing 5% Squalene, 0.5% Tween 80, and 0.5% Span 85 (optionally containing various amounts of MTP-PE (see below), although not required) formulated into submicron particles using a

15   microfluidizer such as Model 110Y microfluidizer (Microfluidics, Newton, MA), (b) SAF, containing 10% Squalane, 0.4% Tween 80, 5% pluronic-blocked polymer L121, and thr-MDP (see below) either microfluidized into a submicron emulsion or vortexed to generate a larger particle size emulsion, and (c) Ribi™ adjuvant system (RAS), (Ribi Immunochem, Hamilton, MT) containing 2% Squalene, 0.2% Tween 80, and one or more bacterial cell wall

20   components from the group consisting of monophosphorylipid A (MPL), trehalose dimycolate (TDM), and cell wall skeleton (CWS), preferably MPL + CWS (Detox™); (3) saponin adjuvants, such as Stimulon™ (Cambridge Bioscience, Worcester, MA) may be used or particles generated therefrom such as ISCOMs (immunostimulating complexes); (4) Complete Freund's Adjuvant (CFA) and Incomplete Freund's Adjuvant (IFA);

25   (5) cytokines, such as interleukins (e.g., IL-1, IL-2, IL-4, IL-5, IL-6, IL-7, IL-12, *etc.*), interferons (e.g., gamma interferon), macrophage colony stimulating factor (M-CSF), tumor necrosis factor (TNF), etc; (6) detoxified mutants of a bacterial ADP-ribosylating toxin such as a cholera toxin (CT), a pertussis toxin (PT), or an E. coli heat-labile toxin (LT), particularly LT-K63, LT-R72, CT-S109, PT-K9/G129; see, e.g., WO 93/13302 and WO

30   92/19265; and (7) other substances that act as immunostimulating agents to enhance the effectiveness of the composition. Alum and MF59 are preferred.

- 39 -

As mentioned above, muramyl peptides include, but are not limited to, N-acetyl-muramyl-L-threonyl-D-isoglutamine (thr-MDP), N-acetyl-normuramyl-L-alanyl-D-isoglutamine (nor-MDP), N-acetylmuramyl-L-alanyl-D-isoglutaminyl-L-alanine-2-(1'-2'-dipalmitoyl-*sn*-glycero-3-huydroxyphosphoryloxy)-ethylamine (MTP-PE), *etc.*

The vaccine compositions comprising immunogenic compositions (e.g., which may include the antigen, pharmaceutically acceptable carrier, and adjuvant) typically will contain diluents, such as water, saline, glycerol, ethanol, etc. Additionally, auxiliary substances, such as wetting or emulsifying agents, pH buffering substances, and the like, may be present in such vehicles. Alternatively, vaccine compositions comprising immunogenic compositions may comprise an antigen, polypeptide, protein, protein fragment or nucleic acid in a pharmaceutically acceptable carrier.

More specifically, vaccines comprising immunogenic compositions comprise an immunologically effective amount of the immunogenic polypeptides, as well as any other of the above-mentioned components, as needed. By "immunologically effective amount", it is meant that the administration of that amount to an individual, either in a single dose or as part of a series, is effective for treatment or prevention. This amount varies depending upon the health and physical condition of the individual to be treated, the taxonomic group of individual to be treated (e.g., nonhuman primate, primate, *etc.*), the capacity of the individual's immune system to synthesize antibodies, the degree of protection desired, the formulation of the vaccine, the treating doctor's assessment of the medical situation, and other relevant factors. It is expected that the amount will fall in a relatively broad range that can be determined through routine trials.

Typically, the vaccine compositions or immunogenic compositions are prepared as injectables, either as liquid solutions or suspensions; solid forms suitable for solution in, or suspension in, liquid vehicles prior to injection may also be prepared. The preparation also may be emulsified or encapsulated in liposomes for enhanced adjuvant effect, as discussed above under pharmaceutically acceptable carriers.

The immunogenic compositions are conventionally administered parenterally, e.g., by injection, either subcutaneously or intramuscularly. Additional formulations suitable for other modes of administration include oral and pulmonary formulations, suppositories, and transdermal and transcutaneous applications. Dosage treatment may be a single dose schedule

- 40 -

or a multiple dose schedule. The vaccine may be administered in conjunction with other immunoregulatory agents.

As an alternative to protein-based vaccines, DNA vaccination may be employed (e.g., Robinson & Torres (1997) *Seminars in Immunology* 9:271-283; Donnelly *et al.* (1997) *Annu*
5   *Rev Immunol* 15:617-648).

Gene Delivery Vehicles

Gene therapy vehicles for delivery of constructs, including a coding sequence of a therapeutic of the invention, to be delivered to the mammal for expression in the mammal,
10   can be administered either locally or systemically. These constructs can utilize viral or non-viral vector approaches in *in vivo* or *ex vivo* modality. Expression of such coding sequence can be induced using endogenous mammalian or heterologous promoters. Expression of the coding sequence in vivo can be either constitutive or regulated.

The invention includes gene delivery vehicles capable of expressing the contemplated
15   nucleic acid sequences. The gene delivery vehicle is preferably a viral vector and, more preferably, a retroviral, adenoviral, adeno-associated viral (AAV), herpes viral, or alphavirus vector. The viral vector can also be an astrovirus, coronavirus, orthomyxovirus, papovavirus, paramyxovirus, parvovirus, picornavirus, poxvirus, or togavirus viral vector. See generally, Jolly (1994) *Cancer Gene Therapy* 1:51-64; Kimura (1994) *Human Gene Therapy*
20   5:845-852; Connelly (1995) *Human Gene Therapy* 6:185-193; and Kaplitt (1994) *Nature Genetics* 6:148-153.

Retroviral vectors are well known in the art, including B, C and D type retroviruses, xenotropic retroviruses (for example, NZB-X1, NZB-X2 and NZB9-1 (see O'Neill (1985) *J. Virol.* 53:160) polytropic retroviruses e.g., MCF and MCF-MLV (see Kelly (1983) *J. Virol.*
25   45:291), spumaviruses and lentiviruses. See RNA Tumor Viruses, Second Edition, Cold Spring Harbor Laboratory, 1985.

Portions of the retroviral gene therapy vector may be derived from different retroviruses. For example, retrovector LTRs may be derived from a Murine Sarcoma Virus, a tRNA binding site from a Rous Sarcoma Virus, a packaging signal from a Murine Leukemia
30   Virus, and an origin of second strand synthesis from an Avian Leukosis Virus.

- 41 -

These recombinant retroviral vectors may be used to generate transduction competent retroviral vector particles by introducing them into appropriate packaging cell lines (see US patent 5,591,624). Retrovirus vectors can be constructed for site-specific integration into host cell DNA by incorporation of a chimeric integrase enzyme into the retroviral particle (see

5   WO96/37626). It is preferable that the recombinant viral vector is a replication defective recombinant virus.

Packaging cell lines suitable for use with the above-described retrovirus vectors are well known in the art, are readily prepared (see WO95/30763 and WO92/05266), and can be used to create producer cell lines (also termed vector cell lines or "VCLs") for the production

10   of recombinant vector particles. Preferably, the packaging cell lines are made from human parent cells (e.g., HT1080 cells) or mink parent cell lines, which eliminates inactivation in human serum.

Preferred retroviruses for the construction of retroviral gene therapy vectors include Avian Leukosis Virus, Bovine Leukemia, Virus, Murine Leukemia Virus, Mink-Cell

15   Focus-Inducing Virus, Murine Sarcoma Virus, Reticuloendotheliosis Virus and Rous Sarcoma Virus. Particularly preferred Murine Leukemia Viruses include 4070A and 1504A (Hartley and Rowe (1976) *J Virol* 19:19-25), Abelson (ATCC No. VR-999), Friend (ATCC No. VR-245), Graffi, Gross (ATCC No1 VR-590), Kirsten, Harvey Sarcoma Virus and Rauscher (ATCC No. VR-998) and Moloney Murine Leukemia Virus (ATCC No. VR-190).

20   Such retroviruses may be obtained from depositories or collections such as the American Type Culture Collection ("ATCC") in Rockville, Maryland or isolated from known sources using commonly available techniques.

Exemplary known retroviral gene therapy vectors employable in this invention include those described in patent applications GB2200651, EP0415731, EP0345242,

25   EP0334301, WO89/02468, WO89/05349, WO89/09271, WO90/02806, WO90/07936, WO94/03622, WO93/25698, WO93/25234, WO93/11230, WO93/10218, WO91/02805, WO91/02825, WO95/07994, US 5,219,740, US 4,405,712, US 4,861,719, US 4,980,289, US 4,777,127, US 5,591,624. See also Vile (1993) *Cancer Res* 53:3860-3864; Vile (1993) *Cancer Res* 53:962-967; Ram (1993) *Cancer Res* 53 (1993) 83-88; Takamiya (1992) *J*

30   *Neurosci Res* 33:493-503; Baba (1993) *J Neurosurg* 79:729-735; Mann (1983) *Cell* 33:153; Cane (1984) *Proc Natl Acad Sci* 81:6349; and Miller (1990) *Human Gene Therapy* 1.

- 42 -

Human adenoviral gene therapy vectors are also known in the art and employable in
this invention. See, for example, Berkner (1988) *Biotechniques* 6:616 and Rosenfeld (1991)
Science 252:431, and WO93/07283, WO93/06223, and WO93/07282. Exemplary known
adenoviral gene therapy vectors employable in this invention include those described in the
5   above referenced documents and in WO94/12649, WO93/03769, WO93/19191,
WO94/28938, WO95/11984, WO95/00655, WO95/27071, WO95/29993, WO95/34671,
WO96/05320, WO94/08026, WO94/11506, WO93/06223, WO94/24299, WO95/14102,
WO95/24297, WO95/02697, WO94/28152, WO94/24299, WO95/09241, WO95/25807,
WO95/05835, WO94/18922 and WO95/09654. Alternatively, administration of DNA linked
10   to killed adenovirus as described in Curiel (1992) *Hum. Gene Ther.* 3:147-154 may be
employed. The gene delivery vehicles of the invention also include adenovirus associated
virus (AAV) vectors. Leading and preferred examples of such vectors for use in this
invention are the AAV-2 based vectors disclosed in Srivastava, WO93/09239. Most preferred
AAV vectors comprise the two AAV inverted terminal repeats in which the native
15   D-sequences are modified by substitution of nucleotides, such that at least 5 native
nucleotides and up to 18 native nucleotides, preferably at least 10 native nucleotides up to 18
native nucleotides, most preferably 10 native nucleotides are retained and the remaining
nucleotides of the D-sequence are deleted or replaced with non-native nucleotides. The native
D-sequences of the AAV inverted terminal repeats are sequences of 20 consecutive
20   nucleotides in each AAV inverted terminal repeat (i.e., there is one sequence at each end)
which are not involved in HP formation. The non-native replacement nucleotide may be any
nucleotide other than the nucleotide found in the native D-sequence in the same position.
Other employable exemplary AAV vectors are pWP-19, pWN-1, both of which are disclosed
in Nahreini (1993) *Gene* 124:257-262. Another example of such an AAV vector is psub201
25   (see Samulski (1987) *J. Virol.* 61:3096). Another exemplary AAV vector is the Double-D
ITR vector. Construction of the Double-D ITR vector is disclosed in US Patent 5,478,745.
Still other vectors are those disclosed in Carter US Patent 4,797,368 and Muzyczka US Patent
5,139,941, Chartejee US Patent 5,474,935, and Kotin WO94/288157. Yet a further example
of an AAV vector employable in this invention is SSV9AFABTKneo, which contains the
30   AFP enhancer and albumin promoter and directs expression predominantly in the liver. Its
structure and construction are disclosed in Su (1996) *Human Gene Therapy* 7:463-470.

- 43 -

Additional AAV gene therapy vectors are described in US 5,354,678, US 5,173,414, US 5,139,941, and US 5,252,479.

The gene therapy vectors comprising sequences of the invention also include herpes vectors. Leading and preferred examples are herpes simplex virus vectors containing a
5 sequence encoding a thymidine kinase polypeptide such as those disclosed in US 5,288,641 and EP0176170 (Roizman). Additional exemplary herpes simplex virus vectors include HFEM/ICP6-LacZ disclosed in WO95/04139 (Wistar Institute), pHSVlac described in Geller (1988) *Science* 241:1667-1669 and in WO90/09441 and WO92/07945, HSV Us3::pgC-lacZ described in Fink (1992) *Human Gene Therapy* 3:11-19 and HSV 7134, 2 RH 105 and GAL4
10 described in EP 0453242 (Breakefield), and those deposited with the ATCC as accession numbers ATCC VR-977 and ATCC VR-260.

Also contemplated are alpha virus gene therapy vectors that can be employed in this invention. Preferred alpha virus vectors are Sindbis viruses vectors. Togaviruses, Semliki Forest virus (ATCC VR-67; ATCC VR-1247), Middleberg virus (ATCC VR-370), Ross
15 River virus (ATCC VR-373; ATCC VR-1246), Venezuelan equine encephalitis virus (ATCC VR923; ATCC VR-1250; ATCC VR-1249; ATCC VR-532), and those described in US patents 5,091,309, 5,217,879, and WO92/10578. More particularly, those alpha virus vectors described in U.S. Serial No. 08/405,627, filed March 15, 1995,WO94/21792, WO92/10578, WO95/07994, US 5,091,309 and US 5,217,879 are employable. Such alpha viruses may be
20 obtained from depositories or collections such as the ATCC in Rockville, Maryland or isolated from known sources using commonly available techniques. Preferably, alphavirus vectors with reduced cytotoxicity are used (see USSN 08/679640).

DNA vector systems such as eukarytic layered expression systems are also useful for expressing the nucleic acids of the invention. SeeWO95/07994 for a detailed description of
25 eukaryotic layered expression systems. Preferably, the eukaryotic layered expression systems of the invention are derived from alphavirus vectors and most preferably from Sindbis viral vectors.

Other viral vectors suitable for use in the present invention include those derived from poliovirus, for example ATCC VR-58 and those described in Evans, Nature 339 (1989) 385
30 and Sabin (1973) *J. Biol. Standardization* 1:115; rhinovirus, for example ATCC VR-1110 and those described in Arnold (1990) *J Cell Biochem* L401; pox viruses such as canary pox

- 44 -

virus or vaccinia virus, for example ATCC VR-111 and ATCC VR-2010 and those described

in Fisher-Hoch (1989) *Proc Natl Acad Sci* 86:317; Flexner (1989) *Ann NY Acad Sci* 569:86,

Flexner (1990) *Vaccine* 8:17; in US 4,603,112 and US 4,769,330 and WO89/01973; SV40

virus, for example ATCC VR-305 and those described in Mulligan (1979) *Nature* 277:108

5   and Madzak (1992) *J Gen Virol* 73:1533; influenza virus, for example ATCC VR-797 and

recombinant influenza viruses made employing reverse genetics techniques as described in

US 5,166,057 and in Enami (1990) *Proc Natl Acad Sci* 87:3802-3805; Enami & Palese

(1991) *J Virol* 65:2711-2713 and Luytjes (1989) *Cell* 59:110, (see also McMichael (1983)

NEJ Med 309:13, and Yap (1978) *Nature* 273:238 and Nature (1979) 277:108); human

10   immunodeficiency virus as described in EP-0386882 and in Buchschacher (1992) *J. Virol.*

66:2731; measles virus, for example ATCC VR-67 and VR-1247 and those described in EP-

0440219; Aura virus, for example ATCC VR-368; Bebaru virus, for example ATCC VR-600

and ATCC VR-1240; Cabassou virus, for example ATCC VR-922; Chikungunya virus, for

example ATCC VR-64 and ATCC VR-1241; Fort Morgan Virus, for example ATCC

15   VR-924; Getah virus, for example ATCC VR-369 and ATCC VR-1243; Kyzylagach virus,

for example ATCC VR-927; Mayaro virus, for example ATCC VR-66; Mucambo virus, for

example ATCC VR-580 and ATCC VR-1244; Ndumu virus, for example ATCC VR-371;

Pixuna virus, for example ATCC VR-372 and ATCC VR-1245; Tonate virus, for example

ATCC VR-925; Triniti virus, for example ATCC VR-469; Una virus, for example ATCC

20   VR-374; Whataroa virus, for example ATCC VR-926; Y-62-33 virus, for example ATCC

VR-375; O'Nyong virus, Eastern encephalitis virus, for example ATCC VR-65 and ATCC

VR-1242; Western encephalitis virus, for example ATCC VR-70, ATCC VR-1251, ATCC

VR-622 and ATCC VR-1252; and coronavirus, for example ATCC VR-740 and those

described in Hamre (1966) *Proc Soc Exp Biol Med* 121:190.

25   Delivery of the compositions of this invention into cells is not limited to the above

mentioned viral vectors. Other delivery methods and media may be employed such as, for

example, nucleic acid expression vectors, polycationic condensed DNA linked or unlinked to

killed adenovirus alone, for example see US Serial No. 08/366,787, filed December 30, 1994

and Curiel (1992) *Hum Gene Ther* 3:147-154 ligand linked DNA, for example see Wu (1989)

30   *J Biol Chem* 264:16985-16987, eucaryotic cell delivery vehicles cells, for example see US

Serial No.08/240,030, filed May 9, 1994, and US Serial No. 08/404,796, deposition of

- 45 -

photopolymerized hydrogel materials, hand-held gene transfer particle gun, as described in
US Patent 5,149,655, ionizing radiation as described in US5,206,152 and in WO92/11033,
nucleic charge neutralization or fusion with cell membranes. Additional approaches are
described in Philip (1994) *Mol Cell Biol* 14:2411-2418 and in Woffendin (1994) *Proc Natl
Acad Sci* 91:1581-1585.

5   Particle mediated gene transfer may be employed, for example see US Serial No.
60/023,867. Briefly, the sequence can be inserted into conventional vectors that contain
conventional control sequences for high level expression, and then incubated with synthetic
gene transfer molecules such as polymeric DNA-binding cations like polylysine, protamine,
and albumin, linked to cell targeting ligands such as asialoorosomucoid, as described in Wu
10   & Wu (1987) *J. Biol. Chem.* 262:4429-4432, insulin as described in Hucked (1990) *Biochem
Pharmacol* 40:253-263, galactose as described in Plank (1992) *Bioconjugate Chem*
3:533-539, lactose or transferrin.

Naked DNA may also be employed to transform a host cell. Exemplary naked DNA
15   introduction methods are described in WO 90/11092 and US 5,580,859. Uptake efficiency
may be improved using biodegradable latex beads. DNA coated latex beads are efficiently
transported into cells after endocytosis initiation by the beads. The method may be improved
further by treatment of the beads to increase hydrophobicity and thereby facilitate disruption
of the endosome and release of the DNA into the cytoplasm.

20   Liposomes that can act as gene delivery vehicles are described in U.S. 5,422,120,
WO95/13796, WO94/23697, WO91/14445 and EP-524,968. As described in USSN.
60/023,867, on non-viral delivery, the nucleic acid sequences encoding a polypeptide can be
inserted into conventional vectors that contain conventional control sequences for high level
expression, and then be incubated with synthetic gene transfer molecules such as polymeric
25   DNA-binding cations like polylysine, protamine, and albumin, linked to cell targeting ligands
such as asialoorosomucoid, insulin, galactose, lactose, or transferrin. Other delivery systems
include the use of liposomes to encapsulate DNA comprising the gene under the control of a
variety of tissue-specific or ubiquitously-active promoters. Further non-viral delivery suitable
for use includes mechanical delivery systems such as the approach described in Woffendin *et
30   al* (1994) *Proc. Natl. Acad. Sci. USA* 91(24):11581-11585. Moreover, the coding sequence
and the product of expression of such can be delivered through deposition of

- 46 -

photopolymerized hydrogel materials. Other conventional methods for gene delivery that can
be used for delivery of the coding sequence include, for example, use of hand-held gene
transfer particle gun, as described in U.S. 5,149,655; use of ionizing radiation for activating
transferred gene, as described in U.S. 5,206,152 and WO92/11033

5   Exemplary liposome and polycationic gene delivery vehicles are those described in
US 5,422,120 and 4,762,915; inWO 95/13796; WO94/23697; and WO91/14445; in EP-
0524968; and in Stryer, Biochemistry, pages 236-240 (1975) W.H. Freeman, San Francisco;
Szoka (1980) *Biochem Biophys Acta* 600:1; Bayer (1979) *Biochem Biophys Acta* 550:464;
Rivnay (1987) *Meth Enzymol* 149:119; Wang (1987) *Proc Natl Acad Sci* 84:7851; Plant

10   (1989) *Anal Biochem* 176:420.

A polynucleotide composition can comprise a therapeutically effective amount of a
gene therapy vehicle, as the term is defined above. For purposes of the present invention, an
effective dose will be from about 0.01 mg/ kg to 50 mg/kg or 0.05 mg/kg to about 10 mg/kg
of the DNA constructs in the individual to which it is administered.

15

Delivery Methods
Once formulated, the polynucleotide compositions of the invention can be
administered (1) directly to the subject; (2) delivered ex vivo, to cells derived from the
subject; or (3) in vitro for expression of recombinant proteins. The subjects to be treated can

20   be mammals or birds. Also, human subjects can be treated.

Direct delivery of the compositions will generally be accomplished by injection,
either subcutaneously, intraperitoneally, transdermally or transcutaneously, intravenously or
intramuscularly or delivered to the interstitial space of a tissue. The compositions can also be
administered into a tumor or lesion. Other modes of administration include oral and

25   pulmonary administration, suppositories, and transdermal applications, needles, and gene
guns or hyposprays. Dosage treatment may be a single dose schedule or a multiple dose
schedule. See WO98/20734.

Methods for the *ex vivo* delivery and reimplantation of transformed cells into a subject
are known in the art and described in e.g., WO93/14778. Examples of cells useful in ex vivo

30   applications include, for example, stem cells, particularly hematopoetic, lymph cells,
macrophages, dendritic cells, or tumor cells.

- 47 -

Generally, delivery of nucleic acids for both *ex vivo* and *in vitro* applications can be accomplished by the following procedures, for example, dextran-mediated transfection, calcium phosphate precipitation, polybrene mediated transfection, protoplast fusion, electroporation, encapsulation of the polynucleotide(s) in liposomes, and direct

5   microinjection of the DNA into nuclei, all well known in the art.

Polynucleotide and Polypeptide pharmaceutical compositions

In addition to the pharmaceutically acceptable carriers and salts described above, the following additional agents can be used with polynucleotide and/or polypeptide

10   compositions.

A.   Polypeptides

One example are polypeptides which include, without limitation: asialoorosomucoid (ASOR); transferrin; asialoglycoproteins; antibodies; antibody fragments; ferritin;

15   interleukins; interferons, granulocyte, macrophage colony stimulating factor (GM-CSF), granulocyte colony stimulating factor (G-CSF), macrophage colony stimulating factor (M-CSF), stem cell factor and erythropoietin. Viral antigens, such as envelope proteins, can also be used. Also, proteins from other invasive organisms, such as the 17 amino acid peptide from the circumsporozoite protein of plasmodium falciparum known as RII.

20

B.   Hormones, Vitamins, Etc.

Other groups that can be included in a pharmaceutical composition include, for example: hormones, steroids, androgens, estrogens, thyroid hormone, or vitamins, folic acid.

25   C.   Polyalkylenes, Polysaccharides, *etc.*

Also, polyalkylene glycol can be included in a pharmaceutical compositions with the desired polynucleotides and/or polypeptides. In a preferred embodiment, the polyalkylene glycol is polyethlylene glycol. In addition, mono-, di-, or polysaccarides can be included. In a preferred embodiment of this aspect, the polysaccharide is dextran or DEAE-dextran. Also,

30   chitosan and poly(lactide-co-glycolide) may be included in a pharmaceutical composition.

- 48 -

D.   Lipids, and Liposomes

        The desired polynucleotide or polypeptide can also be encapsulated in lipids or
packaged in liposomes prior to delivery to the subject or to cells derived therefrom.

        Lipid encapsulation is generally accomplished using liposomes which are able to
5   stably bind or entrap and retain nucleic acid or polypeptide. The ratio of condensed
polynucleotide to lipid preparation can vary but will generally be around 1:1 (mg
DNA:micromoles lipid), or more of lipid. For a review of the use of liposomes as carriers for
delivery of nucleic acids, see, Hug and Sleight (1991) *Biochim. Biophys. Acta.* 1097:1-17;
Straubinger (1983) *Meth. Enzymol.* 101:512-527.

10   Liposomal preparations for use in the present invention include cationic (positively
charged), anionic (negatively charged) and neutral preparations. Cationic liposomes have
been shown to mediate intracellular delivery of plasmid DNA (Felgner (1987) *Proc. Natl.
Acad. Sci. USA* 84:7413-7416); mRNA (Malone (1989) *Proc. Natl. Acad. Sci. USA*
86:6077-6081); and purified transcription factors (Debs (1990) *J. Biol. Chem.*
15   265:10189-10192), in functional form.

        Cationic liposomes are readily available. For example,
N(1-2,3-dioleyloxy)propyl)-N,N,N-triethylammonium (DOTMA) liposomes are available
under the trademark Lipofectin, from GIBCO BRL, Grand Island, NY. (See, also, Felgner
supra). Other commercially available liposomes include transfectace (DDAB/DOPE) and
20   DOTAP/DOPE (Boerhinger). Other cationic liposomes can be prepared from readily
available materials using techniques well known in the art. See, e.g., Szoka (1978) *Proc.
Natl. Acad. Sci. USA* 75:4194-4198; WO90/11092 for a description of the synthesis of
DOTAP (1,2-bis(oleoyloxy)-3-(trimethylammonio)propane) liposomes.

        Similarly, anionic and neutral liposomes are readily available, such as from Avanti
25   Polar Lipids (Birmingham, AL), or can be easily prepared using readily available materials.
Such materials include phosphatidyl choline, cholesterol, phosphatidyl ethanolamine,
dioleoylphosphatidyl choline (DOPC), dioleoylphosphatidyl glycerol (DOPG),
dioleoylphoshatidyl ethanolamine (DOPE), among others. These materials can also be mixed
with the DOTMA and DOTAP starting materials in appropriate ratios. Methods for making
30   liposomes using these materials are well known in the art.

- 49 -

The liposomes can comprise multilammelar vesicles (MLVs), small unilamellar vesicles (SUVs), or large unilamellar vesicles (LUVs). The various liposome-nucleic acid complexes are prepared using methods known in the art. See e.g., Straubinger (1983) *Meth. Immunol.* 101:512-527; Szoka (1978) *Proc. Natl. Acad. Sci. USA* 75:4194-4198;

5   Papahadjopoulos (1975) *Biochim. Biophys. Acta* 394:483; Wilson (1979) *Cell* 17:77); Deamer & Bangham (1976) *Biochim. Biophys. Acta* 443:629; Ostro (1977) *Biochem. Biophys. Res. Commun.* 76:836; Fraley (1979) *Proc. Natl. Acad. Sci. USA* 76:3348); Enoch & Strittmatter (1979) *Proc. Natl. Acad. Sci. USA* 76:145; Fraley (1980) *J. Biol. Chem.* (1980) 255:10431; Szoka & Papahadjopoulos (1978) *Proc. Natl. Acad. Sci. USA* 75:145; and

10   Schaefer-Ridder (1982) *Science* 215:166.

E.   Lipoproteins

In addition, lipoproteins can be included with the polynucleotide or polypeptide to be delivered. Examples of lipoproteins to be utilized include: chylomicrons, HDL, IDL, LDL,

15   and VLDL. Mutants, fragments, or fusions of these proteins can also be used. Also, modifications of naturally occurring lipoproteins can be used, such as acetylated LDL. These lipoproteins can target the delivery of polynucleotides to cells expressing lipoprotein receptors. Preferably, if lipoproteins are including with the polynucleotide to be delivered, no other targeting ligand is included in the composition.

20   Naturally occurring lipoproteins comprise a lipid and a protein portion. The protein portion are known as apoproteins. At the present, apoproteins A, B, C, D, and E have been isolated and identified. At least two of these contain several proteins, designated by Roman numerals, AI, AII, AIV; CI, CII, CIII.

A lipoprotein can comprise more than one apoprotein. For example, naturally

25   occurring chylomicrons comprises of A, B, C, and E, over time these lipoproteins lose A and acquire C and E apoproteins. VLDL comprises A, B, C, and E apoproteins, LDL comprises apoprotein B; and HDL comprises apoproteins A, C, and E.

The amino acid sequences of these apoproteins are known and are described in, for example, Breslow (1985) *Annu Rev. Biochem* 54:699; Law (1986) *Adv. Exp Med. Biol.*

30   151:162; Chen (1986) *J Biol Chem* 261:12918; Kane (1980) *Proc Natl Acad Sci USA* 77:2465; and Utermann (1984) *Hum Genet* 65:232.

- 50 -

Lipoproteins contain a variety of lipids including, triglycerides, cholesterol (free and esters), and phopholipids. The composition of the lipids varies in naturally occurring lipoproteins. For example, chylomicrons comprise mainly triglycerides. A more detailed description of the lipid content of naturally occurring lipoproteins can be found, for example,

5   in *Meth. Enzymol.* 128 (1986). The composition of the lipids are chosen to aid in conformation of the apoprotein for receptor binding activity. The composition of lipids can also be chosen to facilitate hydrophobic interaction and association with the polynucleotide binding molecule.

Naturally occurring lipoproteins can be isolated from serum by ultracentrifugation, for

10   instance. Such methods are described in *Meth. Enzymol. (supra)*; Pitas (1980) *J. Biochem.* 255:5454-5460 and Mahey (1979) *J Clin. Invest* 64:743-750.

Lipoproteins can also be produced by *in vitro* or recombinant methods by expression of the apoprotein genes in a desired host cell. See, for example, Atkinson (1986) *Annu Rev Biophys Chem* 15:403 and Radding (1958) *Biochim Biophys Acta* 30: 443.

15   Lipoproteins can also be purchased from commercial suppliers, such as Biomedical Technologies, Inc., Stoughton, Massachusetts, USA.

Further description of lipoproteins can be found in Zuckermann et al., PCT. Appln. No. US97/14465.

20   F.   Polycationic Agents

Polycationic agents can be included, with or without lipoprotein, in a composition with the desired polynucleotide and/or polypeptide to be delivered.

Polycationic agents, typically, exhibit a net positive charge at physiological relevant pH and are capable of neutralizing the electrical charge of nucleic acids to facilitate delivery

25   to a desired location. These agents have both in vitro, ex vivo, and in vivo applications. Polycationic agents can be used to deliver nucleic acids to a living subject either intramuscularly, subcutaneously, etc.

The following are examples of useful polypeptides as polycationic agents: polylysine, polyarginine, polyornithine, and protamine. Other examples of useful polypeptides include

30   histones, protamines, human serum albumin, DNA binding proteins, non-histone chromosomal proteins, coat proteins from DNA viruses, such as ΦX174, transcriptional

- 51 -

factors also contain domains that bind DNA and therefore may be useful as nucleic aid condensing agents. Briefly, transcriptional factors such as C/CEBP, c-jun, c-fos, AP-1, AP-2, AP-3, CPF, Prot-1, Sp-1, Oct-1, Oct-2, CREP, and TFIID contain basic domains that bind DNA sequences.

5   Organic polycationic agents include: spermine, spermidine, and purtrescine.

           The dimensions and of the physical properties of a polycationic agent can be extrapolated from the list above, to construct other polypeptide polycationic agents or to produce synthetic polycationic agents.

10   G.   Synthetic Polycationic Agents

           Synthetic polycationic agents which are useful in pharmaceutical compositions include, for example, DEAE-dextran, polybrene. Lipofectin™, and lipofectAMINE™ are monomers that form polycationic complexes when combined with polynucleotides or polypeptides.

15

Immunodiagnostic Assays

           Neisseria MenB antigens, or antigenic fragments thereof, of the invention can be used in immunoassays to detect antibody levels (or, conversely, anti-*Neisseria* MenB antibodies can be used to detect antigen levels). Immunoassays based on well defined, recombinant

20   antigens can be developed to replace invasive diagnostics methods. Antibodies to *Neisseria* MenB proteins or fragments thereof within biological samples, including for example, blood or serum samples, can be detected. Design of the immunoassays is subject to a great deal of variation, and a variety of these are known in the art. Protocols for the immunoassay may be based, for example, upon competition, or direct reaction, or sandwich type assays. Protocols

25   may also, for example, use solid supports, or may be by immunoprecipitation. Most assays involve the use of labeled antibody or polypeptide; the labels may be, for example, fluorescent, chemiluminescent, radioactive, or dye molecules. Assays which amplify the signals from the probe are also known; examples of which are assays which utilize biotin and avidin, and enzyme-labeled and mediated immunoassays, such as ELISA assays.

30   Kits suitable for immunodiagnosis and containing the appropriate labeled reagents are constructed by packaging the appropriate materials, including the compositions of the

- 52 -

invention, in suitable containers, along with the remaining reagents and materials (for example, suitable buffers, salt solutions, *etc.*) required for the conduct of the assay, as well as suitable set of assay instructions.

5   Nucleic Acid Hybridization

"Hybridization" refers to the association of two nucleic acid sequences to one another by hydrogen bonding. Typically, one sequence will be fixed to a solid support and the other will be free in solution. Then, the two sequences will be placed in contact with one another under conditions that favor hydrogen bonding. Factors that affect this bonding include: the

10   type and volume of solvent; reaction temperature; time of hybridization; agitation; agents to block the non-specific attachment of the liquid phase sequence to the solid support (Denhardt's reagent or BLOTTO); concentration of the sequences; use of compounds to increase the rate of association of sequences (dextran sulfate or polyethylene glycol); and the stringency of the washing conditions following hybridization. See Sambrook *et al.* (*supra*)

15   Volume 2, chapter 9, pages 9.47 to 9.57.

"Stringency" refers to conditions in a hybridization reaction that favor association of very similar sequences over sequences that differ. For example, the combination of temperature and salt concentration should be chosen that is approximately 120 to 200°C below the calculated Tm of the hybrid under study. The temperature and salt conditions can

20   often be determined empirically in preliminary experiments in which samples of genomic DNA immobilized on filters are hybridized to the sequence of interest and then washed under conditions of different stringencies. See Sambrook *et al.* at page 9.50.

Variables to consider when performing, for example, a Southern blot are (1) the complexity of the DNA being blotted and (2) the homology between the probe and the

25   sequences being detected. The total amount of the fragment(s) to be studied can vary a magnitude of 10, from 0.1 to 1µg for a plasmid or phage digest to 10^{-9} to 10^{-8} g for a single copy gene in a highly complex eukaryotic genome. For lower complexity polynucleotides, substantially shorter blotting, hybridization, and exposure times, a smaller amount of starting polynucleotides, and lower specific activity of probes can be used. For example, a

30   single-copy yeast gene can be detected with an exposure time of only 1 hour starting with 1 µg of yeast DNA, blotting for two hours, and hybridizing for 4-8 hours with a probe of 10^8

- 53 -

cpm/μg. For a single-copy mammalian gene a conservative approach would start with 10 μg of DNA, blot overnight, and hybridize overnight in the presence of 10% dextran sulfate using a probe of greater than 10^8 cpm/μg, resulting in an exposure time of ~24 hours.

Several factors can affect the melting temperature (Tm) of a DNA-DNA hybrid

5 between the probe and the fragment of interest, and consequently, the appropriate conditions for hybridization and washing. In many cases the probe is not 100% homologous to the fragment. Other commonly encountered variables include the length and total G+C content of the hybridizing sequences and the ionic strength and formamide content of the hybridization buffer. The effects of all of these factors can be approximated by a single equation:

10 $Tm = 81 + 16.6(\log_{10}Ci) + 0.4(\%(G + C)) - 0.6(\%formamide) - 600/n - 1.5(\%mismatch)$ where Ci is the salt concentration (monovalent ions) and n is the length of the hybrid in base pairs (slightly modified from Meinkoth & Wahl (1984) *Anal. Biochem.* 138:267-284).

In designing a hybridization experiment, some factors affecting nucleic acid hybridization can be conveniently altered. The temperature of the hybridization and washes

15 and the salt concentration during the washes are the simplest to adjust. As the temperature of the hybridization increases (i.e., stringency), it becomes less likely for hybridization to occur between strands that are nonhomologous, and as a result, background decreases. If the radiolabeled probe is not completely homologous with the immobilized fragment (as is frequently the case in gene family and interspecies hybridization experiments), the

20 hybridization temperature must be reduced, and background will increase. The temperature of the washes affects the intensity of the hybridizing band and the degree of background in a similar manner. The stringency of the washes is also increased with decreasing salt concentrations.

In general, convenient hybridization temperatures in the presence of 50% formamide

25 are 42°C for a probe with is 95% to 100% homologous to the target fragment, 37°C for 90% to 95% homology, and 32°C for 85% to 90% homology. For lower homologies, formamide content should be lowered and temperature adjusted accordingly, using the equation above. If the homology between the probe and the target fragment are not known, the simplest approach is to start with both hybridization and wash conditions which are nonstringent. If

30 non-specific bands or high background are observed after autoradiography, the filter can be washed at high stringency and reexposed. If the time required for exposure makes this

- 54 -

approach impractical, several hybridization and/or washing stringencies should be tested in parallel.

Nucleic Acid Probe Assays

5   Methods such as PCR, branched DNA probe assays, or blotting techniques utilizing nucleic acid probes according to the invention can determine the presence of cDNA or mRNA. A probe is said to "hybridize" with a sequence of the invention if it can form a duplex or double stranded complex, which is stable enough to be detected.

          The nucleic acid probes will hybridize to the Neisserial nucleotide sequences of the
10   invention (including both sense and antisense strands). Though many different nucleotide sequences will encode the amino acid sequence, the native Neisserial sequence is preferred because it is the actual sequence present in cells. mRNA represents a coding sequence and so a probe should be complementary to the coding sequence; single-stranded cDNA is complementary to mRNA, and so a cDNA probe should be complementary to the non-coding
15   sequence.

          The probe sequence need not be identical to the Neisserial sequence (or its complement) -- some variation in the sequence and length can lead to increased assay sensitivity if the nucleic acid probe can form a duplex with target nucleotides, which can be detected. Also, the nucleic acid probe can include additional nucleotides to stabilize the
20   formed duplex. Additional Neisserial sequence may also be helpful as a label to detect the formed duplex. For example, a non-complementary nucleotide sequence may be attached to the 5' end of the probe, with the remainder of the probe sequence being complementary to a Neisserial sequence. Alternatively, non-complementary bases or longer sequences can be interspersed into the probe, provided that the probe sequence has sufficient complementarity
25   with the a Neisserial sequence in order to hybridize therewith and thereby form a duplex which can be detected.

          The exact length and sequence of the probe will depend on the hybridization conditions, such as temperature, salt condition and the like. For example, for diagnostic applications, depending on the complexity of the analyte sequence, the nucleic acid probe
30   typically contains at least 10-20 nucleotides, preferably 15-25, and more preferably at least

- 55 -

30 nucleotides, although it may be shorter than this. Short primers generally require cooler temperatures to form sufficiently stable hybrid complexes with the template.

Probes may be produced by synthetic procedures, such as the triester method of Matteucci *et al.* (*J. Am. Chem. Soc.* (1981) 103:3185), or according to Urdea *et al.* (*Proc.*
5   *Natl. Acad. Sci. USA* (1983) 80: 7461), or using commercially available automated oligonucleotide synthesizers.

The chemical nature of the probe can be selected according to preference. For certain applications, DNA or RNA are appropriate. For other applications, modifications may be incorporated e.g., backbone modifications, such as phosphorothioates or
10   methylphosphonates, can be used to increase *in vivo* half-life, alter RNA affinity, increase nuclease resistance *etc.* (e.g., see Agrawal & Iyer (1995) *Curr Opin Biotechnol* 6:12-19; Agrawal (1996) *TIBTECH* 14:376-387); analogues such as peptide nucleic acids may also be used (e.g., see Corey (1997) *TIBTECH* 15:224-229; Buchardt *et al.* (1993) *TIBTECH* 11:384-386).

15   One example of a nucleotide hybridization assay is described by Urdea *et al.* in international patent application WO92/02526 (see also U.S. Patent 5,124,246).

Alternatively, the polymerase chain reaction (PCR) is another well-known means for detecting small amounts of target nucleic acids. The assay is described in: Mullis *et al.* (*Meth. Enzymol.* (1987) 155: 335-350); US patent 4,683,195; and US patent 4,683,202. Two
20   "primer" nucleotides hybridize with the target nucleic acids and are used to prime the reaction. The primers can comprise sequence that does not hybridize to the sequence of the amplification target (or its complement) to aid with duplex stability or, for example, to incorporate a convenient restriction site. Typically, such sequence will flank the desired Neisserial sequence.

25   A thermostable polymerase creates copies of target nucleic acids from the primers using the original target nucleic acids as a template. After a threshold amount of target nucleic acids are generated by the polymerase, they can be detected by more traditional methods, such as Southern blots. When using the Southern blot method, the labeled probe will hybridize to the Neisserial sequence (or its complement).

30   Also, mRNA or cDNA can be detected by traditional blotting techniques described in Sambrook *et al* (*supra*). mRNA, or cDNA generated from mRNA using a polymerase

- 56 -

enzyme, can be purified and separated using gel electrophoresis. The nucleic acids on the gel are then blotted onto a solid support, such as nitrocellulose. The solid support is exposed to a labeled probe and then washed to remove any unhybridized probe. Next, the duplexes containing the labeled probe are detected. Typically, the probe is labeled with a radioactive
5   moiety.

EXAMPLES

The invention is based on the 961 nucleotide sequences from the genome of
N. meningitidis set out in Appendix C, SEQ ID NOs:1-961, which together represent
10   substantially the complete genome of serotype B of *N. meningitidis*, as well as the full length genome sequence shown in Appendix D, SEQ ID NO 1068.

It will be self-evident to the skilled person how this sequence information can be utilized according to the invention, as above described.

The standard techniques and procedures which may be employed in order to perform
15   the invention (*e.g.* to utilize the disclosed sequences to predict polypeptides useful for vaccination or diagnostic purposes) were summarized above. This summary is not a limitation on the invention but, rather, gives examples that may be used, but are not required.

These sequences are derived from contigs shown in Appendix C (SEQ ID NOs 1-961) and from the full length genome sequence shown in Appendix D (SEQ ID NO 1068), which
20   were prepared during the sequencing of the genome of *N. meningitidis* (strain B). The full length sequence was assembled using the TIGR Assembler as described by G.S. Sutton et al., *TIGR Assembler: A New Tool for Assembling Large Shotgun Sequencing Projects*, Genome Science and Technology, 1:9-19 (1995) [*see also* R. D. Fleischmann, et al., Science 269, 496-512 (1995); C. M. Fraser, et al., Science 270, 397-403 (1995); C. J. Bult, et al., Science 273,
25   1058-73 (1996); C. M. Fraser, et. al, Nature 390, 580-586 (1997); J.-F. Tomb, et. al., Nature 388, 539-547 (1997); H. P. Klenk, et al., Nature 390, 364-70 (1997); C. M. Fraser, et al., Science 281, 375-88 (1998); M. J. Gardner, et al., Science 282, 1126-1132 (1998); K. E. Nelson, et al., Nature 399, 323-9 (1999)]. Then, using the above-described methods, putative translation products of the sequences were determined. Computer analysis of the translation
30   products were determined based on database comparisons. Corresponding gene and protein sequences, if any, were identified in Neisseria meningitidis (Strain A) and Neisseria

- 57 -

gonorrhoeae. Then the proteins were expressed, purified, and characterized to assess their antigenicity and immunogenicity.

In particular, the following methods were used to express, purify, and biochemically characterize the proteins of the invention.

5

Chromosomal DNA Preparation

N. meningitidis strain 2996 was grown to exponential phase in 100 ml of GC medium, harvested by centrifugation, and resuspended in 5 ml buffer (20% Sucrose, 50 mM Tris-HCl, 50 mM EDTA, adjusted to pH 8.0). After 10 minutes incubation on ice, the bacteria were

10   lysed by adding 10 ml lysis solution (50 mM NaCl, 1% Na-Sarkosyl, 50 μg/ml Proteinase K), and the suspension was incubated at 37°C for 2 hours. Two phenol extractions (equilibrated to pH 8) and one ChCl₃/isoamylalcohol (24:1) extraction were performed. DNA was precipitated by addition of 0.3M sodium acetate and 2 volumes ethanol, and was collected by centrifugation. The pellet was washed once with 70% ethanol and redissolved in 4 ml buffer

15   (10 mM Tris-HCl, 1mM EDTA, pH 8). The DNA concentration was measured by reading the OD at 260 nm.

Oligonucleotide design

Synthetic oligonucleotide primers were designed on the basis of the coding sequence of each ORF, using (a) the meningococcus B sequence when available, or (b) the

20   gonococcus/meningococcus A sequence, adapted to the codon preference usage of meningococcus. Any predicted signal peptides were omitted, by deducing the 5'-end amplification primer sequence immediately downstream from the predicted leader sequence.

For most ORFs, the 5' primers included two restriction enzyme recognition sites (*BamHI-NdeI, BamHI-NheI*, or *EcoRI-NheI*, depending on the gene's restriction pattern); the

25   3' primers included a *XhoI* restriction site. This procedure was established in order to direct the cloning of each amplification product (corresponding to each ORF) into two different expression systems: pGEX-KG (using either *BamHI-XhoI* or *EcoRI-XhoI*), and pET21b+ (using either *NdeI-XhoI* or *NheI-XhoI*).

5'-end primer tail: CGC<u>GGATCCCATATG</u>   (*BamHI-NdeI*)

30   CGC<u>GGATCCGCTAGC</u>   (*BamHI-NheI*)

- 58 -

CCGGAATTCTAGCTAGC   (*EcoRI-NheI*)

3'-end primer tail: CCCGCTCGAG   (*XhoI*)

For some ORFs, two different amplifications were performed to clone each ORF in
the two expression systems. Two different 5' primers were used for each ORF; the same 3'
XhoI primer was used as before:

5'-end primer tail: GGAATTCCATATGGCCATGG   (*NdeI*)

5'-end primer tail: CGGGATCC   (*BamHI*)

Other ORFs were cloned in the pTRC expression vector and expressed as an
amino-terminus His-tag fusion. The predicted signal peptide may be included in the final
product. *NheI-BamHI* restriction sites were incorporated using primers:

5'-end primer tail: GATCAGCTAGCCATATG   (*NheI*)

3'-end primer tail: CGGGATCC   (*BamHI*)

As well as containing the restriction enzyme recognition sequences, the primers
included nucleotides which hybridizeed to the sequence to be amplified. The number of
hybridizing nucleotides depended on the melting temperature of the whole primer, and was
determined for each primer using the formulae:

$T_m = 4 (G+C) + 2 (A+T)$ (tail excluded)

$T_m = 64.9 + 0.41 (\% GC) - 600/N$ (whole primer)

The average melting temperature of the selected oligos were 65-70°C for the whole
oligo and 50-55°C for the hybridising region alone.

Oligos were synthesized by a Perkin Elmer 394 DNA/RNA Synthesizer, eluted from
the columns in 2 ml NH_4-OH, and deprotected by 5 hours incubation at 56 °C. The oligos
were precipitated by addition of 0.3M Na-Acetate and 2 volumes ethanol. The samples were
then centrifuged and the pellets resuspended in either 100μl or 1ml of water. OD_{260} was
determined using a Perkin Elmer Lambda Bio spectophotometer and the concentration was
determined and adjusted to 2-10 pmol/μl.

Table 1 shows the forward and reverse primers used for each amplification. In certain
cases, it might be noted that the sequence of the primer does not exactly match the sequence
in the ORF. When initial amplifications are performed, the complete 5' and/or 3' sequence

- 59 -

may not be known for some meningococcal ORFs, although the corresponding sequences may have been identified in gonoccus. For amplification, the gonococcal sequences could thus be used as the basis for primer design, altered to take account of codon preference. In particular, the following codons may be changed: ATA→ATT; TCG→TCT; CAG→CAA;

5   AAG→AAA; GAG→GAA; CGA and CGG→CGC; GGG→GGC.

Amplification

The standard PCR protocol was as follows: 50-200 ng of genomic DNA were used as a template in the presence of 20-40 μM of each oligo, 400-800 μM dNTPs solution, 1x PCR buffer (including 1.5 mM $MgCl_2$), 2.5 units *TaqI* DNA polymerase (using Perkin-Elmer

10   AmpliTaQ, GIBCO Platinum, Pwo DNA polymerase, or Tahara Shuzo Taq polymerase).

In some cases, PCR was optimsed by the addition of 10μl DMSO or 50 μl 2M betaine.

After a hot start (adding the polymerase during a preliminary 3 minute incubation of the whole mix at 95°C), each sample underwent a double-step amplification: the first 5 cycles

15   were performed using as the hybridization temperature the one of the oligos excluding the restriction enzymes tail, followed by 30 cycles performed according to the hybridization temperature of the whole length oligos. The cycles were followed by a final 10 minute extension step at 72°C.

The standard cycles were as follows:

	Denaturation	Hybridisation	Elongation
First 5 cycles	30 seconds 95°C	30 seconds 50-55°C	30-60 seconds 72°C
Last 30 cycles	30 seconds 95°C	30 seconds 65-70°C	30-60 seconds 72°C

20

The elongation time varied according to the length of the ORF to be amplified.

The amplifications were performed using either a 9600 or a 2400 Perkin Elmer GeneAmp PCR System. To check the results, 1/10 of the amplification volume was loaded onto a 1-1.5% agarose gel and the size of each amplified fragment compared with a DNA

25   molecular weight marker.

The amplified DNA was either loaded directly on a 1% agarose gel or first precipitated with ethanol and resuspended in a suitable volume to be loaded on a 1% agarose

- 60 -

gel. The DNA fragment corresponding to the right size band was then eluted and purified from gel, using the Qiagen Gel Extraction Kit, following the instructions of the manufacturer. The final volume of the DNA fragment was 30µl or 50µl of either water or 10mM Tris, pH 8.5.

5   **Digestion of PCR fragments**

The purified DNA corresponding to the amplified fragment was split into 2 aliquots and double-digested with:

NdeI/*XhoI* or *NheI/XhoI* for cloning into pET-21b+ and further expression of the protein as a C-terminus His-tag fusion

10   BamHI/*XhoI* or *EcoRI/XhoI* for cloning into pGEX-KG and further expression of the protein as a GST N-terminus fusion.

For ORF 76, *NheI/BamHI* for cloning into pTRC-HisA vector and further expression of the protein as N-terminus His-tag fusion.

Each purified DNA fragment was incubated (37°C for 3 hours to overnight) with 20

15   units of each restriction enzyme (New England Biolabs) in a either 30 or 40 µl final volume in the presence of the appropriate buffer. The digestion product was then purified using the QIAquick PCR purification kit, following the manufacturer's instructions, and eluted in a final volume of 30 (or 50) µl of either water or 10mM Tris-HCl, pH 8.5. The final DNA concentration was determined by 1% agarose gel electrophoresis in the presence of titrated

20   molecular weight marker.

Digestion of the cloning vectors (pET22B, pGEX-KG and pTRC-His A)

10 µg plasmid was double-digested with 50 units of each restriction enzyme in 200 µl reaction volume in the presence of appropriate buffer by overnight incubation at 37°C. After loading the whole digestion on a 1% agarose gel, the band corresponding to the digested

25   vector was purified from the gel using the Qiagen QIAquick Gel Extraction Kit and the DNA was eluted in 50 µl of 10 mM Tris-HCl, pH 8.5. The DNA concentration was evaluated by measuring OD_{260} of the sample, and adjusted to 50 µg/µl. 1 µl of plasmid was used for each cloning procedure.

- 61 -

Cloning

　　The fragments corresponding to each ORF, previously digested and purified, were ligated in both pET22b and pGEX-KG. In a final volume of 20 μl, a molar ratio of 3:1 fragment/vector was ligated using 0.5 μl of NEB T4 DNA ligase (400 units/μl), in the

5　　presence of the buffer supplied by the manufacturer. The reaction was incubated at room temperature for 3 hours. In some experiments, ligation was performed using the Boheringer "Rapid Ligation Kit", following the manufacturer's instructions.

　　In order to introduce the recombinant plasmid in a suitable strain, 100 μl *E. coli* DH5 competent cells were incubated with the ligase reaction solution for 40 minutes on ice, then at

10　　37°C for 3 minutes, then, after adding 800 μl LB broth, again at 37°C for 20 minutes. The cells were then centrifuged at maximum speed in an Eppendorf microfuge and resuspended in approximately 200 μl of the supernatant. The suspension was then plated on LB ampicillin (100 mg/ml).

　　The screening of the recombinant clones was performed by growing 5

15　　randomly-chosen colonies overnight at 37 °C in either 2 ml (pGEX or pTC clones) or 5ml (pET clones) LB broth + 100 μg/ml ampicillin. The cells were then pelletted and the DNA extracted using the Qiagen QIAprep Spin Miniprep Kit, following the manufacturer's instructions, to a final volume of 30 μl. 5 μl of each individual miniprep (approximately 1g) were digested with either *NdeI/XhoI* or *BamHI/XhoI* and the whole digestion loaded onto a 1-

20　　1.5% agarose gel (depending on the expected insert size), in parallel with the molecular weight marker (1Kb DNA Ladder, GIBCO). The screening of the positive clones was made on the base of the correct insert size.

Cloning

　　Certain ORFs may be cloned into the pGEX-HIS vector using *EcoRI-PstI*,

25　　*EcoRI-SalI*, or *SalI-PstI* cloning sites. After cloning, the recombinant plasmids may be introduced in the *E.*coli host W3110.

Expression

　　Each ORF cloned into the expression vector may then be transformed into the strain suitable for expression of the recombinant protein product. 1 μl of each construct was used to

- 62 -

transform 30 μl of *E.coli* BL21 (pGEX vector), *E.coli* TOP 10 (pTRC vector) or *E.coli* BL21-DE3 (pET vector), as described above. In the case of the pGEX-His vector, the same *E.coli* strain (W3110) was used for initial cloning and expression. Single recombinant colonies were inoculated into 2ml LB+Amp (100 μg/ml), incubated at 37°C overnight, then diluted

5   1:30 in 20 ml of LB+Amp (100 μg/ml) in 100 ml flasks, making sure that the OD_{600} ranged between 0.1 and 0.15. The flasks were incubated at 30°C into gyratory water bath shakers until OD indicated exponential growth suitable for induction of expression (0.4-0.8 OD for pET and pTRC vectors; 0.8-1 OD for pGEX and pGEX-His vectors). For the pET, pTRC and pGEX-His vectors, the protein expression was induced by addiction of 1mM IPTG,

10   whereas in the case of pGEX system the final concentration of IPTG was 0.2 mM. After 3 hours incubation at 30°C, the final concentration of the sample was checked by OD. In order to check expression, 1ml of each sample was removed, centrifuged in a microfuge, the pellet resuspended in PBS, and analysed by 12% SDS-PAGE with Coomassie Blue staining. The whole sample was centrifuged at 6000g and the pellet resuspended in PBS for further use.

15   **GST-fusion proteins large-scale purification.**

        A single colony was grown overnight at 37°C on LB+Amp agar plate. The bacteria were inoculated into 20 ml of LB+Amp liquid colture in a water bath shaker and grown overnight. Bacteria were diluted 1:30 into 600 ml of fresh medium and allowed to grow at the optimal temperature (20-37°C) to OD_{550} 0.8-1. Protein expression was induced with

20   0.2mM IPTG followed by three hours incubation. The culture was centrifuged at 8000 rpm at 4°C. The supernatant was discarded and the bacterial pellet was resuspended in 7.5 ml cold PBS. The cells were disrupted by sonication on ice for 30 sec at 40W using a Branson sonifier B-15, frozen and thawed two times and centrifuged again. The supernatant was collected and mixed with 150μl Glutatione-Sepharose 4B resin (Pharmacia) (previously

25   washed with PBS) and incubated at room temperature for 30 minutes. The sample was centrifuged at 700g for 5 minutes at 4C. The resin was washed twice with 10 ml cold PBS for 10 minutes, resuspended in 1ml cold PBS, and loaded on a disposable column. The resin was washed twice with 2ml cold PBS until the flow-through reached OD_{280} of 0.02-0.06. The GST-fusion protein was eluted by addition of 700μl cold Glutathione elution buffer

30   10mM reduced glutathione, 50mM Tris-HCl) and fractions collected until the OD_{280} was 0.1.

21μl of each fraction were loaded on a 12% SDS gel using either Biorad SDS-PAGE
Molecular weight standard broad range (M1) (200, 116.25, 97.4, 66.2, 45, 31, 21.5, 14.4, 6.5
kDa) or Amersham Rainbow Marker (M") (220, 66, 46, 30, 21.5, 14.3 kDa) as standards. As
the MW of GST is 26kDa, this value must be added to the MW of each GST-fusion protein.

His-fusion soluble proteins large-scale purification.

A single colony was grown overnight at 37°C on a LB + Amp agar plate. The
bacteria were inoculated into 20ml of LB+Amp liquid culture and incubated overnight in a
water bath shaker. Bacteria were diluted 1:30 into 600ml fresh medium and allowed to grow
at the optimal temperature (20-37°C) to OD_{550} 0.6-0.8. Protein expression was induced by
addition of 1 mM IPTG and the culture further incubated for three hours. The culture was
centrifuged at 8000 rpm at 4°C, the supernatant was discarded and the bacterial pellet was
resuspended in 7.5ml cold 10mM imidazole buffer (300 mM NaCl, 50 mM phosphate buffer,
10 mM imidazole, pH 8). The cells were disrupted by sonication on ice for 30 sec at 40W
using a Branson sonifier B-15, frozen and thawed two times and centrifuged again. The
supernatant was collected and mixed with 150μl Ni^{2+}-resin (Pharmacia) (previously washed
with 10mM imidazole buffer) and incubated at room temperature with gentle agitation for 30
minutes. The sample was centrifuged at 700g for 5 minutes at 4°C. The resin was washed
twice with 10 ml cold 10mM imidazole buffer for 10 minutes, resuspended in 1ml cold
10mM imidazole buffer and loaded on a disposable column. The resin was washed at 4°C
with 2ml cold 10mM imidazole buffer until the flow-through reached the $O.D_{280}$ of 0.02-
0.06. The resin was washed with 2ml cold 20mM imidazole buffer (300 mM NaCl, 50 mM
phosphate buffer, 20 mM imidazole, pH 8) until the flow-through reached the $O.D_{280}$ of 0.02-
0.06. The His-fusion protein was eluted by addition of 700μl cold 250mM imidazole buffer
(300 mM NaCl, 50 mM phosphate buffer, 250 mM imidazole, pH 8) and fractions collected
until the $O.D_{280}$ was 0.1. 21μl of each fraction were loaded on a 12% SDS gel.

His-fusion insoluble proteins large-scale purification.

A single colony was grown overnight at 37 °C on a LB + Amp agar plate. The
bacteria were inoculated into 20 ml of LB+Amp liquid culture in a water bath shaker and
grown overnight. Bacteria were diluted 1:30 into 600ml fresh medium and let to grow at the

- 64 -

optimal temperature (37°C) to O.D$_{550}$ 0.6-0.8. Protein expression was induced by addition

of 1 mM IPTG and the culture further incubated for three hours. The culture was centrifuged

at 8000rpm at 4°C. The supernatant was discarded and the bacterial pellet was resuspended

in 7.5 ml buffer B (urea 8M, 10mM Tris-HCl, 100mM phosphate buffer, pH 8.8). The cells

5   were disrupted by sonication on ice for 30 sec at 40W using a Branson sonifier B-15, frozen

and thawed twice and centrifuged again. The supernatant was stored at -20°C, while the

pellets were resuspended in 2 ml guanidine buffer (6M guanidine hydrochloride, 100mM

phosphate buffer, 10 mM Tris-HCl, pH 7.5) and treated in a homogenizer for 10 cycles. The

product was centrifuged at 13000 rpm for 40 minutes. The supernatant was mixed with

10   150μl Ni^{2+}-resin (Pharmacia) (previously washed with buffer B) and incubated at room

temperature with gentle agitation for 30 minutes. The sample was centrifuged at 700 g for 5

minutes at 4°C. The resin was washed twice with 10 ml buffer B for 10 minutes,

resuspended in 1ml buffer B, and loaded on a disposable column. The resin was washed at

room temperature with 2ml buffer B until the flow-through reached the OD$_{280}$ of 0.02-0.06.

15   The resin was washed with 2ml buffer C (urea 8M, 10mM Tris-HCl, 100mM phosphate

buffer, pH 6.3) until the flow-through reached the O.D$_{280}$ of 0.02-0.06. The His-fusion

protein was eluted by addition of 700μl elution buffer (urea 8M, 10mM Tris-HCl, 100mM

phosphate buffer, pH 4.5) and fractions collected until the OD$_{280}$ was 0.1. 21μl of each

fraction were loaded on a 12% SDS gel.

20   **His-fusion proteins renaturation**

10% glycerol was added to the denatured proteins. The proteins were then diluted to

20μg/ml using dialysis buffer 1 (10% glycerol, 0.5M arginine, 50mM phosphate buffer, 5mM

reduced glutathione, 0.5mM oxidised glutathione, 2M urea, pH 8.8) and dialysed against the

same buffer at 4°C for 12-14 hours. The protein was further dialysed against dialysis buffer

25   II (10% glycerol, 0.5M arginine, 50mM phosphate buffer, 5mM reduced glutathione, 0.5mM

oxidised glutathione, pH 8.8) for 12-14 hours at 4°C. Protein concentration was evaluated

using the formula:

$$\text{Protein (mg/ml)} = (1.55 \times \text{OD}_{280}) - (0.76 \times \text{OD}_{260})$$

- 65 -

Mice immunisations

20µg of each purified protein were used to immunise mice intraperitoneally. In the case of some ORFs, Balb-C mice were immunised with Al(OH)₃ as adjuvant on days 1, 21 and 42, and immune response was monitored in samples taken on day 56. For other ORFs, CD1 mice could be immunised using the same protocol. For other ORFs, CD1 mice could be immunised using Freund's adjuvant, and the same immunisation protocol was used, except that the immune response was measured on day 42, rather than 56. Similarly, for still other ORFs, CD1 mice could be immunised with Freund's adjuvant, but the immune response was measured on day 49.

ELISA assay (sera analysis)

The acapsulated MenB M7 strain was plated on chocolate agar plates and incubated overnight at 37°C. Bacterial colonies were collected from the agar plates using a sterile dracon swab and inoculated into 7ml of Mueller-Hinton Broth (Difco) containing 0.25% Glucose. Bacterial growth was monitored every 30 minutes by following OD_{620}. The bacteria were let to grow until the OD reached the value of 0.3-0.4. The culture was centrifuged for 10 minutes at 10000 rpm. The supernatant was discarded and bacteria were washed once with PBS, resuspended in PBS containing 0.025% formaldehyde, and incubated for 2 hours at room temperature and then overnight at 4°C with stirring. 100µl bacterial cells were added to each well of a 96 well Greiner plate and incubated overnight at 4°C. The wells were then washed three times with PBT washing buffer (0.1% Tween-20 in PBS). 200 µl of saturation buffer (2.7% Polyvinylpyrrolidone 10 in water) was added to each well and the plates incubated for 2 hours at 37°C. Wells were washed three times with PBT. 200 µl of diluted sera (Dilution buffer: 1% BSA, 0.1% Tween-20, 0.1% NaN₃ in PBS) were added to each well and the plates incubated for 90 minutes at 37°C. Wells were washed three times with PBT. 100 µl of HRP-conjugated rabbit anti-mouse (Dako) serum diluted 1:2000 in dilution buffer were added to each well and the plates were incubated for 90 minutes at 37°C. Wells were washed three times with PBT buffer. 100 µl of substrate buffer for HRP (25 ml of citrate buffer pH5, 10 mg of O-phenildiamine and 10 µl of H₂O) were added to each well and the plates were left at room temperature for 20 minutes. 100 µl H₂SO₄ was added to each

- 66 -

well and OD$_{490}$ was followed. The ELISA was considered positive when OD490 was 2.5 times the respective pre-immune sera.

FACScan bacteria Binding Assay procedure.

5   The acapsulated MenB M7 strain was plated on chocolate agar plates and incubated overnight at 37°C. Bacterial colonies were collected from the agar plates using a sterile dracon swab and inoculated into 4 tubes containing 8ml each Mueller-Hinton Broth (Difco) containing 0.25% glucose. Bacterial growth was monitored every 30 minutes by following OD$_{620}$. The bacteria were let to grow until the OD reached the value of 0.35-0.5. The culture was centrifuged for 10 minutes at 4000 rpm. The supernatant was discarded and the pellet

10   was resuspended in blocking buffer (1% BSA, 0.4% NaN$_3$) and centrifuged for 5 minutes at 4000 rpm. Cells were resuspended in blocking buffer to reach OD$_{620}$ of 0.07. 100μl bacterial cells were added to each well of a Costar 96 well plate. 100μl of diluted (1:200) sera (in blocking buffer) were added to each well and plates incubated for 2 hours at 4°C. Cells were centrifuged for 5 minutes at 4000 rpm, the supernatant aspirated and cells washed by addition

15   of 200μl/well of blocking buffer in each well. 100μl of R-Phicoerytrin conjugated F(ab)$_2$ goat anti-mouse, diluted 1:100, was added to each well and plates incubated for 1 hour at 4°C. Cells were spun down by centrifugation at 4000rpm for 5 minutes and washed by addition of 200μl/well of blocking buffer. The supernatant was aspirated and cells resuspended in 200μl/well of PBS, 0.25% formaldehyde. Samples were transferred to

20   FACScan tubes and read. The condition for FACScan setting were: FL1 on, FL2 and FL3 off; FSC-H Treshold:92; FSC PMT Voltage: E 02; SSC PMT: 474; Amp. Gains 7.1; FL-2 PMT: 539. Compensation values: 0.

OMV preparations

Bacteria were grown overnight on 5 GC plates, harvested with a loop and resuspended

25   in 10 ml 20mM Tris-HCl. Heat inactivation was performed at 56°C for 30 minutes and the bacteria disrupted by sonication for 10' on ice (50% duty cycle, 50% output). Unbroken cells were removed by centrifugation at 5000g for 10 minutes and the total cell envelope fraction recovered by centrifugation at 50000g at 4°C for 75 minutes. To extract cytoplasmic membrane proteins from the crude outer membranes, the whole fraction was resuspended in

- 67 -

2% sarkosyl (Sigma) and incubated at room temperature for 20 minutes. The suspension was
centrifuged at 10000g for 10 minutes to remove aggregates, and the supernatant further
ultracentrifuged at 50000g for 75 minutes to pellet the outer membranes. The outer
membranes were resuspended in 10mM Tris-HCl, pH8 and the protein concentration
5   measured by the Bio-Rad Protein assay, using BSA as a standard.

Whole Extracts preparation

Bacteria were grown overnight on a GC plate, harvested with a loop and resuspended
in 1ml of 20mM Tris-HCl. Heat inactivation was performed at 56°C for 30' minutes.

Western blotting

10   Purified proteins (500ng/lane), outer membrane vesicles (5 µg) and total cell extracts
(25µg) derived from MenB strain 2996 were loaded on 15% SDS-PAGE and transferred to a
nitrocellulose membrane. The transfer was performed for 2 hours at 150mA at 4°C, in
transferring buffer (0.3 % Tris base, 1.44 % glycine, 20% methanol). The membrane was
saturated by overnight incubation at 4°C in saturation buffer (10% skimmed milk, 0.1%
15   Triton X100 in PBS). The membrane was washed twice with washing buffer (3% skimmed
milk, 0.1% Triton X100 in PBS) and incubated for 2 hours at 37°C with 1:200 mice sera
diluted in washing buffer. The membrane was washed twice and incubated for 90 minutes
with a 1:2000 dilution of horseradish peroxidase labeled anti-mouse Ig. The membrane was
washed twice with 0.1% Triton X100 in PBS and developed with the Opti-4CN Substrate Kit
20   (Bio-Rad). The reaction was stopped by adding water.

Bactericidal assay

MC58 strain was grown overnight at 37°C on chocolate agar plates. 5-7 colonies
were collected and used to inoculate 7ml Mueller-Hinton broth. The suspension was
incubated at 37°C on a nutator and let to grow until OD_{620} was in between 0.5-0.8. The
25   culture was aliquoted into sterile 1.5ml Eppendorf tubes and centrifuged for 20 minutes at
maximum speed in a microfuge. The pellet was washed once in Gey's buffer (Gibco) and
resuspended in the same buffer to an OD_{620} of 0.5, diluted 1:20000 in Gey's buffer and stored
at 25°C.

- 68 -

50µl of Gey's buffer/1% BSA was added to each well of a 96-well tissue culture plate. 25µl of diluted (1:100) mice sera (dilution buffer: Gey's buffer/0.2% BSA) were added to each well and the plate incubated at 4°C. 25µl of the previously described bacterial suspension were added to each well. 25µl of either heat-inactivated (56°C waterbath for 30

5   minutes) or normal baby rabbit complement were added to each well. Immediately after the addition of the baby rabbit complement, 22µl of each sample/well were plated on Mueller-Hinton agar plates (time 0). The 96-well plate was incubated for 1 hour at 37°C with rotation and then 22µl of each sample/well were plated on Mueller-Hinton agar plates (time 1). After overnight incubation the colonies corresponding to time 0 and time 1h were counted.

10   The following DNA and amino acid sequences are identified by titles of the following form: [g, m, or a] [#].[seq or pep], where "g" means a sequence from *N. gonorrhoeae*, "m" means a sequence from *N. meningitidis B*, and "a" means a sequence from *N. meningitidis A*; "#" means the number of the sequence; "seq" means a DNA sequence, and "pep" means an amino acid sequence. For example, "g001.seq" refers to an *N. gonorrohoeae* DNA sequence,

15   number 1. The presence of the suffix "-1" or "-2" to these sequences indicates an additional sequence found for the same ORF. Further, open reading frames are identified as ORF #, where "#" means the number of the ORF, corresponding to the number of the sequence which encodes the ORF, and the ORF designations may be suffixed with ".ng" or ".a", indicating that the ORF corresponds to a *N. gonorrhoeae* sequence or a *N. meningitidis A*

20   sequence, respectively. Computer analysis was performed for the comparisons that follow between "g", "m", and "a" peptide sequences; and therein the "pep" suffix is implied where not expressly stated.

EXAMPLE 1

25   The following ORFs were predicted from the contig sequences and/or the full length sequence using the methods herein described.

Localization of the ORFs

30   ORF: contig:

       279   gnm4.seq

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 962>:

m279.seq

```
  1  ATAACGCGGA TTTGCGGCTG CTTGATTTCA ACGGTTTTCA GGGCTTCGGC
 51  AAGTTTGTCG GCGGCGGGTT TCATCAGGCT GCAATGGGAA GGTACGGACA
101  CGGGCAGCGG CAGGGCGCGT TTGGCACCGG CTTCTTTGGC GGCAGCCATG
151  GCGCGTCCGA CGGCGGCGGC GTTGCCTGCA ATCACGATTT GTCCGGGTGA
201  GTTGAAGTTG ACGGCTTCGA CCACTTCGCT TTGGGCGGCT TCGGCACAAA
251  TGGCTTTAAC CTGCTCATCT TCCAAGCCGA GAATCGCCGC CATTGCGCCC
301  ACGCCTTGCG GTACGGCGGA CTGCATCAGT TCGGCGCGCA GGCGCACGAG
351  TTTGACCGCG TCGGCAAAAT TCAATGCGCC GGCGGCAACG AGTGCGGTGT
401  ATTCGCCGAG GCTGTGTCCG GCAACGGCGG CAGGCGTTTT GCCGCCCGCT
451  TCTAAATAG
```

This corresponds to the amino acid sequence <SEQ ID 963; ORF 279>:

m279.pep

```
  1  ITRICGCLIS TVFRASASLS AAGFIRLQWE GTDTGSGRAR LAPASLAAAM
 51  ARPTAAALPA ITICPGELKL TASTTSLWAA SAQMALTCSS SKPRIAAIAP
101  TPCGTADCIS SARRRTSLTA SAKFNAPAAT SAVYSPRLCP ATAAGVLPPA
151  SK*
```

The following partial DNA sequence was identified in *N.gonorrhoeae* <SEQ ID 964>:

g279.seq

```
  1  atgacgcgga tttgcggctg cttgatttca acggttttga gtgtttcggc
 51  aagtttgtcg gcggcgggtt tcatcaggct gcaatgggaa ggaacggata
101  ccggcagcgg cagggcgcgt ttggctccgg cttctttggc ggcagccatg
151  gtgcgtccga cggcggcggc gttgcctgca atcacgactt gtccgggcga
201  gttgaagttg acggcttcga ccacttcgcc ctgtgcggat tcggcacaaa
251  tctgcctgac ctgttcatct tccaaaccca aaatggccgc cattgcgcct
301  acgccttgcg gtacggcgga ctgcatcagt tcggcgcgca ggcggacgag
351  tttgacggca tcggcaaaat ccaatgcttc ggcggcgaca agcgcggtgt
401  attcgccgag gctgtgtccg gcaacggcgg caggcgtttt gccgcccact
451  tccaaatag
```

This corresponds to the amino acid sequence <SEQ ID 965; ORF 279.ng>:

g279.pep

```
  1  MTRICGCLIS TVLSVSASLS AAGFIRLQWE GTDTGSGRAR LAPASLAAAM
 51  VRPTAAALPA ITTCPGELKL TASTTSPCAD SAQICLTCSS SKPKMAAIAP
101  TPCGTADCIS SARRRTSLTA SAKSNASAAT SAVYSPRLCP ATAAGVLPPT
151  SK*
```

ORF 279 shows 89.5% identity over a 152 aa overlap with a predicted ORF (ORF 279.ng) from *N. gonorrhoeae*:

```
                 10        20        30        40        50        60
m279.pep  ITRICGCLISTVFRASASLSAAGFIRLQWEGTDTGSGRARLAPASLAAAMARPTAAALPA
          :|||||||||||: :|||||||||||||||||||||||||||||||||||||:|||||||||
g279      MTRICGCLISTVLSVSASLSAAGFIRLQWEGTDTGSGRARLAPASLAAAMVRPTAAALPA
                 10        20        30        40        50        60


                 70        80        90       100       110       120
m279.pep  ITICPGELKLTASTTSLWAASAQMALTCSSSKPRIAAIAPTPCGTADCISSARRRTSLTA
          || |||||||||||| | |||: |||||||::|||||||||||||||||||||||||||
g279      ITTCPGELKLTASTTSPCADSAQICLTCSSSKPKMAAIAPTPCGTADCISSARRRTSLTA
                 70        80        90       100       110       120


                130       140       150
m279.pep  SAKFNAPAATSAVYSPRLCPATAAGVLPPASKX
          ||| || ||||||||||||||||||||||:|||
g279      SAKSNASAATSAVYSPRLCPATAAGVLPPTSKX
                130       140       150
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 966>:

```
a279.seq
      1 ATGACNCNGA TTTGCGGCTG CTTGATTTCA ACGGTTTNNA GGGCTTCGGC
     51 GAGTTTGTCG GCGGCGGGTT TCATGAGGCT GCAATGGGAA GGTACNGACA
    101 CNGGCAGCGG CAGGGCGCGT TTGGCGCCGG CTTCTTTGGC GGCAAGCATA
    151 GCGCGCTCGA CGGCGGCGGC ATTGCCTGCA ATCACGACTT GTCCGGGCGA
    201 GTTGAAGTTG ACGGCTTCAA CCACTTCATC CTGTGCGGAT TCGGCGGCAAA
    251 TTTGTTTTAC CTGTTCATCT TCCAAGCCGA GAATCGCCGC CATTGCGCCC
    301 ACGCCTTGCG GTACGGCGGA CTGCATCAGT TCGGCGCGCA NGCGCACGAG
    351 TTTGACCGCG TCGGCAAAAT CCAATGCGCC GGCGGCAACN AGTGCGGTGT
    401 ATTCGCCGAN GCTGTGTCCG GCAACGGCGG CAGGCGTTTT GCCGCCCGCT
    451 TCCGAATAG
```

This corresponds to the amino acid sequence <SEQ ID 967; ORF 279.a>:

```
a279.pep
      1 MTXICGCLIS TVXRASASLS AAGFMRLQWE GTDTGSGRAR LAPASLAASI
     51 ARSTAAALPA ITTCPGELKL TASTTSSCAD SAQICFTCSS SKPRIAAIAP
    101 TPCGTADCIS SARXRTSLTA SAKSNAPAAT SAVYSPXLCP ATAAGVLPPA
    151 SE*
```

m279/a279   ORFs 279 and 279.a showed a 88.2% identity in 152 aa overlap

```
                  10        20        30        40        50        60
m279.pep  ITRICGCLISTVFRASASLSAAGFIRLQWEGTDTGSGRARLAPASLAAAMARPTAAALPA
          :| IIIIIIIII IIIIIIIIIII:IIIIIIIIIIIIIIIIIIIIIIIIII::II IIIIIII
a279      MTXICGCLISTVXRASASLSAAGFMRLQWEGTDTGSGRARLAPASLAASIARSTAAALPA
                  10        20        30        40        50        60


                  70        80        90       100       110       120
m279.pep  ITICPGELKLTASTTSLWAASAQMALTCSSSKPRIAAIAPTPCGTADCISSARRRTSLTA
          II IIIIIIIIIIII I III: :IIIIIIIIIIIIIIIIIIIIIIIIIIII IIIIII
a279      ITTCPGELKLTASTTSSCADSAQICFTCSSSKPRIAAIAPTPCGTADCISSARXRTSLTA
                  70        80        90       100       110        120


                 130       140       150
m279.pep  SAKFNAPAATSAVYSPRLCPATAAGVLPPASKX
          III IIIIIIIIIIIII IIIIIIIIIIIIII:I
a279      SAKSNAPAATSAVYSPXLCPATAAGVLPPASEX
                 130       140       150
```

519 and 519-1   gnm7.seq

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 968>:

```
m519.seq (partial)
      1 ..TCCGTTATCG GGCGTATGGA GTTGGACAAA ACGTTTGAAG AACGCGACGA
     51 AATCAACAGT ACTGTTGTTG CGGCTTTGGA CGAGGCGGCC GGGgCTTgGG
    101 GTGTGAAGGT TTTGCGTTAT GAGATTAAAG ACTTGGTTCC GCCGCAAGAA
    151 ATCCTTCGCT CAATGCAGGC GCAAATTACT GCCGAACGCG AAAAACGCGC
    201 CCGTATCGCC GAATCCGAAG GTCGTAAAAT CGAACAAATC AACCTTGCCA
    251 GTGGTCAGCG CGAAGCCGAA ATCCAACAAT CCGAAGGCGA GGCTCAGGCT
    301 GCGGTCAATG CGTCAAATGC CGAGAAAATC GCCCGCATCA ACCGCGCCAA
    351 AGGTGAAGCG GAATCCTTGC GCCTTGTTGC CGAAGCCAAT GCCGAAGCCA
    401 TCCGTCAAAT TGCCGCCGCC CTTCAAACCC AAGGCGGTGC GGATGCGGTC
    451 AATCTGAAGA TTGCGGAACA ATACGTCGCT GCGTTCAACA ATCTTGCCAA
    501 AGAAAGCAAT ACGCTGATTA TGCCCGCCAA TGTTGCCGAC ATCGGCAGCC
    551 TGATTTCTGC CGGTATGAAA ATTATCGACA GCAGCAAAAC CGCCAAaTAA
```

- 71 -

This corresponds to the amino acid sequence <SEQ ID 969; ORF 519>:

```
m519.pep   (partial)
        1  ..SVIGRMELDK TFEERDEINS TVVAALDEAA GAWGVKVLRY EIKDLVPPQE
       51    ILRSMQAQIT AEREKRARIA ESEGRKIEQI NLASGQREAE IQQSEGEAQA
      101    AVNASNAEKI ARINRAKGEA ESLRLVAEAN AEAIRQIAAA LQTQGGADAV
      151    NLKIAEQYVA AFNNLAKESN TLIMPANVAD IGSLISAGMK IIDSSKTAK*
```

The following partial DNA sequence was identified in *N. gonorrhoeae* <SEQ ID 970>:

```
g519.seq
        1  atggaatttt tcattatctt gttggcagcc gtcgccgttt tcggcttcaa
       51  atcctttgtc gtcatccccc agcaggaagt ccacgttgtc gaaaggctcg
      101  ggcgtttcca tcgcgccctg acggccggtt tgaatatttt gattcccttt
      151  atcgaccgcg tcgcctaccg ccattcgctg aaagaaatcc ctttagacgt
      201  acccagccag gtctgcatca cgcgcgataa tacgcaattg actgttgacg
      251  gcatcatcta tttccaagta accgatccca aactcgcctc atacggttcg
      301  agcaactaca ttatggcaat tacccagctt gcccaaacga cgctgcgttc
      351  cgttatcggg cgtatggagt tggacaaaac gtttgaagaa cgcgacgaaa
      401  tcaacagtac cgtcgtctcc gccctcgatg aagccgccgg ggcttggggt
      451  gtgaaagtcc tccgttacga aatcaaggat ttggttccgc cgcaagaaat
      501  ccttcgcgca atgcaggcac aaattaccgc cgaacgcgaa aaacgcgccc
      551  gtattgccga atccgaaggc cgtaaaatcg aacaaatcaa ccttgccagt
      601  ggtcagcgtg aagccgaaat ccaacaatcc gaaggcgagg ctcaggctgc
      651  ggtcaatgcg tccaatgccg agaaaatcgc ccgcatcaac cgcgccaaag
      701  gcgaagcgga atccctgcgc cttgttgccg aagccaatgc cgaagccaac
      751  cgtcaaattg ccgccgccct tcaaacccaa agcggggcgg atgcggtcaa
      801  tctgaagatt gcgggacaat acgttaccgc gttcaaaaat cttgccaaag
      851  aagacaatac gcggattaag cccgccaagg ttgccgaaat cgggaaccct
      901  aattttcggc ggcatgaaaa attttcgcca gaagcaaaaa cggccaaata
      951  a
```

This corresponds to the amino acid sequence <SEQ ID 971; ORF 519.ng>:

```
g519.pep
        1  MEFFIILLAA VAVFGFKSFV VIPQQEVHVV ERLGRFHRAL TAGLNILIPF
       51  IDRVAYRHSL KEIPLDVPSQ VCITRDNTQL TVDGIIYFQV TDPKLASYGS
      101  SNYIMAITQL AQTTLRSVIG RMELDKTFEE RDEINSTVVS ALDEAAGAWG
      151  VKVLRYEIKD LVPPQEILRA MQAQITAERE KRARIAESEG RKIEQINLAS
      201  GQREAEIQQS EGEAQAAVNA SNAEKIARIN RAKGEAESLR LVAEANAEAN
      251  RQIAAALQTQ SGADAVNLKI AGQYVTAFKN LAKEDNTRIK PAKVAEIGNP
      301  NFRRHEKFSP EAKTAK*
```

ORF 519 shows 87.5% identity over a 200 aa overlap with a predicted ORF (ORF 519.ng) from *N. gonorrhoeae*:

```
m519/g519

                                              10        20        30
m519.pep                           SVIGRMELDKTFEERDEINSTVVAALDEAA
                                   |||||||||||||||||||||||||:||||||
g519      YFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIGRMELDKTFEERDEINSTVVSALDEAA
          90        100       110       120       130       140


                  40        50        60        70        80        90
m519.pep  GAWGVKVLRYEIKDLVPPQEILRSMQAQITAEREKRARIAESEGRKIEQINLASGQREAE
          ||||||||||||||||||||||||||:|||||||||||||||||||||||||||||||||
g519      GAWGVKVLRYEIKDLVPPQEILRAMQAQITAEREKRARIAESEGRKIEQINLASGQREAE
          150       160       170       180       190       200


                  100       110       120       130       140       150
m519.pep  IQQSEGEAQAAVNASNAEKIARINRAKGEAESLRLVAEANAEAIRQIAAALQTQGGADAV
```

- 72 -

```
              ||||||||||||||||||||||||||||||||||||||||||| |||||||||||:|||||
      g519    IQQSEGEAQAAVNASNAEKIARINRAKGEAESLRLVAEANAEANRQIAAALQTQSGADAV
              210        220       230       240       250       260
```

```
                   160       ,170      180       190       200
      m519.pep  NLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL-ISAGMKIIDSSKTAK
                |||||  |||:||:||||||:|| | ||:||:||:  :    |:   :||||
      g519      NLKIAGQYVTAFKNLAKEDNTRIKPAKVAEIGNPNFRRHEKFSPEAKTAK
                270        280       290       300       310
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 972>:

```
      a519.seq
          1  ATGGAATTTT TCATTATCTT GCTGGCAGCC GTCGTTGTTT TCGGCTTCAA
         51  ATCCTTTGTT GTCATCCCAC AGCAGGAAGT CCACGTTGTC GAAAGGCTCG
        101  GGCGTTTCCA TCGCGCCCTG ACGGCCGGTT TGAATATTTT GATTCCCTTT
        151  ATCGACCGCG TCGCCTACCG CCATTCGCTG AAAGAAATCC CTTTAGACGT
        201  ACCCAGCCAG GTCTGCATCA CGCGCGACAA TACGCAGCTG ACTGTTGACG
        251  GTATCATCTA TTTCCAAGTA ACCGACCCCA AACTCGCCTC ATACGGTTCG
        301  AGCAACTACA TTATGGCGAT TACCCAGCTT GCCCAAACGA CGCTGCGTTC
        351  CGTTATCGGG CGTATGGAAT TGGACAAAAC GTTTGAAGAA CGCGACGAAA
        401  TCAACAGCAC CGTCGTCTCC GCCCTCGATG AAGCCGCCGG AGCTTGGGGT
        451  GTGAAGGTTT TGCGTTATGA GATTAAAGAC TTGGTTCCGC CGCAAGAAAT
        501  CCTTCGCTCA ATGCAGGCGC AAATTACTGC TGAACGCGAA AAACGCGCCC
        551  GTATCGCCGA ATCCGAAGGT CGTAAAATCG AACAAATCAA CCTTGCCAGT
        601  GGTCAGCGCG AAGCCGAAAT CCAACAATCC GAAGGCGAGG CTCAGGCTGC
        651  GGTCAATGCG TCAAATGCCG AGAAAATCGC CCGCATCAAC CGCGCCAAAG
        701  GTGAAGCGGA ATCCTTGCGC CTTGTTGCCG AAGCCAATGC CGAAGCCATC
        751  CGTCAAATTG CCGCCGCCCT TCAAACCCAA GGCGGTGCGG ATGCGGTCAA
        801  TCTGAAGATT GCGGAACAAT ACGTCGCCGC GTTCAACAAT CTTGCCAAAG
        851  AAAGCAATAC GCTGATTATG CCCGCCAATG TTGCCGACAT CGGCAGCCTG
        901  ATTTCTGCCG GTATGAAAAT TATCGACAGC AGCAAAACCG CCAAATAA
```

This corresponds to the amino acid sequence <SEQ ID 973; ORF 519.a>:

```
      a519.pep
          1  MEFFIILLAA VVVFGFKSFV VIPQQEVHVV ERLGRFHRAL TAGLNILIPF
         51  IDRVAYRHSL KEIPLDVPSQ VCITRDNTQL TVDGIIYFQV TDPKLASYGS
        101  SNYIMAITQL AQTTLRSVIG RMELDKTFEE RDEINSTVVS ALDEAAGAWG
        151  VKVLRYEIKD LVPPQEILRS MQAQITAERE KRARIAESEG RKIEQINLAS
        201  GQREAEIQQS EGEAQAAVNA SNAEKIARIN RAKGEAESLR LVAEANAEAI
        251  RQIAAALQTQ GGADAVNLKI AEQYVAAFNN LAKESNTLIM PANVADIGSL
        301  ISAGMKIIDS SKTAK*
```

m519/a519   ORFs 519 and 519.a showed a 99.5% identity in 199 aa overlap

```
                                                10        20        30
      m519.pep                             SVIGRMELDKTFEERDEINSTVVAALDEAA
                                           |||||||||||||||||||||||:||||||
      a519     YFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIGRMELDKTFEERDEINSTVVSALDEAA
               90        100       110       120       130       140
```

```
                   40        50        60        70        80        90
      m519.pep  GAWGVKVLRYEIKDLVPPQEILRSMQAQITAEREKRARIAESEGRKIEQINLASGQREAE
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
      a519      GAWGVKVLRYEIKDLVPPQEILRSMQAQITAEREKRARIAESEGRKIEQINLASGQREAE
                150       160       170       180       190       200
```

```
                   100       110       120       130       140       150
      m519.pep  IQQSEGEAQAAVNASNAEKIARINRAKGEAESLRLVAEANAEAIRQIAAALQTQGGADAV
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
      a519      IQQSEGEAQAAVNASNAEKIARINRAKGEAESLRLVAEANAEAIRQIAAALQTQGGADAV
                210       220       230       240       250       260
```

```
                    160       170       180       190       200
      m519.pep   NLKIAEQYVAAFNNLAKESNTLIMPANVADIGSLISAGMKIIDSSKTAKX
                 |||||||||||||||||||||||||||||||||||||||||||||||||
      a519       NLKIAEQYVAAFNNLAKESNTLIMPANVADIGSLISAGMKIIDSSKTAKX
                    270       280       290       300       310
```

Further work revealed the following DNA sequence identified in *N. meningitidis* <SEQ ID 974>:

```
      m519-1.seq
            1    ATGGAATTTT TCATTATCTT GTTGGTAGCC GTCGCCGTTT TCGGTTTCAA
           51    ATCCTTTGTT GTCATCCCAC AACAGGAAGT CCACGTTGTC GAAAGGCTGG
          101    GGCGTTTCCA TCGCGCCCTG ACGGcCGGTT TGAATATTTT GATTCCCTTT
          151    ATCGACCGCG TCGCCTACCG CCATTCGCTG AAAGAAATCC CTTTAGACGT
          201    ACCCAGCCAG GTCTGCATCA CGCGCGACAA TACGCAGCTG ACTGTTGACG
          251    GCATCATCTA TTTCCAAGTA ACCGACCCCA AACTCGCCTC ATACGGTTCG
          301    AGCAACTACA TTATGGCGAT TACCCAGCTT GCCCAAACGA CGCTGCGTTC
          351    CGTTATCGGG CGTATGGAGT TGGACAAAAC GTTTGAAGAA CGCGACGAAA
          401    TCAACAGTAC TGTTGTTGCG GCTTTGGACG AGGCGGCCGG GGCTTGGGGT
          451    GTGAAGGTTT TGCGTTATGA GATTAAAGAC TTGGTTCCGC CGCAAGAAAT
          501    CCTTCGCTCA ATGCAGGCGC AAATTACTGC CGAACGCGAA AAACGCGCCC
          551    GTATCGCCGA ATCCGAAGGT CGTAAAATCG AACAAATCAA CCTTGCCAGT
          601    GGTCAGCGCG AAGCCGAAAT CCAACAATCC GAAGGCGAGG CTCAGGCTGC
          651    GGTCAATGCG TCAAATGCCG AGAAAATCGC CCGCATCAAC CGCGCCAAAG
          701    GTGAAGCGGA ATCCTTGCGC CTTGTTGCCG AAGCCAATGC CGAAGCCATC
          751    CGTCAAATTG CCGCCGCCCT TCAAACCCAA GGCGGTGCGG ATGCGGTCAA
          801    TCTGAAGATT GCGGAACAAT ACGTCGCTGC GTTCAACAAT CTTGCCAAAG
          851    AAAGCAATAC GCTGATTATG CCCGCCAATG TTGCCGACAT CGGCAGCCTG
          901    ATTTCTGCCG GTATGAAAAT TATCGACAGC AGCAAAACCG CCAAATAA
```

This corresponds to the amino acid sequence <SEQ ID 975; ORF 519-1>:

```
      m519-1.
            1    MEFFIILLVA VAVFGFKSFV VIPQQEVHVV ERLGRFHRAL TAGLNILIPF
           51    IDRVAYRHSL KEIPLDVPSQ VCITRDNTQL TVDGIIYFQV TDPKLASYGS
          101    SNYIMAITQL AQTTLRSVIG RMELDKTFEE RDEINSTVVA ALDEAAGAWG
          151    VKVLRYEIKD LVPPQEILRS MQAQITAERE KRARIAESEG RKIEQINLAS
          201    GQREAEIQQS EGEAQAAVNA SNAEKIARIN RAKGEAESLR LVAEANAEAI
          251    RQIAAALQTQ GGADAVNLKI AEQYVAAFNN LAKESNTLIM PANVADIGSL
          301    ISAGMKIIDS SKTAK*
```

The following DNA sequence was identified in *N. gonorrhoeae* <SEQ ID 976>:

```
      g519-1.seq
            1    ATGGAATTTT TCATTATCTT GTTGGCAGCC GTCGCCGTTT TCGGCTTCAA
           51    ATCCTTTGTC GTCATCCCCC AGCAGGAAGT CCACGTTGTC GAAAGGCTCG
          101    GGCGTTTCCA TCGCGCCCTG ACGGCCGGTT TGAATATTTT GATTCCCTTT
          151    ATCGACCGCG TCGCCTACCG CCATTCGCTG AAAGAAATCC CTTTAGACGT
          201    ACCCAGCCAG GTCTGCATCA CGCGCGATAA TACGCAATTG ACTGTTGACG
          251    GCATCATCTA TTTCCAAGTA ACCGATCCCA AACTCGCCTC ATACGGTTCG
          301    AGCAACTACA TTATGGCAAT TACCCAGCTT GCCCAAACGA CGCTGCGTTC
          351    CGTTATCGGG CGTATGGAGT TGGACAAAAC GTTTGAAGAA CGCGACGAAA
          401    TCAACAGTAC CGTCGTCTCC GCCCTCGATG AAGCCGCCGG GGCTTGGGGT
          451    GTGAAAGTCC TCCGTTACGA AATCAAGGAT TTGGTTCCGC CGCAAGAAAT
          501    CCTTCGCGCA ATGCAGGCAC AAATTACCGC CGAACGCGAA AAACGCGCCC
          551    GTATTGCCGA ATCCGAAGGC CGTAAAATCG AACAAATCAA CCTTGCCAGT
          601    GGTCAGCGTG AAGCCGAAAT CCAACAATCC GAAGGCGAGG CTCAGGCTGC
          651    GGTCAATGCG TCCAATGCCG AGAAAATCGC CCGCATCAAC CGCGCCAAAG
          701    GCGAAGCGGA ATCCCTGCGC CTTGTTGCCG AAGCCAATGC CGAAGCCATC
          751    CGTCAAATTG CCGCCGCCCT TCAAACCCAA GGCGGGGCGG ATGCGGTCAA
          801    TCTGAAGATT GCGGAACAAT ACGTAGCCGC GTTCAACAAT CTTGCCAAAG
```

```
851   AAAGCAATAC GCTGATTATG CCCGCCAATG TTGCCGACAT CGGCAGCCTG
901   ATTTCTGCCG GCATGAAAAT TATCGACAGC AGCAAAACCG CCAAATAA
```

This corresponds to the amino acid sequence <SEQ ID 977; ORF 519-1.ng>:

```
g519-1.pep
  1   MEFFIILLAA VAVFGFKSFV VIPQQEVHVV ERLGRFHRAL TAGLNILIPF
 51   IDRVAYRHSL KEIPLDVPSQ VCITRDNTQL TVDGIIYFQV TDPKLASYGS
101   SNYIMAITQL AQTTLRSVIG RMELDKTFEE RDEINSTVVS ALDEAAGAWG
151   VKVLRYEIKD LVPPQEILRA MQAQITAERE KRARIAESEG RKIEQINLAS
201   GQREAEIQQS EGEAQAAVNA SNAEKIARIN RAKGEAESLR LVAEANAEAI
251   RQIAAALQTQ GGADAVNLKI AEQYVAAFNN LAKESNTLIM PANVADIGSL
301   ISAGMKIIDS SKTAK*
```

m519-1/g519-1 ORFs 519-1 and 519-1.ng showed a 99.0% identity in 315 aa overlap

```
                 10        20        30        40        50        60
g519-1.pep   MEFFIILLAAVAVFGFKSFVVIPQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
             ||||||||:||||||||||||||||||||||||||||||||||||||||||||||||||||
m519-1       MEFFIILLVAVAVFGFKSFVVIPQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
                 10        20        30        40        50        60

                 70        80        90       100       110       120
g519-1.pep   KEIPLDVPSQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
m519-1       KEIPLDVPSQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
                 70        80        90       100       110       120

                130       140       150       160       170       180
g519-1.pep   RMELDKTFEERDEINSTVVSALDEAAGAWGVKVLRYEIKDLVPPQEILRAMQAQITAERE
             |||||||||||||||||||||:||||||||||||||||||||||||||||||:|||||||||
m519-1       RMELDKTFEERDEINSTVVAALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
                130       140       150       160       170       180

                190       200       210       220       230       240
g519-1.pep   KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAAVNASNAEKIARINRAKGEAESLR
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
m519-1       KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAAVNASNAEKIARINRAKGEAESLR
                190       200       210       220       230       240

                250       260       270       280       290       300
g519-1.pep   LVAEANAEAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
m519-1       LVAEANAEAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
                250       260       270       280       290       300

                310
g519-1.pep   ISAGMKIIDSSKTAKX
             ||||||||||||||||
m519-1       ISAGMKIIDSSKTAKX
                310
```

The following DNA sequence was identified in *N. meningitidis* <SEQ ID 978>:

```
a519-1.seq
  1   ATGGAATTTT TCATTATCTT GCTGGCAGCC GTCGTTGTTT TCGGCTTCAA
 51   ATCCTTTGTT GTCATCCCAC AGCAGGAAGT CCACGTTGTC GAAAGGCTCG
101   GGCGTTTCCA TCGCGCCCTG ACGGCCGGTT TGAATATTTT GATTCCCTTT
151   ATCGACCGCG TCGCCTACCG CCATTCGCTG AAAGAAATCC CTTTAGACGT
201   ACCCAGCCAG GTCTGCATCA CGCGCGACAA TACGCAGCTG ACTGTTGACG
251   GTATCATCTA TTTCCAAGTA ACCGACCCCA AACTCGCCTC ATACGGTTCG
301   AGCAACTACA TTATGGCGAT TACCCAGCTT GCCCAAACGA CGCTGCGTTC
```

```
351   CGTTATCGGG CGTATGGAAT TGGACAAAAC GTTTGAAGAA CGCGACGAAA
401   TCAACAGCAC CGTCGTCTCC GCCCTCGATG AAGCCGCCGG AGCTTGGGGT
451   GTGAAGGTTT TGCGTTATGA GATTAAAGAC TTGGTTCCGC CGCAAGAAAT
501   CCTTCGCTCA ATGCAGGCGC AAATTACTGC TGAACGCGAA AAACGCGCCC
551   GTATCGCCGA ATCCGAAGGT CGTAAAATCG AACAAATCA  CCTTGCCAGT
601   GGTCAGCGCG AAGCCGAAAT CCAACAATCC GAAGGCGAGG CTCAGGCTGC
651   GGTCAATGCG TCAAATGCCG AGAAAATCGC CCGCATCAAC CGCGCCAAAG
701   GTGAAGCGGA ATCCTTGCGC CTTGTTGCCG AAGCCAATGC CGAAGCCATC
751   CGTCAAATTG CCGCCGCCCT TCAAACCCAA GGCGGTGCGG ATGCGGTCAA
801   TCTGAAGATT GCGGAACAAT ACGTCGCCGC GTTCAACAAT CTTGCCAAAG
851   AAAGCAATAC GCTGATTATG CCCGCCAATG TTGCCGACAT CGGCAGCCTG
901   ATTTCTGCCG GTATGAAAAT TATCGACAGC AGCAAAACCG CCAAATAA
```

This corresponds to the amino acid sequence <SEQ ID 979; ORF 519-1.a>:

```
a519-1.pep.
  1   MEFFIILLAA VVVFGFKSFV VIPQQEVHVV ERLGRFHRAL TAGLNILIPF
 51   IDRVAYRHSL KEIPLDVPSQ VCITRDNTQL TVDGIIYFQV TDPKLASYGS
101   SNYIMAITQL AQTTLRSVIG RMELDKTFEE RDEINSTVVS ALDEAAGAWG
151   VKVLRYEIKD LVPPQEILRS MQAQITAERE KRARIAESEG RKIEQINLAS
201   GQREAEIQQS EGEAQAAVNA SNAEKIARIN RAKGEAESLR LVAEANAEAI
251   RQIAAALQTQ GGADAVNLKI AEQYVAAFNN LAKESNTLIM PANVADIGSL
301   ISAGMKIIDS SKTAK*
```

m519-1/a519-1   ORFs 519-1 and 519-1.a showed a 99.0% identity in 315 aa
overlap

```
                    10        20        30        40        50        60
a519-1.pep  MEFFIILLAAVVVFGFKSFVVIPQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
            |||||||||:||:|||||||||||||||||||||||||||||||||||||||||||||||
m519-1      MEFFIILLVAVAVFGFKSFVVIPQQEVHVVERLGRFHRALTAGLNILIPFIDRVAYRHSL
                    10        20        30        40        50        60


                    70        80        90       100       110       120
a519-1.pep  KEIPLDVPSQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
m519-1      KEIPLDVPSQVCITRDNTQLTVDGIIYFQVTDPKLASYGSSNYIMAITQLAQTTLRSVIG
                    70        80        90       100       110       120


                   130       140       150       160       170       180
a519-1.pep  RMELDKTFEERDEINSTVVSALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
            |||||||||||||||||||||:||||||||||||||||||||||||||||||||||||||
m519-1      RMELDKTFEERDEINSTVVAALDEAAGAWGVKVLRYEIKDLVPPQEILRSMQAQITAERE
                   130       140       150       160       170       180


                   190       200       210       220       230       240
a519-1.pep  KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAAVNASNAEKIARINRAKGEAESLR
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
m519-1      KRARIAESEGRKIEQINLASGQREAEIQQSEGEAQAAVNASNAEKIARINRAKGEAESLR
                   190       200       210       220       230       240


                   250       260       270       280       290       300
a519-1.pep  LVAEANAEAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
m519-1      LVAEANAEAIRQIAAALQTQGGADAVNLKIAEQYVAAFNNLAKESNTLIMPANVADIGSL
                   250       260       270       280       290       300


                   310
a519-1.pep  ISAGMKIIDSSKTAKX
            |||||||||||||||
m519-1      ISAGMKIIDSSKTAKX
                   310
```

- 76 -

576 and 576-1   gnm22.seq

5   The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 980>:

```
m576.seq.. (partial)
       1 ..ATGCAGCAGG CAAGCTATGC GATGGGCGTG GACATCGGAC GCTCCCTGAA
      51   GCAAATGAAG GAACAGGGCG CGGAAATCGA TTTGAAAGTC TTTACCGAAG
     101   CCATGCAGGC AGTGTATGAC GGCAAAGAAA TCAAAATGAC CGAAGAGCAG
10   151   GCTCAGGAAG TCATGATGAA ATTCCTTCAG GAACAACAGG CTAAAGCCGT
     201   AGAAAAACAC AAGGCGGACG CGAAGGCCAA TAAAGAAAAA GGCGAAGCCT
     251   TTCTGAAAGA AAATGCCGCC AAAGACGGCG TGAAGACCAC TGCTTCCGGC
     301   CTGCAATACA AAATCACCAA ACAGGGCGAA GGCAAACAGC CGACCAAAGA
     351   CGACATCGTT ACCGTGGAAT ACGAAGGCCG CCTGATTGAC GGTACGGTAT
15   401   TCGACAGCAG CAAAGCCAAC GGCGGCCCGG TCACCTTCCC TTTGAGCCAA
     451   GTGATTCCGG GTTGGACCGA AGgCGTACAG CTTCTGAAAG AAGGCGGCGA
     501   AGCCACGTTC TACATCCCGT CCAACCTTGC CTACCGCGAA CAGGGTGCGG
     551   GCGACAAAAT CGGTCCGAAC GCCACTTTGG TATTTGATGT GAAACTGGTC
     601   AAAATCGGCG CACCCGAAAA CGCGCCCGCC AAGCAGCCGG CTCAAGTCGA
20   651   CATCAAAAAA GTAAATTAA
```

This corresponds to the amino acid sequence <SEQ ID 981; ORF 576>:

```
m576.pep.. (partial)
       1 ..MQQASYAMGV DIGRSLKQMK EQGAEIDLKV FTEAMQAVYD GKEIKMTEEQ
25    51   AQEVMMKFLQ EQQAKAVEKH KADAKANKEK GEAFLKENAA KDGVKTTASG
     101   LQYKITKQGE GKQPTKDDIV TVEYEGRLID GTVFDSSKAN GGPVTFPLSQ
     151   VIPGWTEGVQ LLKEGGEATF YIPSNLAYRE QGAGDKIGPN ATLVFDVKLV
     201   KIGAPENAPA KQPAQVDIKK VN*
```

30   The following partial DNA sequence was identified in *N. gonorrhoeae* <SEQ ID 982>:

```
g576.seq.. (partial)
       1 ..atgggcgtgg acatcggacg ctccctgaaa caaatgaagg aacagggcgc
      51   ggaaatcgat ttgaaagtct ttaccgatgc catgcaggca gtgtatgacg
     101   gcaaagaaat caaaatgacc gaagagcagg cccaggaagt gatgatgaaa
35   151   ttcctgcagg agcagcaggc taaagccgta gaaaacaca aggccgccg
     201   gaaggccaac aaagaaaaag gcgaagcctt cctgaaggaa aatgccgccg
     251   aagacggcgt gaagaccact gcttccggtc tgcagtacaa aatcaccaaa
     301   cagggtgaag gcaaacagcc gacaaaagac gacatcgtta ccgtggaata
     351   cgaaggccgc ctgattgacg gtaccgtatt cgacagcagc aaagccaacg
40   401   gcggcccggc caccttccct ttgagccaag tgattccggg ttggaccgaa
     451   ggcgtacggc ttctgaaaga aggcggcgaa gccacgttct acatcccgtc
     501   caaccttgcc taccgcgaac agggtgcggg cgaaaaaatc ggtccgaacg
     551   ccactttggt atttgacgtg aaactggtca aaatcggcgc acccgaaaac
     601   gcgcccgcca agcagccgga tcaagtcgac atcaaaaaag taaattaa
```

45   This corresponds to the amino acid sequence <SEQ ID 983; ORF 576.ng>:

```
g576.pep.. (partial)
       1 ..MGVDIGRSLK QMKEQGAEID LKVFTDAMQA VYDGKEIKMT EEQAQEVMMK
      51   FLQEQQAKAV EKHKADAKAN KEKGEAFLKE NAAEDGVKTT ASGLQYKITK
50   101   QGEGKQPTKD DIVTVEYEGR LIDGTVFDSS KANGGPATFP LSQVIPGWTE
     151   GVRLLKEGGE ATFYIPSNLA YREQGAGEKI GPNATLVFDV KLVKIGAPEN
     201   APAKQPDQVD IKKVN*
```


55   Computer analysis of this amino acid sequence gave the following results:
    Homology with a predicted ORF from *N. gonorrhoeae*

        m576/g576   97.2% identity in 215 aa overlap

- 77 -

```
                    10        20        30        40        50        60
        m576.pep    MQQASYAMGVDIGRSLKQMKEQGAEIDLKVFTEAMQAVYDGKEIKMTEEQAQEVMMKFLQ
                    ||||||||||||||||||||||||||||||:|||||||||||||||||||||||||||||
        g576          MGVDIGRSLKQMKEQGAEIDLKVFTDAMQAVYDGKEIKMTEEQAQEVMMKFLQ
                          10        20        30        40        50

                    70        80        90        100       110       120
        m576.pep    EQQAKAVEKHKADAKANKEKGEAFLKENAAKDGVKTTASGLQYKITKQGEGKQPTKDDIV
                    |||||||||||||||||||||||||||||||:|||||||||||||||||||||||||||||
        g576        EQQAKAVEKHKADAKANKEKGEAFLKENAAEDGVKTTASGLQYKITKQGEGKQPTKDDIV
                          60        70        80        90        100       110

                    130       140       150       160       170       180
        m576.pep    TVEYEGRLIDGTVFDSSKANGGPVTFPLSQVIPGWTEGVQLLKEGGEATFYIPSNLAYRE
                    |||||||||||||||||||||||:|||||||||||||||:|||||||||||||||||||||
        g576        TVEYEGRLIDGTVFDSSKANGGPATFPLSQVIPGWTEGVRLLKEGGEATFYIPSNLAYRE
                          120       130       140       150       160       170

                    190       200       210       220
        m576.pep    QGAGDKIGPNATLVFDVKLVKIGAPENAPAKQPAQVDIKKVNX
                    ||||:|||||||||||||||||||||||||||| ||||||||
        g576        QGAGEKIGPNATLVFDVKLVKIGAPENAPAKQPDQVDIKKVNX
                          180       190       200       210
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 984>:

```
        a576.seq
            1   ATGAACACCA TTTTCAAAAT CAGCGCACTG ACCCTTTCCG CCGCTTTGGC
           51   ACTTTCCGCC TGCGGCAAAA AAGAAGCCGC CCCCGCATCT GCATCCGAAC
          101   CTGCCGCCGC TTCTTCCGCG CAGGGCGACA CCTCTTCGAT CGGCAGCACG
          151   ATGCAGCAGG CAAGCTATGC GATGGGCGTG GACATCGGAC GCTCCCTGAA
          201   GCAAATGAAG GAACAGGGCG CGGAAATCGA TTTGAAAGTC TTTACCGAAG
          251   CCATGCAGGC AGTGTATGAC GGCAAAGAAA TCAAAATGAC CGAAGAGCAG
          301   GCTCAGGAAG TCATGATGAA ATTCCTTCAG GAACAACAGG CTAAAGCCGT
          351   AGAAAAACAC AAGGCGGACG CGAAGGCCAA TAAAGAAAAA GGCGAAGCCT
          401   TTCTGAAAGA AAATGCCGCC AAAGACGGCG TGAAGACCAC TGCTTCCGGC
          451   CTGCAATACA AAATCACCAA ACAGGGCGAA GGCAAACAGC CGACCAAAGA
          501   CGACATCGTT ACCGTGGAAT ACGAAGGCCG CCTGATTGAC GGTACGGTAT
          551   TCGACAGCAG CAAAGCCAAC GGCGGCCCGG TCACCTTCCC TTTGAGCCAA
          601   GTGATTCTGG GTTGGACCGA AGGCGTACAG CTTCTGAAAG AAGGCGGCGA
          651   AGCCACGTTC TACATCCCGT CCAACCTTGC CTACCGCGAA CAGGGTGCGG
          701   GCGACAAAAT CGGCCCGAAC GCCACTTTGG TATTTGATGT GAAACTGGTC
          751   AAAATCGGCG CACCCGAAAA CGCGCCCGCC AAGCAGCCGG CTCAAGTCGA
          801   CATCAAAAAA GTAAATTAA
```

This corresponds to the amino acid sequence <SEQ ID 985; ORF 576.a>:

```
        a576.pep
            1   MNTIFKISAL TLSAALALSA CGKKEAAPAS ASEPAAASSA QGDTSSIGST
           51   MQQASYAMGV DIGRSLKQMK EQGAEIDLKV FTEAMQAVYD GKEIKMTEEQ
          101   AQEVMMKFLQ EQQAKAVEKH KADAKANKEK GEAFLKENAA KDGVKTTASG
          151   LQYKITKQGE GKQPTKDDIV TVEYEGRLID GTVFDSSKAN GGPVTFPLSQ
          201   VILGWTEGVQ LLKEGGEATF YIPSNLAYRE QGAGDKIGPN ATLVFDVKLV
          251   KIGAPENAPA KQPAQVDIKK VN*
```

```
        m576/a576   ORFs 576 and 576.a showed a 99.5% identity in 222 aa overlap

                                              10        20        30
        m576.pep                            MQQASYAMGVDIGRSLKQMKEQGAEIDLKV
                                            ||||||||||||||||||||||||||||||
        a576        CGKKEAAPASASEPAAASSAQGDTSSIGSTMQQASYAMGVDIGRSLKQMKEQGAEIDLKV
                          30        40        50        60        70        80
```

```
                        40        50        60        70        80        90
    m576.pep   FTEAMQAVYDGKEIKMTEEQAQEVMMKFLQEQQAKAVEKHKADAKANKEKGEAFLKENAA
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    a576       FTEAMQAVYDGKEIKMTEEQAQEVMMKFLQEQQAKAVEKHKADAKANKEKGEAFLKENAA
                        90       100       110       120       130       140


                       100       110       120       130       140       150
    m576.pep   KDGVKTTASGLQYKITKQGEGKQPTKDDIVTVEYEGRLIDGTVFDSSKANGGPVTFPLSQ
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    a576       KDGVKTTASGLQYKITKQGEGKQPTKDDIVTVEYEGRLIDGTVFDSSKANGGPVTFPLSQ
                       150       160       170       180       190       200


                       160       170       180       190       200       210
    m576.pep   VIPGWTEGVQLLKEGGEATFYIPSNLAYREQGAGDKIGPNATLVFDVKLVKIGAPENAPA
               || |||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    a576       VILGWTEGVQLLKEGGEATFYIPSNLAYREQGAGDKIGPNATLVFDVKLVKIGAPENAPA
                       210       220       230       240       250       260


                       220
    m576.pep   KQPAQVDIKKVNX
               |||||||||||||
    a576       KQPAQVDIKKVNX
                       270
```

Further work revealed the following DNA sequence identified in *N. meningitidis* <SEQ ID 986>:

```
    m576-1.seq
        1   ATGAACACCA TTTTCAAAAT CAGCGCACTG ACCCTTTCCG CCGCTTTGGC
       51   ACTTTCCGCC TGCGGCAAAA AAGAAGCCGC CCCCGCATCT GCATCCGAAC
      101   CTGCCGCCGC TTCTTCCGCG CAGGGCGACA CCTCTTCGAT CGGCAGCACG
      151   ATGCAGCAGG CAAGCTATGC GATGGGCGTG GACATCGGAC GCTCCCTGAA
      201   GCAAATGAAG GAACAGGGCG CGGAAATCGA TTTGAAAGTC TTTACCGAAG
      251   CCATGCAGGC AGTGTATGAC GGCAAAGAAA TCAAAATGAC CGAAGAGCAG
      301   GCTCAGGAAG TCATGATGAA ATTCCTTCAG GAACAACAGG CTAAAGCCGT
      351   AGAAAAACAC AAGGCGGACG CGAAGGCCAA TAAAGAAAAA GGCGAAGCCT
      401   TTCTGAAAGA AAATGCCGCC AAAGACGGCG TGAAGACCAC TGCTTCCGGC
      451   CTGCAATACA AAATCACCAA ACAGGGCGAA GGCAAACAGC CGACCAAAGA
      501   CGACATCGTT ACCGTGGAAT ACGAAGGCCG CCTGATTGAC GGTACGGTAT
      551   TCGACAGCAG CAAAGCCAAC GGCGGCCCGG TCACCTTCCC TTTGAGCCAA
      601   GTGATTCCGG GTTGGACCGA AGGCGTACAG CTTCTGAAAG AAGGCGGCGA
      651   AGCCACGTTC TACATCCCGT CCAACCTTGC CTACCGCGAA CAGGGTGCGG
      701   GCGACAAAAT CGGTCCGAAC GCCACTTTGG TATTTGATGT GAAACTGGTC
      751   AAAATCGGCG CACCCGAAAA CGCGCCCGCC AAGCAGCCGG CTCAAGTCGA
      801   CATCAAAAAA GTAAATTAA
```

This corresponds to the amino acid sequence <SEQ ID 987; ORF 576-1>:

```
    m576-1.pep
        1   MNTIFKISAL TLSAALALSA CGKKEAAPAS ASEPAAASSA QGDTSSIGST
       51   MQQASYAMGV DIGRSLKQMK EQGAEIDLKV FTEAMQAVYD GKEIKMTEEQ
      101   AQEVMMKFLQ EQQAKAVEKH KADAKANKEK GEAFLKENAA KDGVKTTASG
      151   LQYKITKQGE GKQPTKDDIV TVEYEGRLID GTVFDSSKAN GGPVTFPLSQ
      201   VIPGWTEGVQ LLKEGGEATF YIPSNLAYRE QGAGDKIGPN ATLVFDVKLV
      251   KIGAPENAPA KQPAQVDIKK VN*
```

The following DNA sequence was identified in *N. gonorrhoeae* <SEQ ID 988>:

```
    g576-1.seq
        1   ATGAACACCA TTTTCAAAAT CAGCGCACTG ACCCTTTCCG CCGCTTTGGC
       51   ACTTTCCGCC TGCGGCAAAA AAGAAGCCGC CCCCGCATCT GCATCCGAAC
      101   CTGCCGCCGC TTCTGCCGCG CAGGGCGACA CCTCTTCAAT CGGCAGCACG
      151   ATGCAGCAGG CAAGCTATGC AATGGGCGTG GACATCGGAC GCTCCCTGAA
```

- 79 -

```
201   ACAAATGAAG  GAACAGGGCG  CGGAAATCGA  TTTGAAAGTC  TTTACCGATG
251   CCATGCAGGC  AGTGTATGAC  GGCAAAGAAA  TCAAAATGAC  CGAAGAGCAG
301   GCCCAGGAAG  TGATGATGAA  ATTCCTGCAG  GAGCAGCAGG  CTAAAGCCGT
351   AGAAAAACAC  AAGGCGGATG  CGAAGGCCAA  CAAAGAAAAA  GGCGAAGCCT
401   TCCTGAAGGA  AAATGCCGCC  AAAGACGGCG  TGAAGACCAC  TGCTTCCGGT
451   CTGCAGTACA  AAATCACCAA  ACAGGGTGAA  GGCAAACAGC  CGACAAAAGA
501   CGACATCGTT  ACCGTGGAAT  ACGAAGGCCG  CCTGATTGAC  GGTACCGTAT
551   TCGACAGCAG  CAAAGCCAAC  GGCGGCCCGG  CCACCTTCCC  TTTGAGCCAA
601   GTGATTCCGG  GTTGGACCGA  AGGCGTACGG  CTTCTGAAAG  AAGGCGGCGA
651   AGCCACGTTC  TACATCCCGT  CCAACCTTGC  CTACCGCGAA  CAGGGTGCGG
701   GCGAAAAAAT  CGGTCCGAAC  GCCACTTTGG  TATTTGACGT  GAAACTGGTC
751   AAAATCGGCG  CACCCGAAAA  CGCGCCCGCC  AAGCAGCCGG  ATCAAGTCGA
801   CATCAAAAAA  GTAAATTAA
```

This corresponds to the amino acid sequence <SEQ ID 989; ORF 576-1.ng>:

```
g576-1.pep
      1   MNTIFKISAL  TLSAALALSA  CGKKEAAPAS  ASEPAAASAA  QGDTSSIGST
     51   MQQASYAMGV  DIGRSLKQMK  EQGAEIDLKV  FTDAMQAVYD  GKEIKMTEEQ
    101   AQEVMMKFLQ  EQQAKAVEKH  KADAKANKEK  GEAFLKENAA  KDGVKTTASG
    151   LQYKITKQGE  GKQPTKDDIV  TVEYEGRLID  GTVFDSSKAN  GGPATFPLSQ
    201   VIPGWTEGVR  LLKEGGEATF  YIPSNLAYRE  QGAGEKIGPN  ATLVFDVKLV
    251   KIGAPENAPA  KQPDQVDIKK  VN*
```

g576-1/m576-1 ORFs 576-1 and 576-1.ng showed a 97.8% identity in 272 aa overlap

```
                     10        20        30        40        50        60
g576-1.pep   MNTIFKISALTLSAALALSACGKKEAAPASASEPAAASAAQGDTSSIGSTMQQASYAMGV
             ||||||||||||||||||||||||||||||||||||||||:|||||||||||||||||||
m576-1       MNTIFKISALTLSAALALSACGKKEAAPASASEPAAASSAQGDTSSIGSTMQQASYAMGV
                     10        20        30        40        50        60


                     70        80        90       100       110       120
g576-1.pep   DIGRSLKQMKEQGAEIDLKVFTDAMQAVYDGKEIKMTEEQAQEVMMKFLQEQQAKAVEKH
             ||||||||||||||||||||||||:|||||||||||||||||||||||||||||||||||
m576-1       DIGRSLKQMKEQGAEIDLKVFTEAMQAVYDGKEIKMTEEQAQEVMMKFLQEQQAKAVEKH
                     70        80        90       100       110       120


                    130       140       150       160       170       180
g576-1.pep   KADAKANKEKGEAFLKENAAKDGVKTTASGLQYKITKQGEGKQPTKDDIVTVEYEGRLID
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
m576-1       KADAKANKEKGEAFLKENAAKDGVKTTASGLQYKITKQGEGKQPTKDDIVTVEYEGRLID
                    130       140       150       160       170       180


                    190       200       210       220       230       240
g576-1.pep   GTVFDSSKANGGPATFPLSQVIPGWTEGVRLLKEGGEATFYIPSNLAYREQGAGEKIGPN
             ||||||||||||:||||||||||||||||:||||||||||||||||||||||||:|||||
m576-1       GTVFDSSKANGGPVTFPLSQVIPGWTEGVQLLKEGGEATFYIPSNLAYREQGAGDKIGPN
                    190       200       210       220       230       240


                    250       260       270
g576-1.pep   ATLVFDVKLVKIGAPENAPAKQPDQVDIKKVNX
             ||||||||||||||||||||||||| |||||||
m576-1       ATLVFDVKLVKIGAPENAPAKQPAQVDIKKVNX
                    250       260       270
```

The following DNA sequence was identified in *N. meningitidis* <SEQ ID 990>:

```
a576-1.seq
      1   ATGAACACCA  TTTTCAAAAT  CAGCGCACTG  ACCCTTTCCG  CCGCTTTGGC
     51   ACTTTCCGCC  TGCGGCAAAA  AAGAAGCCGC  CCCCGCATCT  GCATCCGAAC
    101   CTGCCGCCGC  TTCTTCCGCG  CAGGGCGACA  CCTCTTCGAT  CGGCAGCACG
```

- 80 -

```
151   ATGCAGCAGG CAAGCTATGC GATGGGCGTG GACATCGGAC GCTCCCTGAA
201   GCAAATGAAG GAACAGGGCG CGGAAATCGA TTTGAAAGTC TTTACCGAAG
251   CCATGCAGGC AGTGTATGAC GGCAAAGAAA TCAAAATGAC CGAAGAGCAG
301   GCTCAGGAAG TCATGATGAA ATTCCTTCAG GAACAACAGG CTAAAGCCGT
351   AGAAAAACAC AAGGCGGACG CGAAGGCCAA TAAAGAAAAA GGCGAAGCCT
401   TTCTGAAAGA AAATGCCGCC AAAGACGGCG TGAAGACCAC TGCTTCCGGC
451   CTGCAATACA AAATCACCAA ACAGGGCGAA GGCAAACAGC CGACCAAAGA
501   CGACATCGTT ACCGTGGAAT ACGAAGGCCG CCTGATTGAC GGTACGGTAT
551   TCGACAGCAG CAAAGCCAAC GGCGGCCCGG TCACCTTCCC TTTGAGCCAA
601   GTGATTCTGG GTTGGACCGA AGGCGTACAG CTTCTGAAAG AAGGCGGCGA
651   AGCCACGTTC TACATCCCGT CCAACCTTGC CTACCGCGAA CAGGGTGCGG
701   GCGACAAAAT CGGCCCGAAC GCCACTTTGG TATTTGATGT GAAACTGGTC
751   AAAATCGGCG CACCCGAAAA CGCGCCCGCC AAGCAGCCGG CTCAAGTCGA
801   CATCAAAAAA GTAAATTAA
```

This corresponds to the amino acid sequence <SEQ ID 991; ORF 576-1.a>:

```
a576-1.pep
  1   MNTIFKISAL TLSAALALSA CGKKEAAPAS ASEPAAASSA QGDTSSIGST
 51   MQQASYAMGV DIGRSLKQMK EQGAEIDLKV FTEAMQAVYD GKEIKMTEEQ
101   AQEVMMKFLQ EQQAKAVEKH KADAKANKEK GEAFLKENAA KDGVKTTASG
151   LQYKITKQGE GKQPTKDDIV TVEYEGRLID GTVFDSSKAN GGPVTFPLSQ
201   VILGWTEGVQ LLKEGGEATF YIPSNLAYRE QGAGDKIGPN ATLVFDVKLV
251   KIGAPENAPA KQPAQVDIKK VN*
```

a576-1/m576-1 ORFs 576-1 and 576-1.a 99.6% identity in 272 aa overlap

```
                10        20        30        40        50        60
a576-1.pep  MNTIFKISALTLSAALALSACGKKEAAPASASEPAAASSAQGDTSSIGSTMQQASYAMGV
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
m576-1      MNTIFKISALTLSAALALSACGKKEAAPASASEPAAASSAQGDTSSIGSTMQQASYAMGV
                10        20        30        40        50        60


                70        80        90       100       110       120
a576-1.pep  DIGRSLKQMKEQGAEIDLKVFTEAMQAVYDGKEIKMTEEQAQEVMMKFLQEQQAKAVEKH
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
m576-1      DIGRSLKQMKEQGAEIDLKVFTEAMQAVYDGKEIKMTEEQAQEVMMKFLQEQQAKAVEKH
                70        80        90       100       110       120


               130       140       150       160       170       180
a576-1.pep  KADAKANKEKGEAFLKENAAKDGVKTTASGLQYKITKQGEGKQPTKDDIVTVEYEGRLID
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
m576-1      KADAKANKEKGEAFLKENAAKDGVKTTASGLQYKITKQGEGKQPTKDDIVTVEYEGRLID
               130       140       150       160       170       180


               190       200       210       220       230       240
a576-1.pep  GTVFDSSKANGGPVTFPLSQVILGWTEGVQLLKEGGEATFYIPSNLAYREQGAGDKIGPN
            ||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||||
m576-1      GTVFDSSKANGGPVTFPLSQVIPGWTEGVQLLKEGGEATFYIPSNLAYREQGAGDKIGPN
               190       200       210       220       230       240


               250       260       270
a576-1.pep  ATLVFDVKLVKIGAPENAPAKQPAQVDIKKVNX
            |||||||||||||||||||||||||||||||||
m576-1      ATLVFDVKLVKIGAPENAPAKQPAQVDIKKVNX
               250       260       270
```

919 and 919-2   gnm43.seq

- 81 -

The following partial DNA sequence was identified in *N.meningitidis* <SEQ ID 992>:

```
m919.seq
   1 ATGAAAAAAT ACCTATTCCG CGCCGCCCTG TACGGCATCG CCGCCGCCAT
  51 CCTCGCCGCC TGCCAAAGCA AGAGCATCCA AACCTTTCCG CAACCCGACA
 101 CATCCGTCAT CAACGGCCCG GACCGGCCGG TCGGCATCCC CGACCCCGCC
 151 GGAACGACGG TCGGCGGCGG CGGGGCCGTC TATACCGTTG TACCGCACCT
 201 GTCCCTGCCC CACTGGGCGG CGCAGGATTC CGCCAAAAGC CTGCAATCCT
 251 TCCGCCTCGG CTGCGCCAAT TTGAAAAACC GCCAAGGCTG GCAGGATGTG
 301 TGCGCCCAAG CCTTTCAAAC CCCCGTCCAT TCCTTTCAGG CAAAACAGTT
 351 TTTTGAACGC TATTTCACGC CGTGGCAGGT TGCAGGCAAC GGAAGCCTTG
 401 CCGGTACGGT TACCGGCTAT TACGAACCGG TGCTGAAGGG CGACGACAGG
 451 CGGACGGCAC AAGCCCGCTT CCCGATTTAC GGTATTCCCG ACGATTTTAT
 501 CTCCGTCCCC CTGCCTGCCG GTTTGCGGAG CGGAAAAGCC CTTGTCCGCA
 551 TCAGGCAGAC GGGAAAAAAC AGCGGCACAA TCGACAATAC CGGCGGCACA
 601 CATACCGCCG ACCTCTCCcG ATTCCCCATC ACCGCGCGCA CAACAGCAAT
 651 CAAAGGCAGG TTTGAAGGAA GCCGCTTCCT CCCCTACCAC ACGCGCAACC
 701 AAATCAACGG CGGCGCGCTT GACGGCAAAG CCCCGATACT CGGTTACGCC
 751 GAAGACCCTG TCGAACTTTT TTTTATGCAC ATCCAAGGCT CGGGCCGTCT
 801 GAAAACCCCG TCCGGCAAAT ACATCCGCAT CGGCTATGCC GACAAAAACG
 851 AACATCCyTA CGTTTCCATC GGACGCTATA TGGCGGATAA GGGCTACCTC
 901 AAACTCGGAC AAACCTCCAT GCAGGGCATT AAGTCTTATA TGCGGCAAAA
 951 TCCGCAACGC CTCGCCGAAG TTTTGGGTCA AAACCCCAGC TATATCTTTT
1001 TCCGCGAGCT TGCCGGAAGC AGCAATGACG GCCCTGTCGG CGCACTGGGC
1051 ACGCCGCTGA TGGGGGAATA TGCCGGCGCA GTCGACCGGC ACTACATTAC
1101 CTTGGGTGCG CCCTTATTTG TCGCCACCGC CCATCCGGTT ACCCGCAAAG
1151 CCCTCAACCG CCTGATTATG GCGCAGGATA CCGGCAGCGC GATTAAAGGC
1201 GCGGTGCGCG TGGATTATTT TTGGGGATAC GGCGACGAAG CCGGCGAACT
1251 TGCCGGCAAA CAGAAAACCA CGGGATATGT CTGGCAGCTC CTACCCAACG
1301 GTATGAAGCC CGAATACCGc CCGTAA
```

This corresponds to the amino acid sequence <SEQ ID 993; ORF 919>:

```
m919.pep
   1 MKKYLFRAAL YGIAAAILAA CQSKSIQTFP QPDTSVINGP DRPVGIPDPA
  51 GTTVGGGGAV YTVVPHLSLP HWAAQDFAKS LQSFRLGCAN LKNRQGWQDV
 101 CAQAFQTPVH SFQAKQFFER YFTPWQVAGN GSLAGTVTGY YEPVLKGDDR
 151 RTAQARFPIY GIPDDFISVP LPAGLRSGKA LVRIRQTGKN SGTIDNTGGT
 201 HTADLSRFPI TARTTAIKGR FEGSRFLPYH TRNQINGGAL DGKAPILGYA
 251 EDPVELFFMH IQGSGRLKTP SGKYIRIGYA DKNEHPYVSI GRYMADKGYL
 301 KLGQTSMQGI KSYMRQNPQR LAEVLGQNPS YIFFRELAGS SNDGPVGALG
 351 TPLMGEYAGA VDRHYITLGA PLFVATAHPV TRKALNRLIM AQDTGSAIKG
 401 AVRVDYFWGY GDEAGELAGK QKTTGYVWQL LPNGMKPEYR P*
```

The following partial DNA sequence was identified in *N.meningitidis* <SEQ ID 994>:

```
m919-2.seq
   1 ATGAAAAAAT ACCTATTCCG CGCCGCCCTG TACGGCATCG CCGCCGCCAT
  51 CCTCGCCGCC TGCCAAAGCA AGAGCATCCA AACCTTTCCG CAACCCGACA
 101 CATCCGTCAT CAACGGCCCG GACCGGCCGG TCGGCATCCC CGACCCCGCC
 151 GGAACGACGG TCGGCGGCGG CGGGGCCGTC TATACCGTTG TACCGCACCT
 201 GTCCCTGCCC CACTGGGCGG CGCAGGATTC CGCCAAAAGC CTGCAATCCT
 251 TCCGCCTCGG CTGCGCCAAT TTGAAAAACC GCCAAGGCTG GCAGGATGTG
 301 TGCGCCCAAG CCTTTCAAAC CCCCGTCCAT TCCTTTCAGG CAAAACAGTT
 351 TTTTGAACGC TATTTCACGC CGTGGCAGGT TGCAGGCAAC GGAAGCCTTG
 401 CCGGTACGGT TACCGGCTAT TACGAACCGG TGCTGAAGGG CGACGACAGG
 451 CGGACGGCAC AAGCCCGCTT CCCGATTTAC GGTATTCCCG ACGATTTTAT
 501 CTCCGTCCCC CTGCCTGCCG GTTTGCGGAG CGGAAAAGCC CTTGTCCGCA
 551 TCAGGCAGAC GGGAAAAAAC AGCGGCACAA TCGACAATAC CGGCGGCACA
```

```
601   CATACCGCCG ACCTCTCCCG ATTCCCCATC ACCGCGCGCA CAACAGCAAT
651   CAAAGGCAGG TTTGAAGGAA GCCGCTTCCT CCCCTACCAC ACGCGCAACC
701   AAATCAACGG CGGCGCGCTT GACGGCAAAG CCCCGATACT CGGTTACGCC
751   GAAGACCCTG TCGAACTTTT TTTTATGCAC ATCCAAGGCT CGGGCCGTCT
801   GAAAACCCCG TCCGGCAAAT ACATCCGCAT CGGCTATGCC GACAAAAACG
851   AACATCCCTA CGTTTCCATC GGACGCTATA TGGCGGATAA GGGCTACCTC
901   AAACTCGGAC AAACCTCCAT GCAGGGCATT AAGTCTTATA TGCGGCAAAA
951   TCCGCAACGC CTCGCCGAAG TTTTGGGTCA AAACCCCAGC TATATCTTTT
1001  TCCGCGAGCT TGCCGGAAGC AGCAATGACG GCCCTGTCGG CGCACTGGGC
1051  ACGCCGCTGA TGGGGGAATA TGCCGGCGCA GTCGACCGGC ACTACATTAC
1101  CTTGGGTGCG CCCTTATTTG TCGCCACCGC CCATCCGGTT ACCCGCAAAG
1151  CCCTCAACCG CCTGATTATG GCGCAGGATA CCGGCAGCGC GATTAAAGGC
1201  GCGGTGCGCG TGGATTATTT TTGGGGATAC GGCGACGAAG CCGGCGAACT
1251  TGCCGGCAAA CAGAAAACCA CGGGATATGT CTGGCAGCTC CTACCCAACG
1301  GTATGAAGCC CGAATACCGC CCGTAA
```

This corresponds to the amino acid sequence <SEQ ID 995; ORF 919-2>:

```
m919-2.pep
   1   MKKYLFRAAL YGIAAAILAA CQSKSIQTFP QPDTSVINGP DRPVGIPDPA
  51   GTTVGGGGAV YTVVPHLSLP HWAAQDFAKS LQSFRLGCAN LKNRQGWQDV
 101   CAQAFQTPVH SFQAKQFFER YFTPWQVAGN GSLAGTVTGY YEPVLKGDDR
 151   RTAQARFPIY GIPDDFISVP LPAGLRSGKA LVRIRQTGKN SGTIDNTGGT
 201   HTADLSRFPI TARTTAIKGR FEGSRFLPYH TRNQINGGAL DGKAPILGYA
 251   EDPVELFFMH IQGSGRLKTP SGKYIRIGYA DKNEHPYVSI GRYMADKGYL
 301   KLGQTSMQGI KSYMRQNPQR LAEVLGQNPS YIFFRELAGS SNDGPVGALG
 351   TPLMGEYAGA VDRHYITLGA PLFVATAHPV TRKALNRLIM AQDTGSAIKG
 401   AVRVDYFWGY GDEAGELAGK QKTTGYVWQL LPNGMKPEYR P*
```

The following partial DNA sequence was identified in *N.gonorrhoeae* <SEQ ID 996>:

```
g919.seq
   1   ATGAAAAAAC ACCTGCTCCG CTCCGCCCTG TACGGcatCG CCGCCgccAT
  51   CctcgCCGCC TGCCAAAgca gGAGCATCCA AACCTTTCCG CAACCCGACA
 101   CATCCGTCAT CAACGGCCCG GACCGGCCGG CCGGCATCCC CGACCCCGCC
 151   GGAACGACGG TTGCCGGCGG CGGGGCCGTC TATACCGTTG TGCCGCACCT
 201   GTCCATGCCC CACTGGGCGG CGCaggATTT TGCCAAAAGC CTGCAATCCT
 251   TCCGCCTCGG CTGCGCCAAT TTGAAAAACC GCCAAGGCTG GCAGGATGTG
 301   TGCGCCCAAG CCTTTCAAAC CCCCGTGCAT TCCTTTCAGG CAAAGCGgTT
 351   TTTTGAACGC TATTTCACGC cgtGGCaggt tgcaggcaAC GGAAGcCTTG
 401   Caggtacggt TACCGGCTAT TACGAACCGG TGCTGAAGGG CGACGGCAGG
 451   CGGACGGAAC GGGCCCGCTT CCCGATTTAC GGTATTCCCG ACGATTTTAT
 501   CTCCGTCCCG CTGCCTGCCG GTTTGCGGGG CGGAAAAAAC CTTGTCCGCA
 551   TCAGGCAGac ggGGAAAAAC AGCGGCACGA TCGACAATGC CGGCGGCACG
 601   CATACCGCCG ACCTCTCCCG ATTCCCCATC ACCGCGCGCA CAACGGcaat
 651   caaaGGCAGG TTTGAaggAA GCCGCTTCCT CCCTTACCAC ACGCGCAACC
 701   AAAtcaacGG CGGCgcgcTT GACGGCAAag cccCCATCCT CggttacgcC
 751   GAagaccCcG tcgaacttTT TTTCATGCAC AtccaaggCT CGGGCCGCCT
 801   GAAAACCCcg tccggcaaat acatCCGCAt cggaTacgcc gacAAAAACG
 851   AACAtccgTa tgtttccatc ggACGctaTa TGGCGGACAA AGGCTACCTC
 901   AAGctcgggc agACCTCGAT GCAGGgcatc aaagcCTATA TGCGGCAAAA
 951   TCCGCAACGC CTCGCCGAAG TTTTGGGTCA AAACCCCAGC TATATCTTTT
1001  TCCGCGAGCT TGCCGGAAGC GGCAATGAGG GCCCCGTCGG CGCACTGGGC
1051  ACGCCACTGA TGGGGGAATA CGCCGGCGCA ATCGACCGGC ACTACATTAC
1101  CTTGGGCGCG CCCTTATTTG TCGCCACCGC CCATCCGGTT ACCCGCAAAG
1151  CCCTCAACCG CCTGATTATG. GCGCAGGATA CAGGCAGCGC GATCAAAGGC
1201  GCGGTGCGCG TGGATTATTT TTGGGGTTAC GGCGACGAAG CCGGCGAACT
1251  TGCCGGCAAA CAGAAAACCA CGGGATACGT CTGGCAGCTC CTGCCCAACG
1301  GCATGAAGCC CGAATACCGC CCGTGA
```

- 83 -

This corresponds to the amino acid sequence <SEQ ID 997; ORF 919.ng>:

```
g919.pep
      1   MKKHLLRSAL YGIAAAILAA CQSRSIQTFP QPDTSVINGP DRPAGIPDPA
     51   GTTVAGGGAV YTVVPHLSMP HWAAQDFAKS LQSFRLGCAN LKNRQGWQDV
    101   CAQAFQTPVH SFQAKRFFER YFTPWQVAGN GSLAGTVTGY YEPVLKGDGR
    151   RTERARFPIY GIPDDFISVP LPAGLRGGKN LVRIRQTGKN SGTIDNAGGT
    201   HTADLSRFPI TARTTAIKGR FEGSRFLPYH TRNQINGGAL DGKAPILGYA
    251   EDPVELFFMH IQGSGRLKTP SGKYIRIGYA DKNEHPYVSI GRYMADKGYL
    301   KLGQTSMQGI KAYMRQNPQR LAEVLGQNPS YIFFRELAGS GNEGPVGALG
    351   TPLMGEYAGA IDRHYITLGA PLFVATAHPV TRKALNRLIM AQDTGSAIKG
    401   AVRVDYFWGY GDEAGELAGK QKTTGYVWQL LPNGMKPEYR P*
```

ORF 919 shows 95.9 % identity over a 441 aa overlap with a predicted ORF (ORF 919.ng) from *N. gonorrhoeae*:

```
m919/g919

                  10        20        30        40        50        60
m919.pep   MKKYLFRAALYGIAAAILAACQSKSIQTFPQPDTSVINGPDRPVGIPDPAGTTVGGGGAV
           |||:|:|:||||||||||||||:|||||||||||||||||||:||||||||||:|||||
g919       MKKHLLRSALYGIAAAILAACQSRSIQTFPQPDTSVINGPDRPAGIPDPAGTTVAGGGAV
                  10        20        30        40        50        60


                  70        80        90       100       110       120
m919.pep   YTVVPHLSLPHWAAQDFAKSLQSFRLGCANLKNRQGWQDVCAQAFQTPVHSFQAKQFFER
           ||||||||:|||||||||||||||||||||||||||||||||||||||||||||||:||||
g919       YTVVPHLSMPHWAAQDFAKSLQSFRLGCANLKNRQGWQDVCAQAFQTPVHSFQAKRFFER
                  70        80        90       100       110       120


                 130       140       150       160       170       180
m919.pep   YFTPWQVAGNGSLAGTVTGYYEPVLKGDDRRTAQARFPIYGIPDDFISVPLPAGLRSGKA
           |||||||||||||||||||||||||||||| ||| :||||||||||||||||||||:||
g919       YFTPWQVAGNGSLAGTVTGYYEPVLKGDGRRTERARFPIYGIPDDFISVPLPAGLRGGKN
                 130       140       150       160       170       180


                 190       200       210       220       230       240
m919.pep   LVRIRQTGKNSGTIDNTGGTHTADLSRFPITARTTAIKGRFEGSRFLPYHTRNQINGGAL
           ||||||||||||||||:||||||||||||||||||||||||||||||||||||||||||
g919       LVRIRQTGKNSGTIDNAGGTHTADLSRFPITARTTAIKGRFEGSRFLPYHTRNQINGGAL
                 190       200       210       220       230       240


                 250       260       270       280       290       300
m919.pep   DGKAPILGYAEDPVELFFMHIQGSGRLKTPSGKYIRIGYADKNEHPYVSIGRYMADKGYL
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
g919       DGKAPILGYAEDPVELFFMHIQGSGRLKTPSGKYIRIGYADKNEHPYVSIGRYMADKGYL
                 250       260       270       280       290       300


                 310       320       330       340       350       360
m919.pep   KLGQTSMQGIKSYMRQNPQRLAEVLGQNPSYIFFRELAGSSNDGPVGALGTPLMGEYAGA
           ||||||||||:||||||||||||||||||||||||||||:|:||||||||||||||||||
g919       KLGQTSMQGIKAYMRQNPQRLAEVLGQNPSYIFFRELAGSGNEGPVGALGTPLMGEYAGA
                 310       320       330       340       350       360


                 370       380       390       400       410       420
m919.pep   VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
           :|||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
g919       IDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
                 370       380       390       400       410       420
```

```
                      430        440
        m919.pep      QKTTGYVWQLLPNGMKPEYRPX
                      ||||||||||||||||||||||
        g919          QKTTGYVWQLLPNGMKPEYRPX
                      430        440
```

The following partial DNA sequence was identified in *N.meningitidis* <SEQ ID 998>:

```
    a919.seq
        1   ATGAAAAAAT ACCTATTCCG CGCCGCCCTG TGCGGCATCG CCGCCGCCAT
       51   CCTCGCCGCC TGCCAAAGCA AGAGCATCCA AACCTTTCCG CAACCCGACA
      101   CATCCGTCAT CAACGGCCCG GACCGGCCGG TCGGCATCCC CGACCCCGCC
      151   GGAACGACGG TCGGCGGCGG CGGGGCCGTT TATACCGTTG TGCCGCACCT
      201   GTCCCTGCCC CACTGGGCGG CGCAGGATTT CGCCAAAAGC CTGCAATCCT
      251   TCCGCCTCGG CTGCGCCAAT TTGAAAAACC GCCAAGGCTG GCAGGATGTG
      301   TGCGCCCAAG CCTTTCAAAC CCCCGTCCAT TCCGTTCAGG CAAAACAGTT
      351   TTTTGAACGC TATTTCACGC CGTGGCAGGT TGCAGGCAAC GGAAGCCTTG
      401   CCGGTACGGT TACCGGCTAT TACGAGCCGG TGCTGAAGGG CGACGACAGG
      451   CGGACGGCAC AAGCCCGCTT CCCGATTTAC GGTATTCCCG ACGATTTTAT
      501   CTCCGTCCCC CTGCCTGCCG GTTTGCGGAG CGGAAAAGCC CTTGTCCGCA
      551   TCAGGCAGAC GGGAAAAAAC AGCGGCACAA TCGACAATAC CGGCGGCACA
      601   CATACCGCCG ACCTCTCCCA ATTCCCCATC ACTGCGCGCA CAACGGCAAT
      651   CAAAGGCAGG TTTGAAGGAA GCCGCTTCCT CCCCTACCAC ACGCGCAACC
      701   AAATCAACGG CGGCGCGCTT GACGGCAAAG CCCCGATACT CGGTTACGCC
      751   GAAGACCCCG TCGAACTTTT TTTTATGCAC ATCCAAGGCT CGGGCCGTCT
      801   GAAAACCCCG TCCGGCAAAT ACATCCGCAT CGGCTATGCC GACAAAAACG
      851   AACATCCCTA CGTTTCCATC GGACGCTATA TGGCGGACAA AGGCTACCTC
      901   AAGCTCGGGC AGACCTCGAT GCAGGGCATC AAAGCCTATA TGCAGCAAAA
      951   CCCGCAACGC CTCGCCGAAG TTTTGGGGCA AAACCCCAGC TATATCTTTT
     1001   TCCGAGAGCT TACCGGAAGC AGCAATGACG GCCCTGTCGG CGCACTGGGC
     1051   ACGCCGCTGA TGGGCGAGTA CGCCGGCGCA GTCGACCGGC ACTACATTAC
     1101   CTTGGGCGCG CCCTTATTTG TCGCCCACCG CCATCCGGTT ACCCGCAAAG
     1151   CCCTCAACCG CCTGATTATG GCGCAGGATA CCGGCAGCGC GATTAAAGGC
     1201   GCGGTGCGCG TGGATTATTT TTGGGGATAC GGCGACGAAG CCGGCGAACT
     1251   TGCCGGCAAA CAGAAAACCA CGGGGATATGT CTGGCAGCTT CTGCCCAACG
     1301   GTATGAAGCC CGAATACCGC CCGTAA
```

This corresponds to the amino acid sequence <SEQ ID 999; ORF 919.a>:

```
    a919.pep
        1   MKKYLFRAAL CGIAAAILAA CQSKSIQTFP QPDTSVINGP DRPVGIPDPA
       51   GTTVGGGGAV YTVVPHLSLP HWAAQDFAKS LQSFRLGCAN LKNRQGWQDV
      101   CAQAFQTPVH SVQAKQFFER YFTPWQVAGN GSLAGTVTGY YEPVLKGDDR
      151   RTAQARFPIY GIPDDFISVP LPAGLRSGKA LVRIRQTGKN SGTIDNTGGT
      201   HTADLSQFPI TARTTAIKGR FEGSRFLPYH TRNQINGGAL DGKAPILGYA
      251   EDPVELFFMH IQGSGRLKTP SGKYIRIGYA DKNEHPYVSI GRYMADKGYL
      301   KLGQTSMQGI KAYMQQNPQR LAEVLGQNPS YIFFRELTGS SNDGPVGALG
      351   TPLMGEYAGA VDRHYITLGA PLFVATAHPV TRKALNRLIM AQDTGSAIKG
      401   AVRVDYFWGY GDEAGELAGK QKTTGYVWQL LPNGMKPEYR P*
```

m919/a919   ORFs 919 and 919.a showed a 98.6% identity in 441 aa overlap

```
                      10        20        30        40        50        60
        m919.pep      MKKYLFRAALYGIAAAILAACQSKSIQTFPQPDTSVINGPDRPVGIPDPAGTTVGGGGAV
                      ||||||||||  |||||||||||||||||||||||||||||||||||||||||||||||||
        a919          MKKYLFRAALCGIAAAILAACQSKSIQTFPQPDTSVINGPDRPVGIPDPAGTTVGGGGAV
                      10        20        30        40        50        60


                      70        80        90        100       110       120
        m919.pep      YTVVPHLSLPHWAAQDFAKSLQSFRLGCANLKNRQGWQDVCAQAFQTPVHSFQAKQFFER
                      ||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||||
        a919          YTVVPHLSLPHWAAQDFAKSLQSFRLGCANLKNRQGWQDVCAQAFQTPVHSVQAKQFFER
```

- 85 -

```
                70          80          90          100         110         120

                130         140         150         160         170         180
m919.pep   YFTPWQVAGNGSLAGTVTGYYEPVLKGDDRRTAQARFPIYGIPDDFISVPLPAGLRSGKA
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
a919       YFTPWQVAGNGSLAGTVTGYYEPVLKGDDRRTAQARFPIYGIPDDFISVPLPAGLRSGKA
                130         140         150         160         170         180

                190         200         210         220         230         240
m919.pep   LVRIRQTGKNSGTIDNTGGTHTADLSRFPITARTTAIKGRFEGSRFLPYHTRNQINGGAL
           |||||||||||||||||||||||||||:||||||||||||||||||||||||||||||||
a919       LVRIRQTGKNSGTIDNTGGTHTADLSQFPITARTTAIKGRFEGSRFLPYHTRNQINGGAL
                190         200         210         220         230         240

                250         260         270         280         290         300
m919.pep   DGKAPILGYAEDPVELFFMHIQGSGRLKTPSGKYIRIGYADKNEHPYVSIGRYMADKGYL
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
a919       DGKAPILGYAEDPVELFFMHIQGSGRLKTPSGKYIRIGYADKNEHPYVSIGRYMADKGYL
                250         260         270         280         290         300

                310         320         330         340         350         360
m919.pep   KLGQTSMQGIKSYMRQNPQRLAEVLGQNPSYIFFRELAGSSNDGPVGALGTPLMGEYAGA
           |||||||||||:||:|||||||||||||||||||||||:|||||||||||||||||||||
a919       KLGQTSMQGIKAYMQQNPQRLAEVLGQNPSYIFFRELTGSSNDGPVGALGTPLMGEYAGA
                310         320         330         340         350         360

                370         380         390         400         410         420
m919.pep   VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
a919       VDRHYITLGAPLFVATAHPVTRKALNRLIMAQDTGSAIKGAVRVDYFWGYGDEAGELAGK
                370         380         390         400         410         420

                430         440
m919.pep   QKTTGYVWQLLPNGMKPEYRPX
           ||||||||||||||||||||||
a919       QKTTGYVWQLLPNGMKPEYRPX
           430         440
```

121 and 121-1

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1000>:

```
m121.seq
     1  ATGGAAACAC AGCTTTACAT CGGCATCATG TCGGGAACCA GCATGGACGG
    51  GGCGGATGCC GTACTGATAC GGATGGACGG CGGCAAATGG CTGGGCGCGG
   101  AAGGGCACGC CTTTACCCCC TACCCCGGCA GGTTACGCCG CCAATTGCTG
   151  GATTTGCAGG ACACAGGCGC AGACGAACTG CACCGCAGCA GGATTTTGTC
   201  GCAAGAACTC AGCCGCCTAT ATGCGCAAAC CGCCGCCGAA CTGCTGTGCA
   251  GTCAAAACCT CGCACCGTCC GACATTACCG CCCTCGGCTG CCACGGGCAA
   301  ACCGTCCGAC ACGCGCCGGA ACACGGTTAC AGCATACAGC TTGCCGATTT
   351  GCCGCTGCTG GCGxxxxxxx xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx
   401  xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx
   451  xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx
   501  xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx
   551  xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx
   601  xxxxxxCAGC TTCCTTACGA CAAAAACGGT GCAAAGTCGG CACAAGGCAA
   651  CATATTGCCG CAACTGCTCG ACAGGCTGCT CGCCCACCCG TATTTCGCAC
   701  AACGCCACCC TAAAAGCACG GGGCGCGAAC TGTTTGCCAT AAATTGGCTC
   751  GAAACCTACC TTGACGGCGG CGAAAACCGA TACGACGTAT TGCGGACGCT
   801  TTCCCGTTTT ACCGCGCAAA CCGTTTGCGA CGCCGTCTCA CACGCAGCGG
```

```
851    CAGATGCCCG TCAAATGTAC ATTTGCGACG GCGGCATCCG CAATCCTGTT
901    TTAATGGCGG ATTTGGCAGA ATGTTTCGGC ACACGCGTTT CCCTGCACAG
951    CACCGCCGAC CTGAACCTCG ATCCGCAATG GGTGGAAGCC GCCGnATTTG
1001   CGTGGTTGGC GGCGTGTTGG ATTAATCGCA TTCCCGGTAG TCCGCACAAA
1051   GCAACCGGCG CATCCAAACC GTGTATTCTG AnCGCGGGAT ATTATTATTG
1101   A
```

This corresponds to the amino acid sequence <SEQ ID 1001; ORF 121>:

m121.pep

```
1    METQLYIGIM SGTSMDGADA VLIRMDGGKW LGAEGHAFTP YPGRLRRQLL
51   DLQDTGADEL HRSRILSQEL SRLYAQTAAE LLCSQNLAPS DITALGCHGQ
101  TVRHAPEHGY SIQLADLPLL Axxxxxxxxx xxxxxxxxxx xxxxxxxxxx
151  xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx
201  xxQLPYDKNG AKSAQGNILP QLLDRLLAHP YFAQRHPKST GRELFAINWL
251  ETYLDGGENR YDVLRTLSRF TAQTVCDAVS HAAADARQMY ICDGGIRNPV
301  LMADLAECFG TRVSLHSTAD LNLDPQWVEA AXFAWLAACW INRIPGSPHK
351  ATGASKPCIL XAGYYY*
```

The following partial DNA sequence was identified in *N. gonorrhoeae* <SEQ ID 1002>:

g121.seq

```
1    ATGGAAACAC AGCTTTACAT CGGCATTATG TCGGGAACCA GTATGGACGG
51   GGCGGATGCC GTGCTGGTAC GGATGGACGG CGGCAAATGG CTGGGCGCGG
101  AAGGGCACGC CTTTACCCCC TACCCTGACC GGTTGCGCCG CAAATTGCTG
151  GATTTGCAGG ACACAGGCAC AGACGAACTG CACCGCAGCA GGATGTTGTC
201  GCAAGAACTC AGCCGCCTGT ACGCGCAAAC CGCCGCCGAA CTGCTGTGCA
251  GTCAAAACCT CGCTCCGTGC GACATTACCG CCCTCGGCTG CCACGGGCAA
301  ACCGTCCGAC ACGCGCCGGA ACACGGTtac AGCATACAGC TTGCCGATTT
351  GCCGCTGCTG GCGGAACTGa cgcggatttT TACCGTCggc gacttcCGCA
401  GCCGCGACCT TGCTGCCGGC GGacaAGGTG CGCCGCTCGT CCCCGCCTTT
451  CACGAAGCCC TGTTCCGCGA TGACAGGGAA ACACGCGTGG TACTGAACAT
501  CGGCGGGATT GCCAACATCA GCGTACTCCC CCCCGGCGCA CCCGCCTTCG
551  GCTTCGACAC AGGGCCGGGC AATATGCTGA TGGAcgcgtg gacgcaggca
601  cacTGGcagc TGCCTTACGA CAAAAacggt gcAAAGgcgg cacAAGGCAA
651  catatTGCcg cAACTGCTCG gcaggctGCT CGCCcaccCG TATTTCTCAC
701  AACCCcaccc aaAAAGCACG GGgcGCGaac TgtttgcccT AAattggctc
751  gaaacctAcc ttgacggcgg cgaaaaccga tacgacgtat tgcggacgct
801  ttcccgattc accgcgcaaA ccgTttggga cgccgtctca CACGCAGCGG
851  CAGATGCCCG TCAAATGTAC ATTTGCGGCG GCGGCATCCG CAATCCTGTT
901  TTAATGGCGG ATTTGGCAGA ATGTTTCGGC ACACGCGTTT CCCTGCACAG
951  CACCGCCGAA CTGAACCTCG ATCCTCAATG GGTGGAGGCG gccgCATTtg
1001 cgtggttggC GGCGTGTTGG ATTAACCGCA TTCCCGGTAG TCCGCACAAA
1051 GCGACCGGCG CATCCAAACC GTGTATTCTG GGCGCGGGAT ATTATTATTG
1101 A
```

This corresponds to the amino acid sequence <SEQ ID 1003; ORF 121.ng>:

g121.pep

```
1    METQLYIGIM SGTSMDGADA VLVRMDGGKW LGAEGHAFTP YPDRLRRKLL
51   DLQDTGTDEL HRSRMLSQEL SRLYAQTAAE LLCSQNLAPC DITALGCHGQ
101  TVRHAPEHGY SIQLADLPLL AELTRIFTVG DFRSRDLAAG GQGAPLVPAF
151  HEALFRDDRE TRVVLNIGGI ANISVLPPGA PAFGFDTGPG NMLMDAWTQA
201  HWQLPYDKNG AKAAQGNILP QLLGRLLAHP YFSQPHPKST GRELFALNWL
251  ETYLDGGENR YDVLRTLSRF TAQTVWDAVS HAAADARQMY ICGGGIRNPV
301  LMADLAECFG TRVSLHSTAE LNLDPQWVEA AAFAWLAACW INRIPGSPHK
351  ATGASKPCIL GAGYYY*
```

ORF 121 shows 73.5% identity over a 366 aa overlap with a predicted ORF (ORF121.ng) from *N. gonorrhoeae*:

m121/g121

```
                     10        20        30        40        50        60
m121.pep   METQLYIGIMSGTSMDGADAVLIRMDGGKWLGAEGHAFTPYPGRLRRQLLDLQDTGADEL
           ||||||||||||||||||||||||||:||||||||||||||||||| ||||:||||||||:|||
g121       METQLYIGIMSGTSMDGADAVLVRMDGGKWLGAEGHAFTPYPDRLRRKLLDLQDTGTDEL
                     10        20        30        40        50        60

                     70        80        90        100       110       120
m121.pep   HRSRILSQELSRLYAQTAAELLCSQNLAPSDITALGCHGQTVRHAPEHGYSIQLADLPLL
           ||||:|||||||||||||||||||||||| |||||||||||||||||||||||||||||||
g121       HRSRMLSQELSRLYAQTAAELLCSQNLAPCDITALGCHGQTVRHAPEHGYSIQLADLPLL
                     70        80        90        100       110       120

                     130       140       150       160       170       180
m121.pep   AXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
           |  :      :                                              :
g121       AELTRIFTVGDFRSRDLAAGGQGAPLVPAFHEALFRDDRETRVVLNIGGIANISVLPPGA
                     130       140       150       160       170       180

                     190       200       210       220       230       240
m121.pep   XXXXXXXXXXXXXXXXXXXXXXXQLPYDKNGAKSAQGNILPQLLDRLLAHPYFAQRHPKST
               :           :      |||||||||:|||||||||| |||||||:| |||||
g121       PAFGFDTGPGNMLMDAWTQAHWQLPYDKNGAKAAQGNILPQLLGRLLAHPYFSQPHPKST
                     190       200       210       220       230       240

                     250       260       270       280       290       300
m121.pep   GRELFAINWLETYLDGGENRYDVLRTLSRFTAQTVCDAVSHAAADARQMYICDGGIRNPV
           ||||||:||||||||||||||||||||||||||||| |||||||||||||||| |||||||
g121       GRELFALNWLETYLDGGENRYDVLRTLSRFTAQTVWDAVSHAAADARQMYICGGGIRNPV
                     250       260       270       280       290       300

                     310       320       330       340       350       360
m121.pep   LMADLAECFGTRVSLHSTADLNLDPQWVEAAXFAWLAACWINRIPGSPHKATGASKPCIL
           |||||||||||||||||||:||||||||||| ||||||||||||||||||||||||||||||
g121       LMADLAECFGTRVSLHSTAELNLDPQWVEAAAFAWLAACWINRIPGSPHKATGASKPCIL
                     310       320       330       340       350       360


m121.pep   XAGYYYX
           ||||||
g121       GAGYYYX
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1004>:

```
a121.seq
      1   ATGGAAACAC AGCTTTACAT CGGCATCATG TCGGGAACCA GCATGGACGG
     51   GGCGGATGCC GTACTGATAC GGATGGACGG CGGCAAATGG CTGGGCGCGG
    101   AAGGGCACGC CTTTACCCCC TACCCCGGCA GGTTACGCCG CAAATTGCTG
    151   GATTTGCAGG ACACAGGCGC GGACGAACTG CACCGCAGCA GGATGTTGTC
    201   GCAAGAACTC AGCCGCCTGT ACGCGCAAAC CGCCGCCGAA CTGCTGTGCA
    251   GTCAAAACCT CGCGCCGTCC GACATTACCG CCCTCGGCTG CCACGGGCAA
    301   ACCGTCAGAC ACGCGCCGGA ACACAGTTAC AGCGTACAGC TTGCCGATTT
    351   GCCGCTGCTG GCGGAACGGA CTCAGATTTT TACCGTCGGC GACTTCCGCA
    401   GCCGCGACCT TGCGGCCGGC GGACAAGGCG CGCCGCTCGT CCCCGCCTTT
    451   CACGAAGCCC TGTTCCGCGA CGACAGGGAA ACACGCGCGG TACTGAACAT
    501   CGGCGGGATT GCCAACATCA GCGTACTCCC CCCCGACGCA CCCGCCTTCG
    551   GCTTCGACAC AGGACCGGGC AATATGCTGA TGGACGCGTG GATGCAGGCA
    601   CACTGGCAGC TTCCTTACGA CAAAAACGGT GCAAAGGCGG CACAAGGCAA
    651   CATATTGCCG CAACTGCTCG ACAGGCTGCT CGCCCACCCG TATTTCGCAC
    701   AACCCCACCC TAAAAGCACG GGGCGCGAAC TGTTTGCCCT AAAATTGGCTC
    751   GAAACCTACC TTGACGGCGG CGAAAACCGA TACGACGTAT TGCGGACGCT
    801   TTCCCGATTC ACCGCGCAAA CCGTTTTCGA CGCCGTCTCA CACGCAGCGG
    851   CAGATGCCCG TCAAATGTAC ATTTGCGGCG GCGGCATCCG CAATCCTGTT
    901   TTAATGGCGG ATTTGGCAGA ATGTTTCGGC ACACGCGTTT CCCTGCACAG
    951   CACCGCCGAA CTGAACCTCG ATCCGCAATG GGTAGAAGCC GCCGCGTTCG
   1001   CATGGATGGC GGCGTGTTGG GTCAACCGCA TTCCCGGTAG TCCGCACAAA
   1051   GCAACCGGCG CATCCAAACC GTGTATTCTG GGCGCGGGAT ATTATTATTG
   1101   A
```

- 88 -

This corresponds to the amino acid sequence <SEQ ID 1005; ORF 121.a>:

```
a121.pep
    1  METQLYIGIM SGTSMDGADA VLIRMDGGKW LGAEGHAFTP YPGRLRRKLL
   51  DLQDTGADEL HRSRMLSQEL SRLYAQTAAE LLCSQNLAPS DITALGCHGQ
  101  TVRHAPEHSY SVQLADLPLL AERTQIFTVG DFRSRDLAAG GQGAPLVPAF
  151  HEALFRDDRE TRAVLNIGGI ANISVLPPDA PAFGFDTGPG NMLMDAWMQA
  201  HWQLPYDKNG AKAAQGNILP QLLDRLLAHP YFAQPHPKST GRELFALNWL
  251  ETYLDGGENR YDVLRTLSRF TAQTVFDAVS HAAADARQMY ICGGGIRNPV
  301  LMADLAECFG TRVSLHSTAE LNLDPQWVEA AAFAWMAACW VNRIPGSPHK
  351  ATGASKPCIL GAGYYY*
```

    m121/a121   ORFs 121 and 121.a 74.0% identity in 366 aa overlap

```
                  10        20        30        40        50        60
m121.pep  METQLYIGIMSGTSMDGADAVLIRMDGGKWLGAEGHAFTPYPGRLRRQLLDLQDTGADEL
          ||||||||||||||||||||||||||||||||||||||||||||||||:|||||||||||
a121      METQLYIGIMSGTSMDGADAVLIRMDGGKWLGAEGHAFTPYPGRLRRKLLDLQDTGADEL
                  10        20        30        40        50        60

                  70        80        90       100       110       120
m121.pep  HRSRILSQELSRLYAQTAAELLCSQNLAPSDITALGCHGQTVRHAPEHGYSIQLADLPLL
          ||||:|||||||||||||||||||||||||||||||||||||||||||:||:||||||||
a121      HRSRMLSQELSRLYAQTAAELLCSQNLAPSDITALGCHGQTVRHAPEHSYSVQLADLPLL
                  70        80        90       100       110       120

                 130       140       150       160       170       180
m121.pep  AXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
          |  :   :                                        :
a121      AERTQIFTVGDFRSRDLAAGGQGAPLVPAFHEALFRDDRETRAVLNIGGIANISVLPPDA
                 130       140       150       160       170       180

                 190       200       210       220       230       240
m121.pep  XXXXXXXXXXXXXXXXXXXXXXXXXQLPYDKNGAKSAQGNILPQLLDRLLAHPYFAQRHPKST
                :                ||||||||||:|||||||||||||||||||||| |||||
a121      PAFGFDTGPGNMLMDAWMQAHWQLPYDKNGAKAAQGNILPQLLDRLLAHPYFAQPHPKST
                 190       200       210       220       230       240

                 250       260       270       280       290       300
m121.pep  GRELFAINWLETYLDGGENRYDVLRTLSRFTAQTVCDAVSHAAADARQMYICDGGIRNPV
          ||||||:|||||||||||||||||||||||||||||||||| |||||||||||||| |||||
a121      GRELFALNWLETYLDGGENRYDVLRTLSRFTAQTVFDAVSHAAADARQMYICGGGIRNPV
                 250       260       270       280       290       300

                 310       320       330       340       350       360
m121.pep  LMADLAECFGTRVSLHSTADLNLDPQWVEAAXFAWLAACWINRIPGSPHKATGASKPCIL
          |||||||||||||||||||||:|||||||||| |||:||||:||||||||||||||||||||
a121      LMADLAECFGTRVSLHSTAELNLDPQWVEAAAFAWMAACWVNRIPGSPHKATGASKPCIL
                 310       320       330       340       350       360

m121.pep  XAGYYYX
          ||||||
a121      GAGYYYX
```

Further work revealed the DNA sequence identified in *N. meningitidis* <SEQ ID 1006>:

```
m121-1.seq
    1  ATGGAAACAC AGCTTTACAT CGGCATCATG TCGGGAACCA GCATGGACGG
   51  GGCGGATGCC GTACTGATAC GGATGGACGG CGGCAAATGG CTGGGCGCGG
  101  AAGGGCACGC CTTTACCCCC TACCCCGGCA GGTTACGCCG CCAATTGCTG
  151  GATTTGCAGG ACACAGGCGC AGACGAACTG CACCGCAGCA GGATTTTGTC
  201  GCAAGAACTC AGCCGCCTAT ATGCGCAAAC CGCCGCCGAA CTGCTGTGCA
```

- 89 -

```
 251  GTCAAAACCT CGCACCGTCC GACATTACCG CCCTCGGCTG CCACGGGCAA
 301  ACCGTCCGAC ACGCGCCGGA ACACGGTTAC AGCATACAGC TTGCCGATTT
 351  GCCGCTGCTG GCGGAACGGA CGCGGATTTT TACCGTCGGC GACTTCCGCA
 401  GCCGCGACCT TGCGGCCGGC GGACAAGGCG CGCCACTCGT CCCCGCCTTT
 451  CACGAAGCCC TGTTCCGCGA CAACAGGGAA ACACGCGCGG TACTGAACAT
 501  CGGCGGGATT GCCAACATCA GCGTACTCCC CCCGACGCA CCCGCCTTCG
 551  GCTTCGACAC AGGGCCGGGC AATATGCTGA TGGACGCGTG GACGCAGGCA
 601  CACTGGCAGC TTCCTTACGA CAAAAACGGT GCAAAGGCGG CACAAGGCAA
 651  CATATTGCCG CAACTGCTCG ACAGGCTGCT CGCCCACCCG TATTTCGCAC
 701  AACCCCACCC TAAAAGCACG GGGCGCGAAC TGTTTGCCCT AAATTGGCTC
 751  GAAACCTACC TTGACGGCGG CGAAAACCGA TACGACGTAT TGCGGACGCT
 801  TTCCCGTTTT ACCGCGCAAA CCGTTTGCGA CGCCGTCTCA CACGCAGCGG
 851  CAGATGCCCG TCAAATGTAC ATTTGCGGCG GCGGCATCCG CAATCCTGTT
 901  TTAATGGCGG ATTTGGCAGA ATGTTTCGGC ACACGCGTTT CCCTGCACAG
 951  CACCGCCGAC CTGAACCTCG ATCCGCAATG GGTGGAAGCC GCCGNATTTG
1001  CGTGGTTGGC GGCGTGTTGG ATTAATCGCA TTCCCGGTAG TCCGCACAAA
1051  GCAACCGGCG CATCCAAACC GTGTATTCTG ANCGCGGGAT ATTATTATTG
1101  A
```

This corresponds to the amino acid sequence <SEQ ID 1007; ORF 121-1>:

```
m121-1.pep
   1  METQLYIGIM SGTSMDGADA VLIRMDGGKW LGAEGHAFTP YPGRLRRQLL
  51  DLQDTGADEL HRSRILSQEL SRLYAQTAAE LLCSQNLAPS DITALGCHGQ
 101  TVRHAPEHGY SIQLADLPLL AERTRIFTVG DFRSRDLAAG GQGAPLVPAF
 151  HEALFRDNRE TRAVLNIGGI ANISVLPPDA PAFGFDTGPG NMLMDAWTQA
 201  HWQLPYDKNG AKAAQGNILP QLLDRLLAHP YFAQPHPKST GRELFALNWL
 251  ETYLDGGENR YDVLRTLSRF TAQTVCDAVS HAAADARQMY ICGGGIRNPV
 301  LMADLAECFG TRVSLHSTAD LNLDPQWVEA AXFAWLAACW INRIPGSPHK
 351  ATGASKPCIL XAGYYY*
```

m121-1/g121   ORFs 121-1 and 121-1.ng showed a 95.6% identity in 366 aa overlap

```
                 10        20        30        40        50        60
m121-1.pep  METQLYIGIMSGTSMDGADAVLIRMDGGKWLGAEGHAFTPYPGRLRRQLLDLQDTGADEL
            |||||||||||||||||||||||:||||||||||||||||||| ||||:|||||||:|||
g121        METQLYIGIMSGTSMDGADAVLVRMDGGKWLGAEGHAFTPYPDRLRRKLLDLQDTGTDEL
                 10        20        30        40        50        60

                 70        80        90       100       110       120
m121-1.pep  HRSRILSQELSRLYAQTAAELLCSQNLAPSDITALGCHGQTVRHAPEHGYSIQLADLPLL
            ||||:|||||||||||||||||||||||||| ||||||||||||||||||||||||||||
g121        HRSRMLSQELSRLYAQTAAELLCSQNLAPCDITALGCHGQTVRHAPEHGYSIQLADLPLL
                 70        80        90       100       110       120

                130       140       150       160       170       180
m121-1.pep  AERTRIFTVGDFRSRDLAAGGQGAPLVPAFHEALFRDNRETRAVLNIGGIANISVLPPDA
            || ||||||||||||||||||||||||||||||||||||:||||:|||||||||||||| |
g121        AELTRIFTVGDFRSRDLAAGGQGAPLVPAFHEALFRDDRETRVVLNIGGIANISVLPPGA
                130       140       150       160       170       180

                190       200       210       220       230       240
m121-1.pep  PAFGFDTGPGNMLMDAWTQAHWQLPYDKNGAKAAQGNILPQLLDRLLAHPYFAQPHPKST
            |||||||||||||||||||||||||||||||||||||||||| ||||||||:|||||||
g121        PAFGFDTGPGNMLMDAWTQAHWQLPYDKNGAKAAQGNILPQLLGRLLAHPYFSQPHPKST
                190       200       210       220       230       240

                250       260       270       280       290       300
m121-1.pep  GRELFALNWLETYLDGGENRYDVLRTLSRFTAQTVCDAVSHAAADARQMYICGGGIRNPV
            |||||||||||||||||||||||||||||||||||||| ||||||||||||||||||||
g121        GRELFALNWLETYLDGGENRYDVLRTLSRFTAQTVWDAVSHAAADARQMYICGGGIRNPV
                250       260       270       280       290       300
```

```
                  310       320       330       340       350       360
    m121-1.pep  LMADLAECFGTRVSLHSTADLNLDPQWVEAAXFAWLAACWINRIPGSPHKATGASKPCIL
                ||||||||||||||||||||||:|||||||||||| |||||||||||||||||||||||||
    g121        LMADLAECFGTRVSLHSTAELNLDPQWVEAAAFAWLAACWINRIPGSPHKATGASKPCIL
                  310       320       330       340       350       360


    m121-1.pep  XAGYYYX
                ||||||
    g121        GAGYYYX
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1008>:

```
    a121-1.seq
       1 ATGGAAACAC AGCTTTACAT CGGCATCATG TCGGGAACCA GCATGGACGG
      51 GGCGGATGCC GTACTGATAC GGATGGACGG CGGCAAATGG CTGGGCGCGG
     101 AAGGGCACGC CTTTACCCCC TACCCCGGCA GGTTACGCCG CAAATTGCTG
     151 GATTTGCAGG ACACAGGCGC GGACGAACTG CACCGCAGCA GGATGTTGTC
     201 GCAAGAACTC AGCCGCCTGT ACGCGCAAAC CGCCGCCGAA CTGCTGTGCA
     251 GTCAAAACCT CGCGCCGTCC GACATTACCG CCCTCGGCTG CCACGGGCAA
     301 ACCGTCAGAC ACGCGCCGGA ACACAGTTAC AGCGTACAGC TTGCCGATTT
     351 GCCGCTGCTG GCGGAACGGA CTCAGATTTT TACCGTCGGC GACTTCCGCA
     401 GCCGCGACCT TGCGGCCGGC GGACAAGGCG CGCCGCTCGT CCCCGCCTTT
     451 CACGAAGCCC TGTTCCGCGA CGACAGGGAA ACACGCGCGG TACTGAACAT
     501 CGGCGGGATT GCCAACATCA GCGTACTCCC CCCCGACGCA CCCGCCTTCG
     551 GCTTCGACAC AGGACCGGGC AATATGCTGA TGGACGCGTG GATGCAGGCA
     601 CACTGGCAGC TTCCTTACGA CAAAAACGGT GCAAAGGCGG CACAAGGCAA
     651 CATATTGCCG CAACTGCTCG ACAGGCTGCT CGCCCACCCG TATTTCGCAC
     701 AACCCCACCC TAAAAGCACG GGGCGCGAAC TGTTTGCCCT AAATTGGCTC
     751 GAAACCTACC TTGACGGCGG CGAAAACCGA TACGACGTAT TGCGGACGCT
     801 TTCCCGATTC ACCGCGCAAA CCGTTTTCGA CGCCGTCTCA CACGCAGCGG
     851 CAGATGCCCG TCAAATGTAC ATTTGCGGCG GCGGCATCCG CAATCCTGTT
     901 TTAATGGCGG ATTTGGCAGA ATGTTTCGGC ACACGCGTTT CCCTGCACAG
     951 CACCGCCGAA CTGAACCTCG ATCCGCAATG GGTAGAAGCC GCCGCGTTCG
    1001 CATGGATGGC GGCGTGTTGG GTCAACCGCA TTCCCGGTAG TCCGCACAAA
    1051 GCAACCGGCG CATCCAAACC GTGTATTCTG GGCGCGGGAT ATTATTATTG
    1101 A
```

This corresponds to the amino acid sequence <SEQ ID 1009; ORF 121-1.a>:

```
    a121-1.pep
       1 METQLYIGIM SGTSMDGADA VLIRMDGGKW LGAEGHAFTP YPGRLRRKLL
      51 DLQDTGADEL HRSRMLSQEL SRLYAQTAAE LLCSQNLAPS DITALGCHGQ
     101 TVRHAPEHSY SVQLADLPLL AERTQIFTVG DFRSRDLAAG GQGAPLVPAF
     151 HEALFRDDRE TRAVLNIGGI ANISVLPPDA PAFGFDTGPG NMLMDAWMQA
     201 HWQLPYDKNG AKAAQGNILP QLLDRLLAHP YFAQPHPKST GRELFALNWL
     251 ETYLDGGENR YDVLRTLSRF TAQTVFDAVS HAAADARQMY ICGGGIRNPV
     301 LMADLAECFG TRVSLHSTAE LNLDPQWVEA AAFAWMAACW VNRIPGSPHK
     351 ATGASKPCIL GAGYYY*
```

m121-1/a121-1 ORFs 121-1 and 121-1.a showed a 96.4% identity in 366 aa overlap

```
                  10        20        30        40        50        60
    m121-1.pep  METQLYIGIMSGTSMDGADAVLIRMDGGKWLGAEGHAFTPYPGRLRRQLLDLQDTGADEL
                ||||||||||||||||||||||||||||||||||||||||||||||||:|||||||||||
    a121-1      METQLYIGIMSGTSMDGADAVLIRMDGGKWLGAEGHAFTPYPGRLRRKLLDLQDTGADEL
                  10        20        30        40        50        60


                  70        80        90       100       110       120
    m121-1.pep  HRSRILSQELSRLYAQTAAELLCSQNLAPSDITALGCHGQTVRHAPEHGYSIQLADLPLL
                ||||:||||||||||||||||||||||||||||||||||||||||||:||:|||||||||
    a121-1      HRSRMLSQELSRLYAQTAAELLCSQNLAPSDITALGCHGQTVRHAPEHSYSVQLADLPLL
                  70        80        90       100       110       120
```

```
                    130       140       150       160       170       180
m121-1.pep  AERTRIFTVGDFRSRDLAAGGQGAPLVPAFHEALFRDNRETRAVLNIGGIANISVLPPDA
            ||||:||||||||||||||||||||||||||||||||||:|||||||||||||||||||||
a121-1      AERTQIFTVGDFRSRDLAAGGQGAPLVPAFHEALFRDDRETRAVLNIGGIANISVLPPDA
                    130       140       150       160       170       180


                    190       200       210       220       230       240
m121-1.pep  PAFGFDTGPGNMLMDAWTQAHWQLPYDKNGAKAAQGNILPQLLDRLLAHPYFAQPHPKST
            ||||||||||||||||| |||||||||||||||||||||||||||||||||||||||||||
a121-1      PAFGFDTGPGNMLMDAWMQAHWQLPYDKNGAKAAQGNILPQLLDRLLAHPYFAQPHPKST
                    190       200       210       220       230       240


                    250       260       270       280       290       300
m121-1.pep  GRELFALNWLETYLDGGENRYDVLRTLSRFTAQTVCDAVSHAAADARQMYICGGGIRNPV
            ||||||||||||||||||||||||||||||||||||||| ||||||||||||||||||||||
a121-1      GRELFALNWLETYLDGGENRYDVLRTLSRFTAQTVFDAVSHAAADARQMYICGGGIRNPV
                    250       260       270       280       290       300


                    310       320       330       340       350       360
m121-1.pep  LMADLAECFGTRVSLHSTADLNLDPQWVEAAXFAWLAACWINRIPGSPHKATGASKPCIL
            ||||||||||||||||||||||||:||||:||||||||| |||:||||:||||||||||||
a121        LMADLAECFGTRVSLHSTAELNLDPQWVEAAAFAWMAACWVNRIPGSPHKATGASKPCIL
                    310       320       330       340       350       360


m121-1.pep  XAGYYYX
            ||||||
a121        GAGYYYX
```

128 and 128-1

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1010>:

```
m128.seq  (partial)
      1   ATGACTGACA ACGCACTGCT CCATTTGGGC GAAGAACCCC GTTTTGATCA
     51   AATCAAAACC GAAGACATCA AACCCGCCCT GCAAACCGCC ATCGCCGAAG
    101   CGCGCGAACA AATCGCCGCC ATCAAAGCCC AAACGCACAC CGGCTGGGCA
    151   AACACTGTCG AACCCCTGAC CGGCATCACC GAACGCGTCG GCAGGATTTG
    201   GGGCGTGGTG TCGCACCTCA ACTGCGTCGC CGACACGCCC GAACTGCGCG
    251   CCGTCTATAA CGAACTGATG CCCGAAATCA CCGTCTTCTT CACCGAAATC
    301   GGACAAGACA TCGAGCTGTA CAACCGCTTC AAAACCATCA AAAATTCCCC
    351   CGAATTCGAC ACCCTCTCCC CCGCACAAAA AACCAAACTC AACCAC
      1   TACGCCAGCG AAAAACTGCG CGAAGCCAAA TACGCGTTCA GCGAAACCGA
     51   wGTCAAAAAA TAyTTCCCyG TCGGCAAwGT ATTAAACGGA CTGTTCGCCC
    101   AAmTCAAAAA ACTmTACGGC ATCGGATTTA CCGAAAAAAC yGTCCCCGTC
    151   TGGCACAAAG ACGTGCGCTA TTkTGAATTG CAACAAAACG GCGAAmCCAT
    201   AGGCGGCGTT TATATGGATT TGTACGCACG CGAAGGCAAA CGCGGCGGCG
    251   CGTGGATGAA CGACTACAAA GGCCGCCGCC GTTTTTCAGA CGGCACGCTG
    301   CAAyTGCCCA CCGCCTACCT CGTCTGCAAC TTCGCCCCAC CCGTCGGCGG
    351   CAGGGAAGCC CGCyTGAGCC ACGACGAAAT CCTCATCCTC TTCCACGAAA
    401   CCGGACACGG GCTGCACCAC CTGCTTACCC AAGTGGACGA ACTGGGCGTA
    451   TCCGGCATCA ACGGCGTAkA ATGGGACGCG GTCGAACTGC CCAGCCAGTT
    501   TATGGAAAAT TTCGTTTGGG AATACAATGT CTTGGCACAA mTGTCAGCCC
    551   ACGAAGAAAC CGGcgTTCCC yTGCCGAAAG AACTCTTsGA CAAAwTGCTC
    601   GCCGCCAAAA ACTTCCAAsG CGGCATGTTC yTsGTCCGGC AAwTGGAGTT
    651   CGCCCTCTTT GATATGATGA TTTACAGCGA AGACGACGAA GGCCGTCTGA
    701   AAAACTGGCA ACAGGTTTTA GACAGCGTGC GCAAAAAGT CGCCGTCATC
    751   CAGCCGCCCG AATACAACCG CTTCGCCTTG AGCTTCGGCC ACATCTTCGC
    801   AGGCGGCTAT TCCGCAGCTn ATTACAGCTA CGCGTGGGCG GAAGTATTGA
```

- 92 -

```
         851  GCGCGGACGC ATACGCCGCC TTTGAAGAAA GCGACGATGT CGCCGCCACA
         901  GGCAAACGCT TTTGGCAGGA AATCCTCGCC GTCGGGGnAT CGCGCAGCGG
         951  nGCAGAATCC TTCAAAGCCT TCCGCGGCCG CGAACCGAGC ATAGACGCAC
        1001  TCTTGCGCCA CAGCGGTTTC GACAACGCGG TCTGA
```

This corresponds to the amino acid sequence <SEQ ID 1011; ORF 128>:

```
m128.pep   (partial)
         1  MTDNALLHLG EEPRFDQIKT EDIKPALQTA IAEAREQIAA IKAQTHTGWA
        51  NTVEPLTGIT ERVGRIWGVV SHLNCVADTP ELRAVYNELM PEITVFFTEI
       101  GQDIELYNRF KTIKNSPEFD TLSPAQKTKL NH
//
         1  YASEKLREAK YAFSETXVKK YFPVGXVLNG LFAQXKKLYG IGFTEKTVPV
        51  WHKDVRYXEL QQNGEXIGGV YMDLYAREGK RGGAWMNDYK GRRRFSDGTL
       101  QLPTAYLVCN FAPPVGGREA RLSHDEILIL FHETGHGLHH LLTQVDELGV
       151  SGINGVXWDA VELPSQFMEN FVWEYNVLAQ XSAHEETGVP LPKELXDKXL
       201  AAKNFQXGMF XVRQXEFALF DMMIYSEDDE GRLKNWQQVL DSVRKKVAVI
       251  QPPEYNRFAL SFGHIFAGGY SAAXYSYAWA EVLSADAYAA FEESDDVAAT
       301  GKRFWQEILA VGXSRSGAES FKAFRGREPS IDALLRHSGF DNAV*
```

The following partial DNA sequence was identified in *N. gonorrhoeae* <SEQ ID 1012>:

```
g128.seq
         1  atgattgaca acgCActgct ccacttgggc gaagaaccCC GTTTTaatca
        51  aatccaaacc gaagACAtca AACCCGCCGT CCAAACCGCC ATCGCCGAAG
       101  CGCGCGGACA AATCGCCGCC GTCAAAGCGC AAACGCACAC CGGCTGGGCG
       151  AACACCGTCG AGCGTCTGAC CGGCATCACC GAACGCGTCG GCAGGATTTG
       201  GGGCGTCGTG TCCCATCTCA ACTCCGTCGT CGACACGCCC GAACTGCGCG
       251  CCGTCTATAA CGAACTGATG CCTGAAATCA CCGTCTTCTT CACCGAAATC
       301  GGACAAGACA TCGAACTGTA CAACCGCTTC AAAACCATCA AAAATTCCCC
       351  CGAATTTGCA ACGCTTTCCC CCGCACAAAA AACCAAGCTC GATCACGACC
       401  TGCGCGATTT CGTATTGAGC GGCGCGGAAC TGCCGCCCGA ACGGCAGGCA
       451  GAACTGGCAA AACTGCAAAC CGAAGGCGCG CAACTTTCCG CCAAATTCTC
       501  CCAAAACGTC CTAGACGCGA CCGACGCGTT CGGCATTTAC TTTGACGATG
       551  CCGCACCGCT TGCCGGCATT CCCGAAGACG CGCTCGCCAT GTTTGCCGCC
       601  GCCGCGCAAA GCGAAGGCAA AACAGGTTAC AAAATCGGCT TGCAGATTCC
       651  GCACTACCTT GCCGTTATCC AATACGCCGG CAACCGCGAA CTGCGCGAAC
       701  AAATCTACCG CGCCTACGTT ACCCGTGCCA GCGAACTTTC AAACGACGGC
       751  AAATTCGACA ACACCGCCAA CATCGACCGC ACGCTCGAAA ACGCATTGAA
       801  AACCGCcaaa cTGCTCGGCT TTAAAAATTA CGCCGAATTG TCGCTGGCAA
       851  CCAAAATGGC GGACACGCCC GAACAGGTTT TAAACTTCCT GCACGACCTC
       901  GCCCGCCGCG CCAAACCCTA CGCCGAAAAA GACCTCGCCG AAGTCAAAGC
       951  CTTCGCCCGC GAACACCTCG GTCTCGCCGA CCCGCAGCCG TGGGACTTGA
      1001  GCTACGCCGG CGAAAAACTG CGCGAAGCCA AATACGCATT CAGCGAAACC
      1051  GAAGTCAAAA AATACTTCCC CGTCGGCAAA GTTCTGGCAG GCCTGTTCGC
      1101  CCAAATCAAA AAACTCTACG GCATCGGATT CGCCGAAAAA ACCGTTCCCG
      1151  TCTGGCACAA AGACGTGCGC TATTTTGAAT TGCAACAAAA CGGCAAAACC
      1201  ATCGGCGGCG TTTATATGGA TTTGTACGCA CGCGAAGGCA AACGCGGCGG
      1251  CGCGTGGATG AACGACtaca AAGGCCGCCG CCGCTTTGCC GACGgcacGC
      1301  TGCAACTGCC CACCGCCTAC CTCGTCTGCA ACTTCGCCCC GCCCGTCGGC
      1351  GGCAAAGAAG CGCGTTTAAG CCACGACGAA ATCCTCACCC TCTTCCACGA
      1401  AacCGGCCAC GGACTGCACC ACCTGCTTAC CCAAGTGGAC GAACTGGGCG
      1451  TGTCCGGCAT CAAcggcgtA GAATGGGACG CGGTCGAACT GCCCAGCCAG
      1501  TTTATGGAAA ACTTCGTTTG GGAATACAAT GTATTGGCAC AAATGTCCGC
      1551  CCACGAAGAA AccgGCGAGC CCCTGCCGAA AGAACTCTTC GACAAAATGC
      1601  TcgcCGCCAA AAACTTCCAG CGCGGTATGT TCCTCGTCCG GCAAATGGAG
      1651  TTCGCCCTCT TCGATATGAT GATTTACAGT GAAAGCGACG AATGCCGTCT
      1701  GAAAAACTGG CAGCAGGTTT TAGACAGCGT GCGCAAAGAA GTcGCCGTCA
      1751  TCCAACCGCC CGAATACAAC CGCTTCGCCA ACAGCTTCGG CCacatctTC
      1801  GCcggcGGCT ATTCCGCAGG CTATTACAGC TACGCATGGG CCGAAGTCCt
      1851  cAGCACCGAT GCCTACGCCG CCTTTGAAGA AAGcGACGac gtcGCCGCCA
```

```
1901  CAGGCAAACG CTTCTGGCAA GAAAtccttg ccgtcggcgg ctCCCGCAGC
1951  gcgGCGGAAT CCTTCAAAGC CTTCCGCGGA CGCGAACCGA GCATAGACGC
2001  ACTGCTGCGC CAaagcggtT TCGACAACGC gGCttgA
```

This corresponds to the amino acid sequence <SEQ ID 1013; ORF 128.ng>:

```
g128.pep
  1  MIDNALLHLG EEPRFNQIQT EDIKPAVQTA IAEARGQIAA VKAQTHTGWA
 51  NTVERLTGIT ERVGRIWGVV SHLNSVVDTP ELRAVYNELM PEITVFFTEI
101  GQDIELYNRF KTIKNSPEFA TLSPAQKTKL DHDLRDFVLS GAELPPERQA
151  ELAKLQTEGA QLSAKFSQNV LDATDAFGIY FDDAAPLAGI PEDALAMFAA
201  AAQSEGKTGY KIGLQIPHYL AVIQYAGNRE LREQIYRAYV TRASELSNDG
251  KFDNTANIDR TLENALKTAK LLGFKNYAEL SLATKMADTP EQVLNFLHDL
301  ARRAKPYAEK DLAEVKAFAR EHLGLADPQP WDLSYAGEKL REAKYAFSET
351  EVKKYFPVGK VLAGLFAQIK KLYGIGFAEK TVPVWHKDVR YFELQQNGKT
401  IGGVYMDLYA REGKRGGAWM NDYKGRRRFA DGTLQLPTAY LVCNFAPPVG
451  GKEARLSHDE ILTLFHETGH GLHHLLTQVD ELGVSGINGV EWDAVELPSQ
501  FMENFVWEYN VLAQMSAHEE TGEPLPKELF DKMLAAKNFQ RGMFLVRQME
551  FALFDMMIYS ESDECRLKNW QQVLDSVRKE VAVIQPPEYN RFANSFGHIF
601  AGGYSAGYYS YAWAEVLSTD AYAAFEESDD VAATGKRFWQ EILAVGGSRS
651  AAESFKAFRG REPSIDALLR QSGFDNAA*
```

ORF 128 shows 91.7% identity over a 475 aa overlap with a predicted ORF (ORF 128.ng) from *N. gonorrhoeae*:

```
m128/g128
                 10        20        30        40        50        60
g128.pep  MIDNALLHLGEEPRFNQIQTEDIKPAVQTAIAEARGQIAAVKAQTHTGWANTVERLTGIT
          | ||||||||||||:||:||||||||:|||||||| ||||:||||||||||||| |||||
m128      MTDNALLHLGEEPRFDQIKTEDIKPALQTAIAEAREQIAAIKAQTHTGWANTVEPLTGIT
                 10        20        30        40        50        60

                 70        80        90       100       110       120
g128.pep  ERVGRIWGVVSHLNSVVDTPELRAVYNELMPEITVFFTEIGQDIELYNRFKTIKNSPEFA
          ||||||||||||| |:||||||||||||||||||||||||||||||||||||||||||||
m128      ERVGRIWGVVSHLNCVADTPELRAVYNELMPEITVFFTEIGQDIELYNRFKTIKNSPEFD
                 70        80        90       100       110       120

                130       140       150       160       170       180
g128.pep  TLSPAQKTKLDHDLRDFVLSGAELPPERQAELAKLQTEGAQLSAKFSQNVLDATDAFGIY
          |||||||||||:|
m128      TLSPAQKTKLNH
                130
                           //
                                           340       350       360
g128.pep                            YAGEKLREAKYAFSETEVKKYFPVGKVLAG
                                    ||:||||||||||||| |||||||| || |
m128                                YASEKLREAKYAFSETXVKKYFPVGXVLNG
                                            10        20        30

                370       380       390       400       410       420
g128.pep  LFAQIKKLYGIGFAEKTVPVWHKDVRYFELQQNGKTIGGVYMDLYAREGKRGGAWMNDYK
          ||||  ||||||||:||||||||||| |||||::||||||||||||||||||||||||||
m128      LFAQXKKLYGIGFTEKTVPVWHKDVRYXELQQNGEXIGGVYMDLYAREGKRGGAWMNDYK
                 40        50        60        70        80        90

                430       440       450       460       470       480
g128.pep  GRRRFADGTLQLPTAYLVCNFAPPVGGKEARLSHDEILTLFHETGHGLHHLLTQVDELGV
```

- 94 -

```
              |||||:|||||||||||||||||||||||:|||||||||||  |||||||||||||||||||||||
       m128   GRRRFSDGTLQLPTAYLVCNFAPPVGGREARLSHDEILILFHETGHGLHHLLTQVDELGV
                   100       110       120       130       140       150


                   490       500       510       520       530       540
       g128.pep   SGINGVEWDAVELPSQFMENFVWEYNVLAQMSAHEETGEPLPKELFDKMLAAKNFQRGMF
                  ||||||  ||||||||||||||||||||  ||||||| ||  |||||||  |||
       m128       SGINGVXWDAVELPSQFMENFVWEYNVLAQXSAHEETGVPLPKELXDKXLAAKNFQXGMF
                   160       170       180       190       200       210


                   550       560       570       580       590       600
       g128.pep   LVRQMEFALFDMMIYSESDECRLKNWQQVLDSVRKEVAVIQPPEYNRFANSFGHIFAGGY
                  |||  ||||||||||||:||  ||||||||||||||:|||||||||||  ||||||||||
       m128       XVRQXEFALFDMMIYSEDDEGRLKNWQQVLDSVRKKVAVIQPPEYNRFALSFGHIFAGGY
                   220       230       240       250       260       270


                   610       620       630       640       650       660
       g128.pep   SAGYYSYAWAEVLSTDAYAAFEESDDVAATGKRFWQEILAVGGSRSAAESFKAFRGREPS
                  ||:  ||||||||||:|||||||||||||||||||||||||  |||:|||||||||||||
       m128       SAAXYSYAWAEVLSADAYAAFEESDDVAATGKRFWQEILAVGXSRSGAESFKAFRGREPS
                   280       290       300       310       320       330


                   670       679
       g128.pep   IDALLRQSGFDNAAX
                  ||||||:||||||:
       m128       IDALLRHSGFDNAVX
                   340
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1014>:

```
   a128.seq
          1  ATGACTGACA ACGCACTGCT CCATTTGGGC GAAGAACCCC GTTTTGATCA
         51  AATCAAAACC GAAGACATCA AACCCGCCCT GCAAACCGCC ATTGCCGAAG
        101  CGCGCGAACA AATCGCCGCC ATCAAAGCCC AAACGCACAC CGGCTGGGCA
        151  AACACTGTCG AACCCCTGAC CGGCATCACC GAACGCGTCG GCAGGATTTG
        201  GGGCGTGGTG TCGCACCTCA ACTCCGTCAC CGACACGCCC GAACTGCGCG
        251  CCGCCTACAA TGAATTAATG CCCGAAATTA CCGTCTTCTT CACCGAAATC
        301  GGACAAGACA TCGAACTGTA CAACCGCTTC AAAACCATCA AAAACTCCCC
        351  CGAGTTCGAC ACCCTCTCCC ACGCGCAAAA AACCAAACTC AACCACGATC
        401  TGCGCGATTT CGTCCTCAGC GGCGCGGAAC TGCCGCCCGA ACAGCAGGCA
        451  GAATTGGCAA AACTGCAAAC CGAAGGCGCG CAACTTTCCG CCAAATTCTC
        501  CCAAAACGTC CTAGACGCGA CCGACGCGTT CGGCATTTAC TTTGACGATG
        551  CCGCACCGCT TGCCGGCATT CCCGAAGACG CGCTCGCCAT GTTTGCCGCT
        601  GCCGCGCAAA GCGAAGGCAA AACAGGCTAC AAAATCGGTT TGCAGATTCC
        651  GCACTACCTC GCCGTCATCC AATACGCCGA CAACCGCAAA CTGCGCGAAC
        701  AAATCTACCG CGCCTACGTT ACCCGCGCCA GCGAGCTTTC AGACGACGGC
        751  AAATTCGACA ACACCGCCAA CATCGACCGC ACGCTCGAAA ACGCCCCTGCA
        801  AACCGCCAAA CTGCTCGGCT TCAAAAACTA CGCCGAATTG TCGCTGGCAA
        851  CCAAAATGGC GGACACCCCC GAACAAGTTT TAAACTTCCT GCACGACCTC
        901  GCCCGCCGCG CCAAACCCTA CGCCGAAAAA GACCTCGCCG AAGTCAAAGC
        951  CTTCGCCCGC GAAAGCCTCG GCCTCGCCGA TTTGCAACCG TGGGACTTGG
       1001  GCTACGCCGG CGAAAAACTG CGCGAAGCCA AATACGCATT CAGCGAAACC
       1051  GAAGTCAAAA AATACTTCCC CGTCGGCAAA GTATTAAACG GACTGTTCGC
       1101  CCAAATCAAA AAACTCTACG GCATCGGATT TACCGAAAAA ACCGTCCCCG
       1151  TCTGGCACAA AGACGTGCGC TATTTTGAAT TGCAACAAAA CGGCGAAACC
       1201  ATAGGCGGCG TTTATATGGA TTTGTACGCA CGCGAAGGCA AACGCGGCGG
       1251  CGCGTGGATG AACGACTACA AAGGCCGCCG CCGTTTTTCA GACGGCACGC
       1301  TGCAACTGCC CACCGCCTAC CTCGTCTGCA ACTTCACCCC GCCCGTCGGC
       1351  GGCAAAGAAG CCCGCTTGAG CCATGACGAA ATCCTCACCC TCTTCCACGA
       1401  AACCGGACAC GGCCTGCACC ACCTGCTTAC CCAAGTCGAC GAACTGGGCG
       1451  TATCCGGCAT CAACGGCGTA GAATGGGACG CAGTCGAACT GCCCAGTCAG
       1501  TTTATGGAAA ATTTCGTTTG GGAATACAAT GTCTTGGCGC AAATGTCCGC
```

```
      1551  CCACGAAGAA ACCGGCGTTC CCCTGCCGAA AGAACTCTTC GACAAAATGC
      1601  TCGCCGCCAA AAACTTCCAA CGCGGAATGT TCCTCGTCCG CCAAATGGAG
      1651  TTCGCCCTCT TTGATATGAT GATTTACAGC GAAGACGACG AAGGCCGTCT
      1701  GAAAAACTGG CAACAGGTTT TAGACAGCGT GCGCAAAGAA GTCGCCGTCG
      1751  TCCGACCGCC CGAATACAAC CGCTTCGCCA ACAGCTTCGG CCACATCTTC
      1801  GCAGGCGGCT ATTCCGCAGG CTATTACAGC TACGCGTGGG CGGAAGTATT
      1851  GAGCGCGGAC GCATACGCCG CCTTTGAAGA AAGCGACGAT GTCGCCGCCA
      1901  CAGGCAAACG CTTTTGGCAG GAAATCCTCG CCGTCGGCGG ATCGCGCAGC
      1951  GCGGCAGAAT CCTTCAAAGC CTTCCGCGGA CGCGAACCGA GCATAGACGC
      2001  ACTCTTGCGC CACAGCGGCT CGACAACGC GGCTTGA
```

This corresponds to the amino acid sequence <SEQ ID 1015; ORF 128.a>:

```
a128.pep
        1  MTDNALLHLG EEPRFDQIKT EDIKPALQTA IAEAREQIAA IKAQTHTGWA
       51  NTVEPLTGIT ERVGRIWGVV SHLNSVTDTP ELRAAYNELM PEITVFFTEI
      101  GQDIELYNRF KTIKNSPEFD TLSHAQKTKL NHDLRDFVLS GAELPPEQQA
      151  ELAKLQTEGA QLSAKFSQNV LDATDAFGIY FDDAAPLAGI PEDALAMFAA
      201  AAQSEGKTGY KIGLQIPHYL AVIQYADNRK LREQIYRAYV TRASELSDDG
      251  KFDNTANIDR TLENALQTAK LLGFKNYAEL SLATKMADTP EQVLNFLHDL
      301  ARRAKPYAEK DLAEVKAFAR ESLGLADLQP WDLGYAGEKL REAKYAFSET
      351  EVKKYFPVGK VLNGLFAQIK KLYGIGFTEK TVPVWHKDVR YFELQQNGET
      401  IGGVYMDLYA REGKRGGAWM NDYKGRRRFS DGTLQLPTAY LVCNFTPPVG
      451  GKEARLSHDE ILTLFHETGH GLHHLLTQVD ELGVSGINGV EWDAVELPSQ
      501  FMENFVWEYN VLAQMSAHEE TGVPLPKELF DKMLAAKNFQ RGMFLVRQME
      551  FALFDMMIYS EDDEGRLKNW QQVLDSVRKE VAVVRPPEYN RFANSFGHIF
      601  AGGYSAGYYS YAWAEVLSAD AYAAFEESDD VAATGKRFWQ EILAVGGSRS
      651  AAESFKAFRG REPSIDALLR HSGFDNAA*
```

m128/a128   ORFs 128 and 128.a showed a 66.0% identity in 677 aa overlap

```
                   10        20        30        40        50        60
m128.pep   MTDNALLHLGEEPRFDQIKTEDIKPALQTAIAEAREQIAAIKAQTHTGWANTVEPLTGIT
           |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
a128       MTDNALLHLGEEPRFDQIKTEDIKPALQTAIAEAREQIAAIKAQTHTGWANTVEPLTGIT
                   10        20        30        40        50        60


                   70        80        90       100       110       120
m128.pep   ERVGRIWGVVSHLNCVADTPELRAVYNELMPEITVFFTEIGQDIELYNRFKTIKNSPEFD
           |||||||||||||| |:||||||:||||||||||||||||||||||||||||||||||||
a128       ERVGRIWGVVSHLNSVTDTPELRAAYNELMPEITVFFTEIGQDIELYNRFKTIKNSPEFD
                   70        80        90       100       110       120


                  130
m128.pep   TLSPAQKTKLNH---------------------------------------------
           ||| ||||||||
a128       TLSHAQKTKLNHDLRDFVLSGAELPPEQQAELAKLQTEGAQLSAKFSQNVLDATDAFGIY
                  130       140       150       160       170       180


m128.pep   ---------------------------------------------------------
a128       FDDAAPLAGIPEDALAMFAAAAQSEGKTGYKIGLQIPHYLAVIQYADNRKLREQIYRAYV
                  190       200       210       220       230       240


m128.pep   ---------------------------------------------------------
a128       TRASELSDDGKFDNTANIDRTLENALQTAKLLGFKNYAELSLATKMADTPEQVLNFLHDL
                  250       260       270       280       290       300


                                                    140       150
m128.pep   --------------------------------YASEKLREAKYAFSETXVKKYFPVGX
                                           ||:||||||||||||| |||||||
```

```
a128      ARRAKPYAEKDLAEVKAFARESLGLADLQPWDLGYAGEKLREAKYAFSETEVKKYFPVGK
             310       320       330       340       350       360

          160       170       180       190       200       210
m128.pep  VLNGLFAQXKKLYGIGFTEKTVPVWHKDVRYXELQQNGEXIGGVYMDLYAREGKRGGAWM
          |||||||| ||||||||||||||||||||| ||||||||:||||||||||||||||||||
a128      VLNGLFAQIKKLYGIGFTEKTVPVWHKDVRYFELQQNGETIGGVYMDLYAREGKRGGAWM
             370       380       390       400       410       420

          220       230       240       250       260       270
m128.pep  NDYKGRRRFSDGTLQLPTAYLVCNFAPPVGGREARLSHDEILILFHETGHGLHHLLTQVD
          ||||||||||||||||||||||||||:|||||:|||||||||| ||||||||||||||||
a128      NDYKGRRRFSDGTLQLPTAYLVCNFTPPVGGKEARLSHDEILTLFHETGHGLHHLLTQVD
             430       440       450       460       470       480

          280       290       300       310       320       330
m128.pep  ELGVSGINGVXWDAVELPSQFMENFVWEYNVLAQXSAHEETGVPLPKELXDKXLAAKNFQ
          |||||||||| |||||||||||||||||||||| |||||||||||||| || |||||||
a128      ELGVSGINGVEWDAVELPSQFMENFVWEYNVLAQMSAHEETGVPLPKELFDKMLAAKNFQ
             490       500       510       520       530       540

          340       350       360       370       380       390
m128.pep  XGMFXVRQXEFALFDMMIYSEDDEGRLKNWQQVLDSVRKKVAVIQPPEYNRFALSFGHIF
          ||| ||| ||||||||||||||||||||||||||||||:||::|||||||| ||||||
a128      RGMFLVRQMEFALFDMMIYSEDDEGRLKNWQQVLDSVRKEVAVVRPPEYNRFANSFGHIF
             550       560       570       580       590       600

          400       410       420       430       440       450
m128.pep  AGGYSAAXYSYAWAEVLSADAYAAFEESDDVAATGKRFWQEILAVGXSRSGAESFKAFRG
          ||||||: |||||||||||||||||||||||||||||||||||||| |||:|||||||||
a128      AGGYSAGYYSYAWAEVLSADAYAAFEESDDVAATGKRFWQEILAVGGSRSAAESFKAFRG
             610       620       630       640       650       660

          460       470
m128.pep  REPSIDALLRHSGFDNAVX
          |||||||||||||||||||:
a128      REPSIDALLRHSGFDNAAX
                    670
```

Further work revealed the DNA sequence identified in *N. meningitidis* <SEQ ID 1016>:

```
m128-1.seq
     1  ATGACTGACA ACGCACTGCT CCATTTGGGC GAAGAACCCC GTTTTGATCA
    51  AATCAAAACC GAAGACATCA AACCCGCCCT GCAAACCGCC ATCGCCGAAG
   101  CGCGCGAACA AATCGCCGCC ATCAAAGCCC AAACGCACAC CGGCTGGGCA
   151  AACACTGTCG AACCCCTGAC CGGCATCACC GAACGCGTCG GCAGGATTTG
   201  GGGCGTGGTG TCGCACCTCA ACTCCGTCGC CGACACGCCC GAACTGCGCG
   251  CCGTCTATAA CGAACTGATG CCCGAAATCA CCGTCTTCTT CACCGAAATC
   301  GGACAAGACA TCGAGCTGTA CAACCGCTTC AAAACCATCA AAAATTCCCC
   351  CGAATTCGAC ACCCTCTCCC CCGCACAAAA AACCAAACTC AACCACGATC
   401  TGCGCGATTT CGTCCTCAGC GGCGCGGAAC TGCCGCCCGA ACAGCAGGCA
   451  GAACTGGCAA AACTGCAAAC CGAAGGCGCG CAACTTTCCG CCAAATTCTC
   501  CCAAAACGTC CTAGACGCGA CCGACGCGTT CGGCATTTAC TTTGACGATG
   551  CCGCACCGCT TGCCGGCATT CCCGAAGACG CGCTCGCCAT GTTTGCCGCC
   601  GCCGCGCAAA GCGAAAGCAA AACAGGCTAC AAAATCGGCT TGCAGATTCC
   651  ACACTACCTC GCCGTCATCC AATACGCCGA CAACCGCGAA CTGCGCGAAC
   701  AAATCTACCG CGCCTACGTT ACCCGCGCCA GCGAACTTTC AGACGACGGC
   751  AAATTCGACA ACACCGCCAA CATCGACCGC ACGCTCGCAA ACGCCCTGCA
   801  AACCGCCAAA CTGCTCGGCT TCAAAAACTA CGCCGAATTG TCGCTGGCAA
   851  CCAAAATGGC GGACACGCCC GAACAAGTTT TAAACTTCCT GCACGACCTC
```

```
  901  GCCCGCCGCG CCAAACCCTA CGCCGAAAAA GACCTCGCCG AAGTCAAAGC
  951  CTTCGCCCGC GAAAGCCTGA ACCTCGCCGA TTTGCAACCG TGGGACTTGG
 1001  GCTACGCCAG CGAAAAACTG CGCGAAGCCA AATACGCGTT CAGCGAAACC
 1051  GAAGTCAAAA AATACTTCCC CGTCGGCAAA GTATTAAACG GACTGTTCGC
 1101  CCAAATCAAA AAACTCTACG GCATCGGATT TACCGAAAAA ACCGTCCCCG
 1151  TCTGGCACAA AGACGTGCGC TATTTTGAAT TGCAACAAAA CGGCGAAACC
 1201  ATAGGCGGCG TTTATATGGA TTTGTACGCA CGCGAAGGCA AACGCGGCGG
 1251  CGCGTGGATG AACGACTACA AAGGCCGCCG CCGTTTTTCA GACGGCACGC
 1301  TGCAACTGCC CACCGCCTAC CTCGTCTGCA ACTTCGCCCC ACCCGTCGGC
 1351  GGCAGGGAAG CCCGCCTGAG CCACGACGAA ATCCTCATCC TCTTCCACGA
 1401  AACCGGACAC GGGCTGCACC ACCTGCTTAC CCAAGTGGAC GAACTGGGCG
 1451  TATCCGGCAT CAACGGCGTA GAATGGGACG CGGTCGAACT GCCCAGCCAG
 1501  TTTATGGAAA ATTTCGTTTG GGAATACAAT GTCTTGGCAC AAATGTCAGC
 1551  CCACGAAGAA ACCGGCGTTC CCCTGCCGAA AGAACTCTTC GACAAAATGC
 1601  TCGCCGCCAA AAACTTCCAA CGCGGCATGT TCCTCGTCCG GCAAATGGAG
 1651  TTCGCCCTCT TTGATATGAT GATTTACAGC GAAGACGACG AAGGCCGTCT
 1701  GAAAAACTGG CAACAGGTTT TAGACAGCGT GCGCAAAAAA GTCGCCGTCA
 1751  TCCAGCCGCC CGAATACAAC CGCTTCGCCT TGAGCTTCGG CCACATCTTC
 1801  GCAGGCGGCT ATTCCGCAGG CTATTACAGC TACGCGTGGG CGGAAGTATT
 1851  GAGCGCGGAC GCATACGCCG CCTTTGAAGA AAGCGACGAT GTCGCCGCCA
 1901  CAGGCAAACG CTTTTGGCAG GAAATCCTCG CCGTCGGCGG ATCGCGCAGC
 1951  GCGGCAGAAT CCTTCAAAGC CTTCCGCGGC CGCGAACCGA GCATAGACGC
 2001  ACTCTTGCGC CACAGCGGTT TCGACAACGC GGTCTGA
```

This corresponds to the amino acid sequence <SEQ ID 1017; ORF 128-1>:

```
m128-1.pep.
    1  MTDNALLHLG EEPRFDQIKT EDIKPALQTA IAEAREQIAA IKAQTHTGWA
   51  NTVEPLTGIT ERVGRIWGVV SHLNSVADTP ELRAVYNELM PEITVFFTEI
  101  GQDIELYNRF KTIKNSPEFD TLSPAQKTKL NHDLRDFVLS GAELPPEQQA
  151  ELAKLQTEGA QLSAKFSQNV LDATDAFGIY FDDAAPLAGI PEDALAMFAA
  201  AAQSESKTGY KIGLQIPHYL AVIQYADNRE LREQIYRAYV TRASELSDDG
  251  KFDNTANIDR TLANALQTAK LLGFKNYAEL SLATKMADTP EQVLNFLHDL
  301  ARRAKPYAEK DLAEVKAFAR ESLNLADLQP WDLGYASEKL REAKYAFSET
  351  EVKKYFPVGK VLNGLFAQIK KLYGIGFTEK TVPVWHKDVR YFELQQNGET
  401  IGGVYMDLYA REGKRGGAWM NDYKGRRRFS DGTLQLPTAY LVCNFAPPVG
  451  GREARLSHDE ILILFHETGH GLHHLLTQVD ELGVSGINGV EWDAVELPSQ
  501  FMENFVWEYN VLAQMSAHEE TGVPLPKELF DKMLAAKNFQ RGMFLVRQME
  551  FALFDMMIYS EDDEGRLKNW QQVLDSVRKK VAVIQPPEYN RFALSFGHIF
  601  AGGYSAGYYS YAWAEVLSAD AYAAFEESDD VAATGKRFWQ EILAVGGSRS
  651  AAESFKAFRG REPSIDALLR HSGFDNAV*
```

The following partial DNA sequence was identified in *N. gonorrhoeae* <SEQ ID 1018>:

```
g128-1.seq  (partial)
    1  ATGATTGACA ACGCACTGCT CCACTTGGGC GAAGAACCCC GTTTTAATCA
   51  AATCAAAACC GAAGACATCA AACCCGCCGT CCAAACCGCC ATCGCCGAAG
  101  CGCGCGGACA AATCGCCGCG GTCAAAGCGC AAACGCACAC CGGCTGGGCG
  151  AACACCGTCG AGCGTCTGAC CGGCATCACC GAACGCGTCG GCAGGATTTG
  201  GGGCGTCGTG TCCCATCTCA ACTCCGTCGT CGACACGCCC GAACTGCGCG
  251  CCGTCTATAA CGAACTGATG CCTGAAATCA CCGTCTTCTT CACCGAAATC
  301  GGACAAGACA TCGAACTGTA CAACCGCTTC AAAACCATCA AAAATTCCCC
  351  CGAATTTGCA ACGCTTTCCC CCGCACAAAA AACCAAGCTC GATCACGACC
  401  TGCGCGATTT CGTATTGAGC GGCGCGGAAC TGCCGCCCGA ACGGCAGGCA
  451  GAACTGGCAA AACTGCAAAC CGAAGGCGCG CAACTTTCCG CCAAATTCTC
  501  CCAAAACGTC CTAGACGCGA CCGACGCGTT CGGCATTTAC TTTGACGATG
  551  CCGCACCGCT TGCCGGCATT CCCGAAGACG CGCTCGCCAT GTTTGCCGCC
  601  GCCGCGCAAA GCGAAGGCAA AACAGGTTAC AAAATCGGCT TGCAGATTCC
  651  GCACTACCTT GCCGTTATCC AATACGCCGG CAACCGCGAA CTGCGCGAAC
  701  AAATCTACCG CGCCTACGTT ACCCGTGCCA GCGAACTTTC AAACGACGGC
  751  AAATTCGACA ACACCGCCAA CATCGACCGC ACGCTCGAAA ACGCATTGAA
  801  AACCGCCAAA CTGCTCGGCT TTAAAAATTA CGCCGAATTG TCGCTGGCAA
  851  CCAAAATGGC GGACACGCCC GAACAGGTTT TAAACTTCCT GCACGACCTC
  901  GCCCGCCGCG CCAAACCCTA CGCCGAAAAA GACCTCGCCG AAGTCAAAGC
```

```
 951   CTTCGCCCGC GAACACCTCG GTCTCGCCGA CCCGCAGCCG TGGGACTTGA
1001   GCTACGCCGG CGAAAAACTG CGCGAAGCCA AATACGCATT CAGCGAAACC
1051   GAAGTCAAAA AATACTTCCC CGTCGGCAAA GTTCTGGCAG GCCTGTTCGC
1101   CCAAATCAAA AAACTCTACG GCATCGGATT CGCCGAAAAA ACCGTTCCCG
1151   TCTGGCACAA AGACGTGCGC TATTTTGAAT TGCAACAAAA CGGCAAAACC
1201   ATCGGCGGCG TTTATATGGA TTTGTACGCA CGCGAAGGCA AACGCGGCGG
1251   CGCGTGGATG AACGACTACA AAGGCCGCCG CCGCTTTGCC GACGGCACGC
1301   TGCAACTGCC CACCGCCTAC CTCGTCTGCA ACTTCGCCCC GCCCGTCGGC
1351   GGCAAAGAAG CGCGTTTAAG CCACGACGAA ATCCTCACCC TCTTCCACGA
1401   AACCGGCCAC GGACTGCACC ACCTGCTTAC CCAAGTGGAC GAACTGGGCG
1451   TGTCCGGCAT CAACGGCGTA AAA
```

This corresponds to the amino acid sequence <SEQ ID 1019; ORF 128-1.ng>:

```
g128-1.pep  (partial)
  1   MIDNALLHLG EEPRFNQIKT EDIKPAVQTA IAEARGQIAA VKAQTHTGWA
 51   NTVERLTGIT ERVGRIWGVV SHLNSVVDTP ELRAVYNELM PEITVFFTEI
101   GQDIELYNRF KTIKNSPEFA TLSPAQKTKL DHDLRDFVLS GAELPPERQA
151   ELAKLQTEGA QLSAKFSQNV LDATDAFGIY FDDAAPLAGI PEDALAMFAA
201   AAQSEGKTGY KIGLQIPHYL AVIQYAGNRE LREQIYRAYV TRASELSNDG
251   KFDNTANIDR TLENALKTAK LLGFKNYAEL SLATKMADTP EQVLNFLHDL
301   ARRAKPYAEK DLAEVKAFAR EHLGLADPQP WDLSYAGEKL REAKYAFSET
351   EVKKYFPVGK VLAGLFAQIK KLYGIGFAEK TVPVWHKDVR YFELQQNGKT
401   IGGVYMDLYA REGKRGGAWM NDYKGRRRFA DGTLQLPTAY LVCNFAPPVG
451   GKEARLSHDE ILTLFHETGH GLHHLLTQVD ELGVSGINGV K
```

m128-1/g128-1   ORFs 128-1 and 128-1.ng showed a 94.5% identity in 491 aa overlap

```
                    10        20        30        40        50        60
g128-1.pep  MIDNALLHLGEEPRFNQIKTEDIKPAVQTAIAEARGQIAAVKAQTHTGWANTVERLTGIT
            | |||||||||||||:|||||||||||:|||||||| ||||:||||||||||||| |||||
m128-1      MTDNALLHLGEEPRFDQIKTEDIKPALQTAIAEAREQIAAIKAQTHTGWANTVEPLTGIT
                    10        20        30        40        50        60

                    70        80        90       100       110       120
g128-1.pep  ERVGRIWGVVSHLNSVVDTPELRAVYNELMPEITVFFTEIGQDIELYNRFKTIKNSPEFA
            ||||||||||||||||:||||||||||||||||||||||||||||||||||||||||||||
m128-1      ERVGRIWGVVSHLNSVADTPELRAVYNELMPEITVFFTEIGQDIELYNRFKTIKNSPEFD
                    70        80        90       100       110       120

                   130       140       150       160       170       180
g128-1.pep  TLSPAQKTKLDHDLRDFVLSGAELPPERQAELAKLQTEGAQLSAKFSQNVLDATDAFGIY
            ||||||||||:||||||||||||||||:|||||||||||||||||||||||||||||||||
m128-1      TLSPAQKTKLNHDLRDFVLSGAELPPEQQAELAKLQTEGAQLSAKFSQNVLDATDAFGIY
                   130       140       150       160       170       180

                   190       200       210       220       230       240
g128-1.pep  FDDAAPLAGIPEDALAMFAAAAQSEGKTGYKIGLQIPHYLAVIQYAGNRELREQIYRAYV
            ||||||||||||||||||||||||:|||||||||||||||||||||||| ||||||||||||
m128-1      FDDAAPLAGIPEDALAMFAAAAQSESKTGYKIGLQIPHYLAVIQYADNRELREQIYRAYV
                   190       200       210       220       230       240

                   250       260       270       280       290       300
g128-1.pep  TRASELSNDGKFDNTANIDRTLENALKTAKLLGFKNYAELSLATKMADTPEQVLNFLHDL
            |||||||:||||||||||||||   |||:||||||||||||||||||||||||||||||||
m128-1      TRASELSDDGKFDNTANIDRTLANALQTAKLLGFKNYAELSLATKMADTPEQVLNFLHDL
                   250       260       270       280       290       300

                   310       320       330       340       350       360
g128-1.pep  ARRAKPYAEKDLAEVKAFAREHLGLADPQPWDLSYAGEKLREAKYAFSETEVKKYFPVGK
            |||||||||||||||||||||| |:||| |||||:||:|||||||||||||||||||||||
```

- 99 -

```
m128-1      ARRAKPYAEKDLAEVKAFARESLNLADLQPWDLGYASEKLREAKYAFSETEVKKYFPVGK
               310       320       330       340       350       360


               370       380       390       400       410       420
g128-1.pep  VLAGLFAQIKKLYGIGFAEKTVPVWHKDVRYFELQQNGKTIGGVYMDLYAREGKRGGAWM
            ||  |||||||||||||||:|||||||||||||||||||||:||||||||||||||||||
m128-1      VLNGLFAQIKKLYGIGFTEKTVPVWHKDVRYFELQQNGETIGGVYMDLYAREGKRGGAWM
               370       380       390       400       410       420


               430       440       450       460       470       480
g128-1.pep  NDYKGRRRFADGTLQLPTAYLVCNFAPPVGGKEARLSHDEILTLFHETGHGLHHLLTQVD
            ||||||||:|||||||||||||||||||||:||||||||||| ||||||||||||||||||
m128-1      NDYKGRRRFSDGTLQLPTAYLVCNFAPPVGGREARLSHDEILILFHETGHGLHHLLTQVD
               430       440       450       460       470       480


               490
g128-1.pep  ELGVSGINGVK
            |||||||||||:
m128-1      ELGVSGINGVEWDAVELPSQFMENFVWEYNVLAQMSAHEETGVPLPKELFDKMLAAKNFQ
               490       500       510       520       530       540
```

The following DNA sequence was identified in *N. meningitidis* <SEQ ID 1020>:

```
a128-1.seq
   1  ATGACTGACA ACGCACTGCT CCATTTGGGC GAAGAACCCC GTTTTGATCA
  51  AATCAAAACC GAAGACATCA AACCCGCCCT GCAAACCGCC ATTGCCGAAG
 101  CGCGCGAACA AATCGCCGCC ATCAAAGCCC AAACGCACAC CGGCTGGGCA
 151  AACACTGTCG AACCCCTGAC CGGCATCACC GAACGCGTCG GCAGGATTTG
 201  GGGCGTGGTG TCGCACCTCA ACTCCGTCAC CGACACGCCC GAACTGCGCG
 251  CCGCCTACAA TGAATTAATG CCCGAAATTA CCGTCTTCTT CACCGAAATC
 301  GGACAAGACA TCGAGCTGTA CAACCGCTTC AAAACCATCA AAAACTCCCC
 351  CGAGTTCGAC ACCCTCTCCC ACGCGCAAAA AACCAAACTC AACCACGATC
 401  TGCGCGATTT CGTCCTCAGC GGCGCGGAAC TGCCGCCCGA ACAGCAGGCA
 451  GAATTGGCAA AACTGCAAAC CGAAGGCGCG CAACTTTCCG CCAAATTCTC
 501  CCAAAACGTC CTAGACGCGA CCGACGCGTT CGGCATTTAC TTTGACGATG
 551  CCGCACCGCT TGCCGGCATT CCCGAAGACG CGCTCGCCAT GTTTGCCGCT
 601  GCCGCGCAAA GCGAAGGCAA AACAGGCTAC AAAATCGGTT TGCAGATTCC
 651  GCACTACCTC GCCGTCATCC AATACGCCGA CAACCGCAAA CTGCGCGAAC
 701  AAATCTACCG CGCCTACGTT ACCCGCGCCA GCGAGCTTTC AGACGACGGC
 751  AAATTCGACA CACCGCCAAA CATCGACCGC ACGCTCGAAA ACGCCCTGCA
 801  AACCGCCAAA CTGCTCGGCT TCAAAAACTA CGCCGAATTG TCGCTGGCAA
 851  CCAAAATGGC GGACACCCCC GAACAAGTTT TAAACTTCCT GCACGACCTC
 901  GCCCGCCGCG CCAAACCCTA CGCCGAAAAA GACCTCGCCG AAGTCAAAGC
 951  CTTCGCCCGC GAAAGCCTCG GCCTCGCCGA TTTGCAACCG TGGGACTTGG
1001  GCTACGCCGG CGAAAAACTG CGCGAAGCCA AATACGCATT CAGCGAAACC
1051  GAAGTCAAAA AATACTTCCC CGTCGGCAAA GTATTAAACG GACTGTTCGC
1101  CCAAATCAAA AAACTCTACG GCATCGGATT TACCGAAAAA ACCGTCCCCG
1151  TCTGGCACAA AGACGTGCGC TATTTTGAAT TGCAACAAAA CGGCGAAACC
1201  ATAGGCGGCG TTTATATGGA TTTGTACGCA CGCGAAGGCA AACGCGGCGG
1251  CGCGTGGATG AACGACTACA AAGGCCGCCG CCGTTTTTCA GACGGCACGC
1301  TGCAACTGCC CACCGCCTAC CTCGTCTGCA ACTTCACCCC GCCCGTCGGC
1351  GGCAAAGAAG CCCGCTTGAG CCATGACGAA ATCCTCACCC TCTTCCACGA
1401  AACCGGACAC GGCCTGCACC ACCTGCTTAC CCAAGTCGAC GAACTGGGCG
1451  TATCCGGCAT CAACGGCGTA GAATGGGACG CAGTCGAACT GCCCAGTCAG
1501  TTTATGGAAA ATTTCGTTTG GGAATACAAT GTCTTGGCGC AAATGTCCGC
1551  CCACGAAGAA ACCGGCGTTC CCCTGCCGAA AGAACTCTTC GACAAAATGC
1601  TCGCCGCCAA AAACTTCCAA CGCGGAATGT TCCTCGTCCG CCAAATGGAG
1651  TTCGCCCTCT TTGATATGAT GATTTACAGC GAAGACGACG AAGGCCGTCT
1701  GAAAAACTGG CAACAGGTTT TAGACAGCGT GCGCAAAGAA GTCGCCGTCG
1751  TCCGACCGCC CGAATACAAC CGCTTCGCCA ACAGCTTCGG CCACATCTTC
1801  GCAGGCGGCT ATTCCGCAGG CTATTACAGC TACGCGTGGG CGGAAGTATT
1851  GAGCGCGGAC GCATACGCCG CCTTTGAAGA AAGCGACGAT GTCGCCGCCA
1901  CAGGCAAACG CTTTTGGCAG GAAATCCTCG CCGTCGGCGG ATCGCGCAGC
```

```
1951  GCGGCAGAAT CCTTCAAAGC CTTCCGCGGA CGCGAACCGA GCATAGACGC
2001  ACTCTTGCGC CACAGCGGCT TCGACAACGC GGCTTGA
```

This corresponds to the amino acid sequence <SEQ ID 1021; ORF 128-1.a>:

```
a128-1.pep
   1  MTDNALLHLG EEPRFDQIKT EDIKPALQTA IAEAREQIAA IKAQTHTGWA
  51  NTVEPLTGIT ERVGRIWGVV SHLNSVTDTP ELRAAYNELM PEITVFFTEI
 101  GQDIELYNRF KTIKNSPEFD TLSHAQKTKL NHDLRDFVLS GAELPPEQQA
 151  ELAKLQTEGA QLSAKFSQNV LDATDAFGIY FDDAAPLAGI PEDALAMFAA
 201  AAQSEGKTGY KIGLQIPHYL AVIQYADNRK LREQIYRAYV TRASELSDDG
 251  KFDNTANIDR TLENALQTAK LLGFKNYAEL SLATKMADTP EQVLNFLHDL
 301  ARRAKPYAEK DLAEVKAFAR ESLGLADLQP WDLGYAGEKL REAKYAFSET
 351  EVKKYFPVGK VLNGLFAQIK KLYGIGFTEK TVPVWHKDVR YFELQQNGET
 401  IGGVYMDLYA REGKRGGAWM NDYKGRRRFS DGTLQLPTAY LVCNFTPPVG
 451  GKEARLSHDE ILTLFHETGH GLHHLLTQVD ELGVSGINGV EWDAVELPSQ
 501  FMENFVWEYN VLAQMSAHEE TGVPLPKELF DKMLAAKNFQ RGMFLVRQME
 551  FALFDMMIYS EDDEGRLKNW QQVLDSVRKE VAVVRPPEYN RFANSFGHIF
 601  AGGYSAGYYS YAWAEVLSAD AYAAFEESDD VAATGKRFWQ EILAVGGSRS
 651  AAESFKAFRG REPSIDALLR HSGFDNAA*
```

m128-1/a128-1 ORFs 128-1 and 128-1.a showed a 97.8% identity in 677 aa overlap

```
                   10         20         30         40         50         60
a128-1.pep  MTDNALLHLGEEPRFDQIKTEDIKPALQTAIAEAREQIAAIKAQTHTGWANTVEPLTGIT
            IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
m128-1      MTDNALLHLGEEPRFDQIKTEDIKPALQTAIAEAREQIAAIKAQTHTGWANTVEPLTGIT
                   10         20         30         40         50         60


                   70         80         90        100        110        120
a128-1.pep  ERVGRIWGVVSHLNSVTDTPELRAAYNELMPEITVFFTEIGQDIELYNRFKTIKNSPEFD
            IIIIIIIIIIIIIIIIII:IIIIIIII:IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
m128-1      ERVGRIWGVVSHLNSVADTPELRAVYNELMPEITVFFTEIGQDIELYNRFKTIKNSPEFD
                   70         80         90        100        110        120


                  130        140        150        160        170        180
a128-1.pep  TLSHAQKTKLNHDLRDFVLSGAELPPEQQAELAKLQTEGAQLSAKFSQNVLDATDAFGIY
            III IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
m128-1      TLSPAQKTKLNHDLRDFVLSGAELPPEQQAELAKLQTEGAQLSAKFSQNVLDATDAFGIY
                  130        140        150        160        170        180


                  190        200        210        220        230        240
a128-1.pep  FDDAAPLAGIPEDALAMFAAAAQSEGKTGYKIGLQIPHYLAVIQYADNRKLREQIYRAYV
            IIIIIIIIIIIIIIIIIIIIIIIIIIII:IIIIIIIIIIIIIIIIIIIIIII:IIIIIIIII
m128-1      FDDAAPLAGIPEDALAMFAAAAQSESKTGYKIGLQIPHYLAVIQYADNRELREQIYRAYV
                  190        200        210        220        230        240


                  250        260        270        280        290        300
a128-1.pep  TRASELSDDGKFDNTANIDRTLENALQTAKLLGFKNYAELSLATKMADTPEQVLNFLHDL
            IIIIIIIIIIIIIIIIIIIIIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
m128-1      TRASELSDDGKFDNTANIDRTLANALQTAKLLGFKNYAELSLATKMADTPEQVLNFLHDL
                  250        260        270        280        290        300


                  310        320        330        340        350        360
a128-1.pep  ARRAKPYAEKDLAEVKAFARESLGLADLQPWDLGYAGEKLREAKYAFSETEVKKYFPVGK
            IIIIIIIIIIIIIIIIIIIIIIIIII:IIIIIIIIIIII:IIIIIIIIIIIIIIIIIIII
m128-1      ARRAKPYAEKDLAEVKAFARESLNLADLQPWDLGYASEKLREAKYAFSETEVKKYFPVGK
                  310        320        330        340        350        360


                  370        380        390        400        410        420
a128-1.pep  VLNGLFAQIKKLYGIGFTEKTVPVWHKDVRYFELQQNGETIGGVYMDLYAREGKRGGAWM
            IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
m128-1      VLNGLFAQIKKLYGIGFTEKTVPVWHKDVRYFELQQNGETIGGVYMDLYAREGKRGGAWM
```

```
                        370        380        390        400        410        420

                        430        440        450        460        470        480
       a128-1.pep  NDYKGRRRFSDGTLQLPTAYLVCNFTPPVGGKEARLSHDEILTLFHETGHGLHHLLTQVD
 5                 ||||||||||||||||||||||||||:|||||:||||||||||| ||||||||||||||||
       m128-1      NDYKGRRRFSDGTLQLPTAYLVCNFAPPVGGREARLSHDEILILFHETGHGLHHLLTQVD
                        430        440        450       ·460        470        480


                        490        500        510        520        530        540
10     a128-1.pep  ELGVSGINGVEWDAVELPSQFMENFVWEYNVLAQMSAHEETGVPLPKELFDKMLAAKNFQ
                   ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
       m128-1      ELGVSGINGVEWDAVELPSQFMENFVWEYNVLAQMSAHEETGVPLPKELFDKMLAAKNFQ
                        490        500        510        520        530        540


                        550        560        570        580        590        600
15     a128-1.pep  RGMFLVRQMEFALFDMMIYSEDDEGRLKNWQQVLDSVRKEVAVVRPPEYNRFANSFGHIF
                   |||||||||||||||||||||||||||||||||||||:|||::|||||||| ||||||
       m128-1      RGMFLVRQMEFALFDMMIYSEDDEGRLKNWQQVLDSVRKKVAVIQPPEYNRFALSFGHIF
                        550        560        570        580        590        600

20
                        610        620        630        640        650        660
       a128-1.pep  AGGYSAGYYSYAWAEVLSADAYAAFEESDDVAATGKRFWQEILAVGGSRSAAESFKAFRG
                   ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
       m128-1      AGGYSAGYYSYAWAEVLSADAYAAFEESDDVAATGKRFWQEILAVGGSRSAAESFKAFRG
25                      610        620        630        640        650        660


                        670        679
       a128-1.pep  REPSIDALLRHSGFDNAAX
                   |||||||||||||||||:
30     m128-1      REPSIDALLRHSGFDNAVX
                        670
```

206

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1022>:

```
       m206.seq
              1  ATGTTTCCCC CCGACAAAAC CCTTTTCCTC TGTCTCAGCG CACTGCTCCT
             51  CGCCTCATGC GGCACGACCT CCGGCAAACA CCGCCAACCG AAACCCAAAC
            101  AGACAGTCCG GCAAATCCAA GCCGTCCGCA TCAGCCACAT CGACCGCACA
            151  CAAGGCTCGC AGGAACTCAT GCTCCACAGC CTCGGACTCA TCGGCACGCC
            201  CTACAAATGG GGCGGCAGCA GCACCGCAAC CGGCTTCGAT TGCAGCGGCA
            251  TGATTCAATT CGTTTACAAr AACGCCCTCA ACGTCAAGCT GCCGCGCACC
            301  GCCCGCGACA TGGCGGCGGC AAGCCGsAAA ATCCCCGAcA GCCGCyTCAA
            351  GGCCGGCGAC CTCGTATTCT TCAACACCGG CGGCGCACAC CGCTACTCAC
            401  ACGTCGGACT CTACATCGGC AACGGCGAAT TCATCCATGC CCCCAGCAGC
            451  GGCAAAACCA TCAAAACCGA AAAACTCTCC ACACCGTTTT ACGCCAAAAA
            501  CTACCTCGGC GCACATACTT TTTTTACAGA ATGA
```

This corresponds to the amino acid sequence <SEQ ID 1023; ORF 206>:

```
       m206.pep..
              1  MFPPDKTLFL CLSALLLASC GTTSGKHRQP KPKQTVRQIQ AVRISHIDRT
             51  QGSQELMLHS LGLIGTPYKW GGSSTATGFD CSGMIQFVYK NALNVKLPRT
            101  ARDMAAASRK IPDSRXKAGD LVFFNTGGAH RYSHVGLYIG NGEFIHAPSS
            151  GKTIKTEKLS TPFYAKNYLG AHTFFTE*
```

The following partial DNA sequence was identified in *N. gonorrhoeae* <SEQ ID 1024>:

```
       g206.seq
              1  atgttttccc ccgacaaaac cctttttcctc tgtctcggcg cactgctcct
```

- 102 -

```
 51   cgcctcatgc ggcacgacct ccggcaaaca ccgccaaccg aaacccaaac
101   agacagtccg gcaaatccaa gccgtccgca tcagccacat cggccgcaca
151   caaggctcgc aggaactcat gctccacagc ctcggactca tcggcacgcc
201   ctacaaatgg ggcggcagca gcaccgcaac cggcttcgac tgcagcggca
251   tgattcaatt ggtttacaaa aacgccctca acgtcaagct gccgcgcacc
301   gcccgcgaca tggcggcggc aagccgcaaa atccccgaca gccgcctcaa
351   ggccggcgac atcgtattct tcaacaccgg cggcgcacac cgctactcac
401   acgtcggact ctacatcggc aacggcgaat tcatccatgc ccccggcagc
451   ggcaaaacca tcaaaaccga aaaactctcc acaccgtttt acgccaaaaa
501   ctaccttgga gcgcatacgt tttttacaga atga
```

This corresponds to the amino acid sequence <SEQ ID 1025; ORF 206.ng>:

```
g206.pep
  1   MFSPDKTLFL CLGALLLASC GTTSGKHRQP KPKQTVRQIQ AVRISHIGRT
 51   QGSQELMLHS LGLIGTPYKW GGSSTATGFD CSGMIQLVYK NALNVKLPRT
101   ARDMAAASRK IPDSRLKAGD IVFFNTGGAH RYSHVGLYIG NGEFIHAPGS
151   GKTIKTEKLS TPFYAKNYLG AHTFFTE*
```

ORF 206 shows 96.0% identity over a 177 aa overlap with a predicted ORF (ORF 206.ng) from *N. gonorrhoeae*:

```
m206/g206
                    10         20        30        40        50        60
m206.pep   MFPPDKTLFLCLSALLLASCGTTSGKHRQPKPKQTVRQIQAVRISHIDRTQGSQELMLHS
           || |||||||||:||||||||||||||||||||||||||||||||| |||||||||||
g206       MFSPDKTLFLCLGALLLASCGTTSGKHRQPKPKQTVRQIQAVRISHIGRTQGSQELMLHS
                    10         20        30        40        50        60

                    70         80        90       100       110       120
m206.pep   LGLIGTPYKWGGSSTATGFDCSGMIQFVYKNALNVKLPRTARDMAAASRKIPDSRXKAGD
           ||||||||||||||||||||||||||:||||||||||||||||||||||||| ||||
g206       LGLIGTPYKWGGSSTATGFDCSGMIQLVYKNALNVKLPRTARDMAAASRKIPDSRLKAGD
                    70         80        90       100       110       120

                   130        140       150       160       170
m206.pep   LVFFNTGGAHRYSHVGLYIGNGEFIHAPSSGKTIKTEKLSTPFYAKNYLGAHTFFTEX
           :||||||||||||||||||||||||||||:|||||||||||||||||||||||||||
g206       IVFFNTGGAHRYSHVGLYIGNGEFIHAPGSGKTIKTEKLSTPFYAKNYLGAHTFFTE
                   130        140       150       160       170
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1026>:

```
a206.seq
  1   ATGTTTCCCC CCGACAAAAC CCTTTTCCTC TGTCTCAGCG CACTGCTCCT
 51   CGCCTCATGC GGCACGACCT CCGGCAAACA CCGCCAACCG AAACCCAAAC
101   AGACAGTCCG GCAAATCCAA GCCGTCCGCA TCAGCCACAT CGACCGCACA
151   CAAGGCTCGC AGGAACTCAT GCTCCACAGC CTCGGACTCA TCGGCACGCC
201   CTACAAATGG GGCGGCAGCA GCACCGCAAC CGGCTTCGAT TGCAGCGGCA
251   TGATTCAATT CGTTTACAAA AACGCCCTCA ACGTCAAGCT GCCGCGCACC
301   GCCCGCGACA TGGCGGCGGC AAGCCGCAAA ATCCCCGACA GCCGCCTTAA
351   GGCCGGCGAC CTCGTATTCT TCAACACCGG CGGCGCACAC CGCTACTCAC
401   ACGTCGGACT CTATATCGGC AACGGCGAAT TCATCCATGC CCCCAGCAGC
451   GGCAAAACCA TCAAAACCGA AAAACTCTCC ACACCGTTTT ACGCCAAAAA
501   CTACCTCGGC GCACATACTT TCTTTACAGA ATGA
```

This corresponds to the amino acid sequence <SEQ ID 1027; ORF 206.a>:

```
a206.pep
```

```
  1 MFPPDKTLFL CLSALLLASC GTTSGKHRQP KPKQTVRQIQ AVRISHIDRT
 51 QGSQELMLHS LGLIGTPYKW GGSSTATGFD CSGMIQFVYK NALNVKLPRT
101 ARDMAAASRK IPDSRLKAGD LVFFNTGGAH RYSHVGLYIG NGEFIHAPSS
151 GKTIKTEKLS TPFYAKNYLG AHTFFTE*
```

m206/a206   ORFs 206 and 206.a showed a 99.4% identity in 177 aa overlap

```
                  10        20        30        40        50        60
m206.pep    MFPPDKTLFLCLSALLLASCGTTSGKHRQPKPKQTVRQIQAVRISHIDRTQGSQELMLHS
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
a206        MFPPDKTLFLCLSALLLASCGTTSGKHRQPKPKQTVRQIQAVRISHIDRTQGSQELMLHS
                  10        20        30        40        50        60


                  70        80        90       100       110       120
m206.pep    LGLIGTPYKWGGSSTATGFDCSGMIQFVYKNALNVKLPRTARDMAAASRKIPDSRXKAGD
            |||||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||
a206        LGLIGTPYKWGGSSTATGFDCSGMIQFVYKNALNVKLPRTARDMAAASRKIPDSRLKAGD
                  70        80        90       100       110       120


                 130       140       150       160       170
m206.pep    LVFFNTGGAHRYSHVGLYIGNGEFIHAPSSGKTIKTEKLSTPFYAKNYLGAHTFFTEX
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
a206        LVFFNTGGAHRYSHVGLYIGNGEFIHAPSSGKTIKTEKLSTPFYAKNYLGAHTFFTEX
                 130       140       150       160       170
```

287

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1028>:

```
m287.seq
   1 ATGTTTAAAC GCAGCGTAAT CGCAATGGCT TGTATTTTTG CCCTTTCAGC
  51 CTGCGGGGGC GGCGGTGGCG GATCGCCCGA TGTCAAGTCG GCGGACACGC
 101 TGTCAAAACC TGCCGCCCCT GTTGTTTCTG AAAAAGAGAC AGAGGCAAAG
 151 GAAGATGCGC CACAGGCAGG TTCTCAAGGA CAGGGCGCGC CATCCGCACA
 201 AGGCAGTCAA GATATGGCGG CGGTTTCGGA AGAAAATACA GGCAATGGCG
 251 GTGCGGTAAC AGCGGATAAT CCCAAAAATG AAGACGAGGT GGCACAAAAT
 301 GATATGCCGC AAAATGCCGC CGGTACAGAT AGTTCGACAC CGAATCACAC
 351 CCCGGATCCG AATATGCTTG CCGGAAATAT GGAAAATCAA GCAACGGATG
 401 CCGGGGAATC GTCTCAGCCG GCAAACCAAC CGGATATGGC AAATGCGGCG
 451 GACGGAATGC AGGGGGACGA TCCGTCGGCA GGCGGGCAAA ATGCCGGCAA
 501 TACGGCTGCC CAAGGTGCAA ATCAAGCCGG AAACAATCAA GCCGCCGGTT
 551 CTTCAGATCC CATCCCCGCG TCAAACCCTG CACCTGCGAA TGGCGGTAGC
 601 AATTTTGGAA GGGTTGATTT GGCTAATGGC GTTTTGATTG ACGGGCCGTC
 651 GCAAAATATA ACGTTGACCC ACTGTAAAGG CGATTCTTGT AGTGGCAATA
 701 ATTTCTTGGA TGAAGAAGTA CAGCTAAAAT CAGAATTTGA AAAATTAAGT
 751 GATGCAGACA AAATAAGTAA TTACAAGAAA GATGGGAAGA ATGATAAATT
 801 TGTCGGTTTG GTTGCCGATA GTGTGCAGAT GAAGGGAATC AATCAATATA
 851 TTTATCTTTTA TAAACCTAAA CCCACTTCAT TTGCGCGATT TAGGCGTTCT
 901 GCACGGTCGA GGCGGTCGCT TCCGGCCGAA ATGCCGCTGA TTCCCGTCAA
 951 TCAGGCGGAT ACGCTGATTG TCGATGGGGA AGCGGTCAGC CTGACGGGGC
1001 ATTCCGGCAA TATCTTCGCG CCCGAAGGGA ATTACCGGTA TCTGACTTAC
1051 GGGGCGGAAA AATTGCCCGG CGGATCGTAT GCCCTTCGTG TTCAAGGCGA
1101 ACCGGCAAAA GGCGAAATGC TTGCGGGCGC GGCCGTGTAC AACGGCGAAG
1151 TACTGCATTT CCATACGGAA AACGGCCGTC CGTACCCGAC CAGGGGCAGG
1201 TTTGCCGCAA AAGTCGATTT CGGCAGCAAA TCTGTGGACG GCATTATCGA
1251 CAGCGGCGAT GATTTGCATA TGGGTACGCA AAAATTCAAA GCCGCCATCG
1301 ATGGAAACGG CTTTAAGGGG ACTTGGACGG AAAATGGCAG CGGGGATGTT
1351 TCCGGAAAGT TTTACGGCCC GGCCGGCGAG GAAGTGGCGG GAAAATACAG
1401 CTATCGCCCG ACAGATGCGG AAAAGGGCGG ATTCGGCGTG TTTGCCGGCA
```

- 104 -

```
      1451  AAAAAGAGCA GGATTGA
```

This corresponds to the amino acid sequence <SEQ ID 1029; ORF 287>:

```
      m287.pep
         1  MFKRSVIAMA CIFALSACGG GGGGSPDVKS ADTLSKPAAP VVSEKETEAK
        51  EDAPQAGSQG QGAPSAQGSQ DMAAVSEENT GNGGAVTADN PKNEDEVAQN
       101  DMPQNAAGTD SSTPNHTPDP NMLAGNMENQ ATDAGESSQP ANQPDMANAA
       151  DGMQGDDPSA GGQNAGNTAA QGANQAGNNQ AAGSSDPIPA SNPAPANGGS
       201  NFGRVDLANG VLIDGPSQNI TLTHCKGDSC SGNNFLDEEV QLKSEFEKLS
       251  DADKISNYKK DGKNDKFVGL VADSVQMKGI NQYIIFYKPK PTSFARFRRS
       301  ARSRRSLPAE MPLIPVNQAD TLIVDGEAVS LTGHSGNIFA PEGNYRYLTY
       351  GAEKLPGGSY ALRVQGEPAK GEMLAGAAVY NGEVLHFHTE NGRPYPTRGR
       401  FAAKVDFGSK SVDGIIDSGD DLHMGTQKFK AAIDGNGFKG TWTENGSGDV
       451  SGKFYGPAGE EVAGKYSYRP TDAEKGGFGV FAGKKEQD*
```

The following partial DNA sequence was identified in *N. gonorrhoeae* <SEQ ID 1030>:

```
      g287.seq
         1  atgtttaaac gcagtgtgat tgcaatggct tgtatttttc ccctttcagc
        51  ctgtgggggc ggcggtggcg gatcgcccga tgtcaagtcg gcggacacgc
       101  cgtcaaaacc ggccgccccc gttgttgctc aaaatgccgg ggaaggggtg
       151  ctgccgaaag aaaagaaaga tgaggaggca gcgggcggtg cgccgcaagc
       201  cgatacgcag gacgcaaccg ccggagaagg cagccaagat atggcggcag
       251  tttcggcaga aaatacaggc aatggcggtg cggcaacaac ggacaacccc
       301  aaaaatgaag acgcgggggc gcaaaatgat atgccgcaaa atgccgccga
       351  atccgcaaat caaacaggga acaaccaacc cgccggttct tcagattccg
       401  cccccgcgtc aaaccctgcc cctgcgaatg gcggtagcga ttttggaagg
       451  acgaacgtgg gcaattctgt tgtgattgac ggaccgtcgc aaaatataac
       501  gttgacccac tgtaaaggcg attcttgtaa tggtgataat ttattggatg
       551  aagaagcacc gtcaaaatca gaatttgaaa aattaagtga tgaagaaaaa
       601  attaagcgat ataaaaaaga cgagcaacgg gagaattttg tcggtttggt
       651  tgctgacagg gtaaaaaagg atggaactaa caaatatatc atcttctata
       701  cggacaaacc acctactcgt tctgcacggt cgaggaggtc gcttccggcc
       751  gagattccgc tgattcccgt caatcaggcc gatacgctga ttgtggatgg
       801  ggaagcggtc agcctgacgg ggcattccgg caatatcttc gcgcccgaag
       851  ggaattaccg gtatctgact tacggggcgg aaaaattgcc cggcggatcg
       901  tatgccctcc gtgtgcaagg cgaaccggca aaaggcgaaa tgcttgttgg
       951  cacggccgtg tacaacggcg aagtgctgca tttccatatg gaaaacggcc
      1001  gtccgtaccc gtccggaggc aggtttgccg caaaagtcga tttcggcagc
      1051  aaatctgtgg acggcattat cgacagcggc gatgatttgc atatgggtac
      1101  gcaaaaattc aaagccgcca tcgatggaaa cggctttaag gggacttgga
      1151  cggaaaatgg cggcggggat gtttccggaa ggttttacgg cccggccggc
      1201  gaggaagtgg cgggaaaata cagctatcgc ccgacagatg ctgaaaaggg
      1251  cggattcggc gtgtttgccg gcaaaaaaga tcgggattga
```

This corresponds to the amino acid sequence <SEQ ID 1031; ORF 287.ng>:

```
      g287.pep
         1  MFKRSVIAMA CIFPLSACGG GGGGSPDVKS ADTPSKPAAP VVAENAGEGV
        51  LPKEKKDEEA AGGAPQADTQ DATAGEGSQD MAAVSAENTG NGGAATTDNP
       101  KNEDAGAQND MPQNAAESAN QTGNNQPAGS SDSAPASNPA PANGGSDFGR
       151  TNVGNSVVID GPSQNITLTH CKGDSCNGDN LLDEEAPSKS EFEKLSDEEK
       201  IKRYKKDEQR ENFVGLVADR VKKDGTNKYI IFYTDKPPTR SARSRRSLPA
       251  EIPLIPVNQA DTLIVDGEAV SLTGHSGNIF APEGNYRYLT YGAEKLPGGS
       301  YALRVQGEPA KGEMLVGTAV YNGEVLHFHM ENGRPYPSGG RFAAKVDFGS
       351  KSVDGIIDSG DDLHMGTQKF KAAIDGNGFK GTWTENGGGD VSGRFYGPAG
       401  EEVAGKYSYR PTDAEKGGFG VFAGKKDRD*
```

m287/g287 ORFs 287 and 287.ng showed a 70.1% identity in 499 aa overlap

- 105 -

```
                 10        20        30        40          49
m287.pep  MFKRSVIAMACIFALSACGGGGGGSPDVKSADTLSKPAAPVVSE----------KETEA
          ||||||||||||| |||||||||||||||||| ||||||||:|            |: ||
g287      MFKRSVIAMACIFPLSACGGGGGGSPDVKSADTPSKPAAPVVAENAGEGVLPKEKKDEEA
                 10        20        30        40        50        60


                 50        60        70        80        90       100       109
m287.pep  KEDAPQAGSQGQGAPSAQGSQDMAAVSEENTGNGGAVTADNPKNEDEVAQNDMPQNAAGT
          |||| :|    | :::||||||||| ||||||||:|:||||||   |||||||||||
g287      AGGAPQADTQD--ATAGEGSQDMAAVSAENTGNGGAATTDNPKNEDAGAQNDMPQNAA--
                    70        80        90       100       110


                110       120       130       140       150       160       169
m287.pep  DSSTPNHTPDPNMLAGNMENQATDAGESSQPANQPDMANAADGMQGDDPSAGGQNAGNTA
g287      ------------------------------------------------------------


                170       180       190       200       210       220       229
m287.pep  AQGANQAGNNQAAGSSDPIPASNPAPANGGSNFGRVDLANGVLIDGPSQNITLTHCKGDS
          ::|||:|||| |||||  |||||||||||||:|||:::::|:|:||||||||||||||||
g287      -ESANQTGNNQPAGSSDSAPASNPAPANGGSDFGRTNVGNSVVIDGPSQNITLTHCKGDS
                 120       130       140       150       160       170


                230       240       250       260       270       280       289
m287.pep  CSGNNFLDEEVQLKSEFEKLSDADKISNYKKDGKNDKFVGLVADSVQMKGINQYIIFYKP
          |:|:|:||||:  ||||||||| :||: |||| :  ::||||||| |:  | |:|||||
g287      CNGDNLLDEEAPSKSEFEKLSDEEKIKRYKKDEQRENFVGLVADRVKKDGTNKYIIFYTD
                 180       190       200       210       220       230


                290       300       310       320       330       340       349
m287.pep  KPTSFARFRRSARSRRSLPAEMPLIPVNQADTLIVDGEAVSLTGHSGNIFAPEGNYRYLT
          || :     |||||||||||:|||||||||||||||||||||||||||||||||||||||
g287      KPPT-----RSARSRRSLPAEIPLIPVNQADTLIVDGEAVSLTGHSGNIFAPEGNYRYLT
                    240       250       260       270       280       290


                350       360       370       380       390       400       409
m287.pep  YGAEKLPGGSYALRVQGEPAKGEMLAGAAVYNGEVLHFHTENGRPYPTRGRFAAKVDFGS
          ||||||||||||||||||||||||||||:|:|||||||||||| |||||||: |||||||||
g287      YGAEKLPGGSYALRVQGEPAKGEMLVGTAVYNGEVLHFHMENGRPYPSGGRFAAKVDFGS
                    300       310       320       330       340       350


                410       420       430       440       450       460       469
m287.pep  KSVDGIIDSGDDLHMGTQKFKAAIDGNGFKGTWTENGSGDVSGKFYGPAGEEVAGKYSYR
          |||||||||||||||||||||||||||||||||||||||:|||||:|||||||||||||||
g287      KSVDGIIDSGDDLHMGTQKFKAAIDGNGFKGTWTENGGGDVSGRFYGPAGEEVAGKYSYR
                    360       370       380       390       400       410


                470       480       489
m287.pep  PTDAEKGGFGVFAGKKEQDX
          |||||||||||||||||::||
g287      PTDAEKGGFGVFAGKKDRDX
                    420       430
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1032>:

```
a287.seq
       1  ATGTTTAAAC GCAGTGTGAT TGCAATGGCT TGTATTGTTG CCCTTTCAGC
      51  CTGTGGGGGC GGCGGTGGCG GATCGCCCGA TGTTAAGTCG GCGGACACGC
     101  TGTCAAAACC TGCCGCCCCT GTTGTTACTG AAGATGTCGG GGAAGAGGTG
     151  CTGCCGAAAG AAAAGAAAGA TGAGGAGGCG GTGAGTGGTG CGCCGCAAGC
     201  CGATACGCAG GACGCAACCG CCGAAAAGG CGGTCAAGAT ATGGCGGCAG
     251  TTTCGGCAGA AAATACAGGC AATGGCGGTG CGGCAACAAC GGATAATCCC
```

```
  301  GAAAATAAAG ACGAGGGACC GCAAAATGAT ATGCCGCAAA ATGCCGCCGA
  351  TACAGATAGT TCGACACCGA ATCACACCCC TGCACCGAAT ATGCCAACCA
  401  GAGATATGGG AAACCAAGCA CCGGATGCCG GGGAATCGGC ACAACCGGCA
  451  AACCAACCGG ATATGGCAAA TGCGGCGGAC GGAATGCAGG GGGACGATCC
  501  GTCGGCAGGG GAAAATGCCG GCAATACGGC AGATCAAGCT GCAAATCAAG
  551  CTGAAAACAA TCAAGTCGGC GGCTCTCAAA ATCCTGCCTC TTCAACCAAT
  601  CCTAACGCCA CGAATGGCGG CAGCGATTTT GGAAGGATAA ATGTAGCTAA
  651  TGGCATCAAG CTTGACAGCG GTTCGGAAAA TGTAACGTTG ACACATTGTA
  701  AAGACAAAGT ATGCGATAGA GATTTCTTAG ATGAAGAAGC ACCACCAAAA
  751  TCAGAATTTG AAAAATTAAG TGATGAAGAA AAAATTAATA AATATAAAAA
  801  AGACGAGCAA CGAGAGAATT TTGTCGGTTT GGTTGCTGAC AGGGTAGAAA
  851  AGAATGGAAC TAACAAATAT GTCATCATTT ATAAAGACAA GTCCGCTTCA
  901  TCTTCATCTG CGCGATTCAG GCGTTCTGCA CGGTCGAGGC GGTCGCTTCC
  951  GGCCGAGATG CCGCTGATTC CCGTCAATCA GGCGGATACG CTGATTGTCG
 1001  ATGGGGAAGC GGTCAGCCTG ACGGGGCATT CCGGCAATAT CTTCGCGCCC
 1051  GAAGGGAATT ACCGGTATCT GACTTACGGG GCGGAAAAAT TGTCCGGCGG
 1101  ATCGTATGCC CTCAGTGTGC AAGGCGAACC GGCAAAAGGC GAAATGCTTG
 1151  CGGGCACGGC CGTGTACAAC GGCGAAGTGC TGCATTTCCA TATGGAAAAC
 1201  GGCCGTCCGT CCCCGTCCGG AGGCAGGTTT GCCGCAAAAG TCGATTTCGG
 1251  CAGCAAATCT GTGGACGGCA TTATCGACAG CGGCGATGAT TTGCATATGG
 1301  GTACGCAAAA ATTCAAAGCC GTTATCGATG GAAACGGCTT TAAGGGGACT
 1351  TGGACGGAAA ATGGCGGCGG GGATGTTTCC GGAAGGTTTT ACGGCCCGGC
 1401  CGGCGAAGAA GTGGCGGGAA AATACAGCTA TCGCCCGACA GATGCGGAAA
 1451  AGGGCGGATT CGGCGTGTTT GCCGGCAAAA AAGAGCAGGA TTGA
```

This corresponds to the amino acid sequence <SEQ ID 1033; ORF 287.a>:

```
a287.pep
    1  MFKRSVIAMA CIVALSACGG GGGGSPDVKS ADTLSKPAAP VVTEDVGEEV
   51  LPKEKKDEEA VSGAPQADTQ DATAGKGGQD MAAVSAENTG NGGAATTDNP
  101  ENKDEGPQND MPQNAADTDS STPNHTPAPN MPTRDMGNQA PDAGESAQPA
  151  NQPDMANAAD GMQGDDPSAG ENAGNTADQA ANQAENNQVG GSQNPASSTN
  201  PNATNGGSDF GRINVANGIK LDSGSENVTL THCKDKVCDR DFLDEEAPPK
  251  SEFEKLSDEE KINKYKKDEQ RENFVGLVAD RVEKNGTNKY VIIYKDKSAS
  301  SSSARFRRSA RSRRSLPAEM PLIPVNQADT LIVDGEAVSL TGHSGNIFAP
  351  EGNYRYLTYG AEKLSGGSYA LSVQGEPAKG EMLAGTAVYN GEVLHFHMEN
  401  GRPSPSGGRF AAKVDFGSKS VDGIIDSGDD LHMGTQKFKA VIDGNGFKGT
  451  WTENGGGDVS GRFYGPAGEE VAGKYSYRPT DAEKGGFGVF AGKKEQD*
```

```
m287/a287    ORFs 287 and 287.a showed a 77.2% identity in 501 aa overlap

               10        20        30        40               49
m287.pep   MFKRSVIAMACIFALSACGGGGGGGSPDVKSADTLSKPAAPVVSE----------KETEA
           ||||||||||||| |||||||||||||||||||||||||||||:|        |: ||
a287       MFKRSVIAMACIVALSACGGGGGGGSPDVKSADTLSKPAAPVVTEDVGEEVLPKEKKDEEA
               10        20        30        40        50        60


             50        60        70        80        90       100       109
m287.pep   KEDAPQAGSQGQGAPSAQGSQDMAAVSEENTGNGGAVTADNPKNEDEVAQNDMPQNAAGT
           |||| :|    |  ::::|:||||||| |||||||:|:|||:|:|| ||||||||| |
a287       VSGAPQADTQ--DATAGKGGQDMAAVSAENTGNGGAATTDNPENKDEGPQNDMPQNAADT
             70        80        90       100       110


            110       120       130       140       150       160       169
m287.pep   DSSTPNHTPDPNMLAGNMENQATDAGESSQPANQPDMANAADGMQGDDPSAGGQNAGNTA
           |||||||| ||| : :| ||| |||||:||||||'|||||||||||||||||| :|||||
a287       DSSTPNHTPAPNMPTRDMGNQAPDAGESAQPANQPDMANAADGMQGDDPSAG-ENAGNTA
            120       130       140       150       160       170


            170       180       190       200       210       220       229
m287.pep   AQGANQAGNNQAAGSSDPIPASNPAPANGGSNFGRVDLANGVLIDGPSQNITLTHCKGDS
           |:|||| |||::||::| ::|| :||||:|||:::||| :|: |:|:|||||
a287       DQAANQAENNQVGGSQNPASSTNPNATNGGSDFGRINVANGIKLDSGSENVTLTHCKDKV
            120       130       140       150       160
```

- 107 -

```
              180       190       200       210       220       230
              230       240       250       260       270       280     289
m287.pep      CSGNNFLDEEVQLKSEFEKLSDADKISNYKKDGKNDKFVGLVADSVQMKGINQYIIFYKP
              I:  :IIIIII:  IIIIIIIII :II::IIII  :  ::IIIIIII  I:  :I I:I:I:II
a287          CD-RDFLDEEAPPKSEFEKLSDEEKINKYKKDEQRENFVGLVADRVEKNGTNKYVIIYKD
              240       250       260       270       280       290

              290       300       310       320       330       340
m287.pep      KP--TSFARFRRSARSRRSLPAEMPLIPVNQADTLIVDGEAVSLTGHSGNIFAPEGNYRY
              I   :I IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
a287          KSASSSSARFRRSARSRRSLPAEMPLIPVNQADTLIVDGEAVSLTGHSGNIFAPEGNYRY
              300       310       320       330       340       350

              350       360       370       380       390       400
m287.pep      LTYGAEKLPGGSYALRVQGEPAKGEMLAGAAVYNGEVLHFHTENGRPYPTRGRFAAKVDF
              IIIIIIII IIIIII IIIIIIIIIIII:IIIIIIIIII IIIII I: IIIIIIIII
a287          LTYGAEKLSGGSYALSVQGEPAKGEMLAGTAVYNGEVLHFHMENGRPSPSGGRFAAKVDF
              360       370       380       390       400       410

              410       420       430       440       450       460
m287.pep      GSKSVDGIIDSGDDLHMGTQKFKAAIDGNGFKGTWTENGSGDVSGKFYGPAGEEVAGKYS
              IIIIIIIIIIIIIIIIIIIIIIIII:IIIIIIIIIIIIIII:IIIII:IIIIIIIIIIII
a287          GSKSVDGIIDSGDDLHMGTQKFKAVIDGNGFKGTWTENGGGDVSGRFYGPAGEEVAGKYS
              420       430       440       450       460       470

              470       480       489
m287.pep      YRPTDAEKGGFGVFAGKKEQDX
              IIIIIIIIIIIIIIIIIIIIII
a287          YRPTDAEKGGFGVFAGKKEQDX
              480       490
```

406

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1034>:

```
m406.seq
    1  ATGCAAGCAC GGCTGCTGAT ACCTATTCTT TTTTCAGTTT TTATTTTATC
   51  CGCCTGCGGG ACACTGACAG GTATTCCATC GCATGGCGGA GGTAAACGCT
  101  TTGCGGTCGA ACAAGAACTT GTGGCCGCTT CTGCCAGAGC TGCCGTTAAA
  151  GACATGGATT TACAGGCATT ACACGGACGA AAAGTTGCAT TGTACATTGC
  201  CACTATGGGC GACCAAGGTT CAGGCAGTTT GACAGGGGGT CGCTACTCCA
  251  TTGATGCACT GATTCGTGGC GAATACATAA ACAGCCCTGC CGTCCGTACC
  301  GATTACACCT ATCCACGTTA CGAAACCACC GCTGAAACAA CATCAGGCGG
  351  TTTGACAGGT TTAACCACTT CTTTATCTAC ACTTAATGCC CCTGCACTCT
  401  CTCGCACCCA ATCAGACGGT AGCGGAAGTA AAAGCAGTCT GGGCTTAAAT
  451  ATTGGCGGGA TGGGGGATTA TCGAAATGAA ACCTTGACGA CTAACCCGCG
  501  CGACACTGCC TTTCTTTCCC ACTTGGTACA GACCGTATTT TTCCTGCGCG
  551  GCATAGACGT TGTTTCTCCT GCCAATGCCG ATACAGATGT GTTTATTAAC
  601  ATCGACGTAT TCGGAACGAT ACGCAACAGA ACCGAAATGC ACCTATACAA
  651  TGCCGAAACA CTGAAAGCCC AAACAAAACT GGAATATTTC GCAGTAGACA
  701  GAACCAATAA AAAATTGCTC ATCAAACCAA AAACCAATGC GTTTGAAGCT
  751  GCCTATAAAG AAAATTACGC ATTGTGGATG GGGCCGTATA AAGTAAGCAA
  801  AGGAATTAAA CCGACGGAAG GATTAATGGT CGATTTCTCC GATATCCGAC
  851  CATACGGCAA TCATACGGGT AACTCCGCCC CATCCGTAGA GGCTGATAAC
  901  AGTCATGAGG GGTATGGATA CAGCGATGAA GTAGTGCGAC AACATAGACA
  951  AGGACAACCT TGA
```

- 108 -

This corresponds to the amino acid sequence <SEQ ID 1035; ORF 406>:

```
m406.pep
        1  MQARLLIPIL FSVFILSACG TLTGIPSHGG GKRFAVEQEL VAASARAAVK
       51  DMDLQALHGR KVALYIATMG DQGSGSLTGG RYSIDALIRG EYINSPAVRT
      101  DYTYPRYETT AETTSGGLTG LTTSLSTLNA PALSRTQSDG SGSKSSLGLN
      151  IGGMGDYRNE TLTTNPRDTA FLSHLVQTVF FLRGIDVVSP ANADTDVFIN
      201  IDVFGTIRNR TEMHLYNAET LKAQTKLEYF AVDRTNKKLL IKPKTNAFEA
      251  AYKENYALWM GPYKVSKGIK PTEGLMVDFS DIRPYGNHTG NSAPSVEADN
      301  SHEGYGYSDE VVRQHRQGQP *
```

The following partial DNA sequence was identified in *N. gonorrhoeae* <SEQ ID 1036>:

```
g406.seq
        1  ATGCGGGCAC GGCTGCTGAT ACCTATTCTT TTTTCAGTTT TTATTTTATC
       51  CGCCTGCGGG ACACTGACAG GTATTCCATC GCATGGCGGA GGCAAACGCT
      101  TCGCGGTCGA ACAAGAACTT GTGGCCGCTT CTGCCAGAGC TGCCGTTAAA
      151  GACATGGATT TACAGGCATT ACACGGACGA AAAGTTGCAT TGTACATTGC
      201  AACTATGGGC GACCAAGGTT CAGGCAGTTT GACAGGGGGT CGCTACTCCA
      251  TTGATGCACT GATTCGCGGC GAATACATAA ACAGCCCTGC CGTCCGCACC
      301  GATTACACCT ATCCGCGTTA CGAAACCACC GCTGAAACAA CATCAGGCGG
      351  TTTGACGGGT TTAACCACTT CTTTATCTAC ACTTAATGCC CCTGCACTCT
      401  CGCGCACCCA ATCAGACGGT AGCGGAAGTA GGAGCAGTCT GGGCTTAAAT
      451  ATTGGCGGGA TGGGGGATTA TCGAAATGAA ACCTTGACGA CCAACCCGCG
      501  CGACACTGCC TTTCTTTCCC ACTTGGTGCA GACCGTATTT TTCCTGCGCG
      551  GCATAGACGT TGTTTCTCCT GCCAATGCCG ATACAGATGT GTTTATTAAC
      601  ATCGACGTAT TCGGAACGAT ACGCAACAGA ACCGAAATGC ACCTATACAA
      651  TGCCGAAACA CTGAAAGCCC AAACAAAACT GGAATATTTC GCAGTAGACA
      701  GAACCAATAA AAAAATTGCTC ATCAAACCCA AAACCAATGC GTTTGAAGCT
      751  GCCTATAAAG AAAAATTACGC ATTGTGGATG GGGCCGTATA AAGTAAGCAA
      801  AGGAATCAAA CCGACGGAAG GATTGATGGT CGATTTCTCC GATATCCAAC
      851  CATACGGCAA TCATACGGGT AACTCCGCCC CATCCGTAGA GGCTGATAAC
      901  AGTCATGAGG GGTATGGATA CAGCGATGAA GCAGTGCGAC AACATAGACA
      951  AGGGCAACCT TGA
```

This corresponds to the amino acid sequence <SEQ ID 1037; ORF 406.ng>:

```
g406.pep
        1  MRARLLIPIL FSVFILSACG TLTGIPSHGG GKRFAVEQEL VAASARAAVK
       51  DMDLQALHGR KVALYIATMG DQGSGSLTGG RYSIDALIRG EYINSPAVRT
      101  DYTYPRYETT AETTSGGLTG LTTSLSTLNA PALSRTQSDG SGSRSSLGLN
      151  IGGMGDYRNE TLTTNPRDTA FLSHLVQTVF FLRGIDVVSP ANADTDVFIN
      201  IDVFGTIRNR TEMHLYNAET LKAQTKLEYF AVDRTNKKLL IKPKTNAFEA
      251  AYKENYALWM GPYKVSKGIK PTEGLMVDFS DIQPYGNHTG NSAPSVEADN
      301  SHEGYGYSDE AVRQHRQGQP *
```

ORF 406.ng shows 98.8% identity over a 320 aa overlap with a predicted ORF (ORF406.a) from *N. gonorrhoeae*:

```
g406/m406

                 10        20        30        40        50        60
g406.pep  MRARLLIPILFSVFILSACGTLTGIPSHGGGKRFAVEQELVAASARAAVKDMDLQALHGR
          |:|||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
m406      MQARLLIPILFSVFILSACGTLTGIPSHGGGKRFAVEQELVAASARAAVKDMDLQALHGR
                 10        20        30        40        50        60

                 70        80        90       100       110       120
g406.pep  KVALYIATMGDQGSGSLTGGRYSIDALIRGEYINSPAVRTDYTYPRYETTAETTSGGLTG
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
```

- 109 -

```
m406       KVALYIATMGDQGSGSLTGGRYSIDALIRGEYINSPAVRTDYTYPRYETTAETTSGGLTG
                 70        80        90       100       110       120


                130       140       150       160       170       180
g406.pep   LTTSLSTLNAPALSRTQSDGSGSRSSLGLNIGGMGDYRNETLTTNPRDTAFLSHLVQTVF
           |||||||||||||||||||||||||||:|||||||||||||||||||||||||||||||||
m406       LTTSLSTLNAPALSRTQSDGSGSKSSLGLNIGGMGDYRNETLTTNPRDTAFLSHLVQTVF
                130       140       150       160       170       180


                190       200       210       220       230       240
g406.pep   FLRGIDVVSPANADTDVFINIDVFGTIRNRTEMHLYNAETLKAQTKLEYFAVDRTNKKLL
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
m406       FLRGIDVVSPANADTDVFINIDVFGTIRNRTEMHLYNAETLKAQTKLEYFAVDRTNKKLL
                190       200       210       220       230       240


                250       260       270       280       290       300
g406.pep   IKPKTNAFEAAYKENYALWMGPYKVSKGIKPTEGLMVDFSDIQPYGNHTGNSAPSVEADN
           |||||||||||||||||||||||||||||||||||||||||||:||||||||||||||||
m406       IKPKTNAFEAAYKENYALWMGPYKVSKGIKPTEGLMVDFSDIRPYGNHTGNSAPSVEADN
                250       260       270       280       290       300


                310       320
g406.pep   SHEGYGYSDEAVRQHRQGQPX
           |||||||||||:|||||||||
m406       SHEGYGYSDEVVRQHRQGQPX
                310       320
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1038>:

```
a406.seq
     1  ATGCAAGCAC GGCTGCTGAT ACCTATTCTT TTTTCAGTTT TTATTTTATC
    51  CGCCTGCGGG ACACTGACAG GTATTCCATC GCATGGCGGA GGTAAACGCT
   101  TCGCGGTCGA ACAAGAACTT GTGGCCGCTT CTGCCAGAGC TGCCGTTAAA
   151  GACATGGATT TACAGGCATT ACACGGACGA AAAGTTGCAT TGTACATTGC
   201  AACTATGGGC GACCAAGGTT CAGGCAGTTT GACAGGGGGT CGCTACTCCA
   251  TTGATGCACT GATTCGTGGC GAATACATAA ACAGCCCTGC CGTCCGTACC
   301  GATTACACCT ATCCACGTTA CGAAACCACC GCTGAAACAA CATCAGGCGG
   351  TTTGACAGGT TTAACCACTT CTTTATCTAC ACTTAATGCC CCTGCACTCT
   401  CGCGCACCCA ATCAGACGGT AGCGGAAGTA AAAGCAGTCT GGGCTTAAAT
   451  ATTGGCGGGA TGGGGGATTA TCGAAATGAA ACCTTGACGA CTAACCCGCG
   501  CGACACTGCC TTTCTTTCCC ACTTGGTACA GACCGTATTT TTCCTGCGCG
   551  GCATAGACGT TGTTTCTCCT GCCAATGCCG ATACGGATGT GTTTATTAAC
   601  ATCGACGTAT TCGGAACGAT ACGCAACAGA ACCGAAATGC ACCTATACAA
   651  TGCCGAAACA CTGAAAGCCC AAACAAAACT GGAATATTTC GCAGTAGACA
   701  GAACCAATAA AAAATTGCTC ATCAAACCAA AAACCAATGC GTTTGAAGCT
   751  GCCTATAAAG AAAATTACGC ATTGTGGATG GGACCGTATA AAGTAAGCAA
   801  AGGAATTAAA CCGACAGAAG GATTAATGGT CGATTTCTCC GATATCCAAC
   851  CATACGGCAA TCATATGGGT AACTCTGCCC CATCCGTAGA GGCTGATAAC
   901  AGTCATGAGG GGTATGGATA CAGCGATGAA GCAGTGCGAC GACATAGACA
   951  AGGGCAACCT TGA
```

This corresponds to the amino acid sequence <SEQ ID 1039; ORF 406.a>:

```
a406.pep
     1  MQARLLIPIL FSVFILSACG TLTGIPSHGG GKRFAVEQEL VAASARAAVK
    51  DMDLQALHGR KVALYIATMG DQGSGSLTGG RYSIDALIRG EYINSPAVRT
   101  DYTYPRYETT AETTSGGLTG LTTSLSTLNA PALSRTQSDG SGSKSSLGLN
   151  IGGMGDYRNE TLTTNPRDTA FLSHLVQTVF FLRGIDVVSP ANADTDVFIN
   201  IDVFGTIRNR TEMHLYNAET LKAQTKLEYF AVDRTNKKLL IKPKTNAFEA
   251  AYKENYALWM GPYKVSKGIK PTEGLMVDFS DIQPYGNHMG NSAPSVEADN
   301  SHEGYGYSDE AVRRHRQGQP *
```

```
m406/a406    ORFs 406 and 406.a showed a 98.8% identity in 320 aa overlap

                10        20        30        40        50        60
m406.pep    MQARLLIPILFSVFILSACGTLTGIPSHGGGKRFAVEQELVAASARAAVKDMDLQALHGR
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
a406        MQARLLIPILFSVFILSACGTLTGIPSHGGGKRFAVEQELVAASARAAVKDMDLQALHGR
                10        20        30        40        50        60

                70        80        90       100       110       120
m406.pep    KVALYIATMGDQGSGSLTGGRYSIDALIRGEYINSPAVRTDYTYPRYETTAETTSGGLTG
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
a406        KVALYIATMGDQGSGSLTGGRYSIDALIRGEYINSPAVRTDYTYPRYETTAETTSGGLTG
                70        80        90       100       110       120

               130       140       150       160       170       180
m406.pep    LTTSLSTLNAPALSRTQSDGSGSKSSLGLNIGGMGDYRNETLTTNPRDTAFLSHLVQTVF
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
a406        LTTSLSTLNAPALSRTQSDGSGSKSSLGLNIGGMGDYRNETLTTNPRDTAFLSHLVQTVF
               130       140       150       160       170       180

               190       200       210       220       230       240
m406.pep    FLRGIDVVSPANADTDVFINIDVFGTIRNRTEMHLYNAETLKAQTKLEYFAVDRTNKKLL
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
a406        FLRGIDVVSPANADTDVFINIDVFGTIRNRTEMHLYNAETLKAQTKLEYFAVDRTNKKLL
               190       200       210       220       230       240

               250       260       270       280       290       300
m406.pep    IKPKTNAFEAAYKENYALWMGPYKVSKGIKPTEGLMVDFSDIRPYGNHTGNSAPSVEADN
            |||||||||||||||||||||||||||||||||||||||||||:||||| |||||||||||
a406        IKPKTNAFEAAYKENYALWMGPYKVSKGIKPTEGLMVDFSDIQPYGNHMGNSAPSVEADN
               250       260       270       280       290       300

               310       320
m406.pep    SHEGYGYSDEVVRQHRQGQPX
            ||||||||||:||:|||||||
a406        SHEGYGYSDEAVRRHRQGQPX
               310       320
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1040>:

```
m726.seq
      1  ATGACCATCT ATTTCAAAAA CGGCTTTTAC GACGACACAT TGGGCGGCAT
     51  CCCCGAAGGC GCGGTTGCCG TCCGCGCCGA AGAATACGCC GCCCTTTTGG
    101  CAGGACAGGC GCAGGGCGGG CAGATTGCCG CAGATTCCGA CGGCCGCCCC
    151  GTTTTAACCC CGCCGCGCCC GTCCGATTAC CACGAATGGG ACGGCAAAAA
    201  ATGGAAAATC AGCAAAGCCG CCGCCGCCGC CCGTTTCGCC AAACAAAAAA
    251  CCGCCTTGGC ATTCCGCCTC GCGGAAAAGG CGGACGAACT CAAAAACAGC
    301  CTCTTGGCGG GCTATCCCCA AGTGGAAATC GACAGCTTTT ACAGGCAGGA
    351  AAAAGAAGCC CTCGCGCGGC AGGCGGACAA CAACGCCCCG ACCCCGATGC
    401  TGGCGCAAAT CGCCGCCGCA AGGGGCGTGG AATTGGACGT TTTGATTGAA
    451  AAAGTTATCG AAAAATCCGC CCGCCTGGCT GTTGCCGCCG GCGCGATTAT
    501  CGGAAAGCGT CAGCAGCTCG AAGACAAATT GAACACCATC GAAACCGCGC
    551  CCGGATTGGA CGCGCTGGAA AAGGAAATCG AAGAATGGAC GCTAAACATC
    601  GGCTGA
```

This corresponds to the amino acid sequence <SEQ ID 1041; ORF 726>:

```
m726.pep
      1  MTIYFKNGFY DDTLGGIPEG AVAVRAEEYA ALLAGQAQGG QIAADSDGRP
     51  VLTPPRPSDY HEWDGKKWKI SKAAAAARFA KQKTALAFRL AEKADELKNS
```

- 111 -

```
101  LLAGYPQVEI DSFYRQEKEA LARQADNNAP TPMLAQIAAA RGVELDVLIE
151  KVIEKSARLA VAAGAIIGKR QQLEDKLNTI ETAPGLDALE KEIEEWTLNI
201  G*
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1042>:

```
m907-2.seq
    1  ATGAGAAAAC CGACCGATAC CCTACCCGTT AATCTGCAAC GCCGCCGCCT
   51  GTTGTGTGCC GCCGGTGCGT TGTTGCTCAG TCCTCTGGCG CACGCCGGCG
  101  CGCAACGTGA GGAAACGCTT GCCGACGATG TGGCTTCCGT GATGAGGAGT
  151  TCTGTCGGCA GCGTCAATCC GCCGAGGCTG GTGTTTGACA ATCCGAAAGA
  201  GGGCGAGCGT TGGTTGTCTG CCATGTCGGC ACGTTTGGCA AGGTTCGTCC
  251  CCGAGGAGGA GGAGCGGCGC AGGCTGCTGG TCAATATCCA GTACGAAAGC
  301  AGCCGGGCCG GTTTGGATAC GCAGATTGTG TTGGGGCTGA TTGAGGTGGA
  351  AAGCGCGTTC CGCCAGTATG CAATCAGCGG TGTCGGCGCG CGCGGCCTGA
  401  TGCAGGTTAT GCCGTTTTGG AAAAACTACA TCGGCAAACC GGCGCACAAC
  451  CTGTTCGACA TCCGCACCAA CCTGCGTTAC GGCTGTACCA TCCTGCGCCA
  501  TTACCGGAAT CTTGAAAAAG GCAACATCGT CCGCGCGCTT GCCCGCTTTA
  551  ACGGCAGCTT GGGCAGCAAT AAATATCCGA ACGCCGTTTT GGGCGCGTGG
  601  CGCAACCGCT GGCAGTGGCG TTGA
```

This corresponds to the amino acid sequence <SEQ ID 1043; ORF 907-2>:

```
m907-2.pep
    1  MRKPTDTLPV NLQRRRLLCA AGALLLSPLA HAGAQREETL ADDVASVMRS
   51  SVGSVNPPRL VFDNPKEGER WLSAMSARLA RFVPEEEERR RLLVNIQYES
  101  SRAGLDTQIV LGLIEVESAF RQYAISGVGA RGLMQVMPFW KNYIGKPAHN
  151  LFDIRTNLRY GCTILRHYRN LEKGNIVRAL ARFNGSLGSN KYPNAVLGAW
  201  RNRWQWR*
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1044>:

```
m953.seq
    1  ATGAAAAAAA TCATCTTCGC CGCACTCGCA GCCGCCGCCA TCAGTACTGC
   51  CTCCGCCGCC ACCTACAAAG TGGACGAATA TCACGCCAAC GCCCGTTTCG
  101  CCATCGACCA TTTCAACACC AGCACCAACG TCGGCGGTTT TTACGGTCTG
  151  ACCGGTTCCG TCGAGTTCGA CCAAGCAAAA CGCGACGGTA AAATCGACAT
  201  CACCATCCCC ATTGCCAACC TGCAAAGCGG TTCGCAACAC TTTACCGACC
  251  ACCTGAAATC AGCCGACATC TTCGATGCCG CCCAATATCC GGACATCCGC
  301  TTTGTTTCCA CCAAATTCAA CTTCAACGGC AAAAAACTGG TTTCCGTTGA
  351  CGGCAACCTG ACCATGCACG GCAAAACCGC CCCCGTCAAA CTCAAAGCCG
  401  AAAAATTCAA CTGCTACCAA AGCCCGATGG AGAAAACCGA AGTTTGTGGC
  451  GGCGACTTCA GCACCACCAT CGACCGCACC AAATGGGGCA TGGACTACCT
  501  CGTTAACGTT GGTATGACCA AAAGCGTCCG CATCGACATC CAAATCGAGG
  551  CAGCCAAACA ATAA
```

This corresponds to the amino acid sequence <SEQ ID 1045; ORF 953>:

```
m953.pep
    1  MKKIIFAALA AAAISTASAA TYKVDEYHAN ARFAIDHFNT STNVGGFYGL
   51  TGSVEFDQAK RDGKIDITIP IANLQSGSQH FTDHLKSADI FDAAQYPDIR
  101  FVSTKFNFNG KKLVSVDGNL TMHGKTAPVK LKAEKFNCYQ SPMEKTEVCG
  151  GDFSTTIDRT KWGMDYLVNV GMTKSVRIDI QIEAAKQ*
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1046>:

```
orf1-1.seq
```

- 112 -

```
   1 ATGAAAACAA CCGACAAACG GACAACCGAA ACACACCGCA AAGCCCCGAA
  51 AACCGGCCGC ATCCGCTTCT CGCCTGCTTA CTTAGCCATA TGCCTGTCGT
 101 TCGGCATTCT TCCCCAAGCC TGGGCGGGAC ACACTTATTT CGGCATCAAC
 151 TACCAATACT ATCGCGACTT TGCCGAAAAT AAAGGCAAGT TTGCAGTCGG
 201 GGCGAAAGAT ATTGAGGTTT ACAACAAAAA AGGGGAGTTG GTCGGCAAAT
 251 CAATGACAAA AGCCCCGATG ATTGATTTTT CTGTGGTGTC GCGTAACGGC
 301 GTGGCGGCAT TGGTGGGCGA TCAATATATT GTGAGCGTGG CACATAACGG
 351 CGGCTATAAC AACGTTGATT TTGGTGCGGA AGGAAGAAAT CCCGATCAAC
 401 ATCGTTTTAC TTATAAAATT GTGAAACGGA ATAATTATAA AGCAGGGACT
 451 AAAGGCCATC CTTATGGCGG CGATTATCAT ATGCCGCGTT TGCATAAATT
 501 TGTCACAGAT GCAGAACCTG TTGAAATGAC CAGTTATATG GATGGGCGGA
 551 AATATATCGA TCAAAATAAT TACCCTGACC GTGTTCGTAT TGGGGCAGGC
 601 AGGCAATATT GGCGATCTGA TGAAGATGAG CCCAATAACC GCGAAAGTTC
 651 ATATCATATT GCAAGTGCGT ATTCTTGGCT CGTTGGTGGC AATACCTTTG
 701 CACAAAATGG ATCAGGTGGT GGCACAGTCA ACTTAGGTAG TGAAAAAATT
 751 AAACATAGCC CATATGGTTT TTTACCAACA GGAGGCTCAT TTGGCGACAG
 801 TGGCTCACCA ATGTTTATCT ATGATGCCCA AAAGCAAAAG TGGTTAATTA
 851 ATGGGGTATT GCAAACGGGC AACCCCTATA TAGGAAAAAG CAATGGCTTC
 901 CAGCTGGTTC GTAAAGATTG GTTCTATGAT GAAATCTTTG CTGGAGATAC
 951 CCATTCAGTA TTCTACGAAC CACGTCAAAA TGGGAAATAC TCTTTTAACG
1001 ACGATAATAA TGGCACAGGA AAAATCAATG CCAAACATGA ACACAATTCT
1051 CTGCCTAATA GATTAAAAAC ACGAACCGTT CAATTGTTTA ATGTTTCTTT
1101 ATCCGAGACA GCAAGAGAAC CTGTTTATCA TGCTGCAGGT GGTGTCAACA
1151 GTTATCGACC CAGACTGAAT AATGGAGAAA ATATTTCCTT TATTGACGAA
1201 GGAAAAGGCG AATTGATACT TACCAGCAAC ATCAATCAAG GTGCTGGAGG
1251 ATTATATTTC CAAGGAGATT TTACGGTCTC GCCTGAAAAT AACGAAACTT
1301 GGCAAGGCGC GGGCGTTCAT ATCAGTGAAG ACAGTACCGT TACTTGGAAA
1351 GTAAACGGCG TGGCAAACGA CCGCCTGTCC AAAATCGGCA AAGGCACGCT
1401 GCACGTTCAA GCCAAAGGGG AAAACCAAGG CTCGATCAGC GTGGGCGACG
1451 GTACAGTCAT TTTGGATCAG CAGGCAGACG ATAAAGGCAA AAAACAAGCC
1501 TTTAGTGAAA TCGGCTTGGT CAGCGGCAGG GGTACGGTGC AACTGAATGC
1551 CGATAATCAG TTCAACCCCG ACAAACTCTA TTTCGGCTTT TCGGCGCGGAC
1601 GTTTGGATTT AAACGGGCAT TCGCTTTCGT TCCACCGTAT TCAAAATACC
1651 GATGAAGGGG CGATGATTGT CAACCACAAT CAAGACAAAG AATCCACCGT
1701 TACCATTACA GGCAATAAAG ATATTGCTAC AACCGGCAAT AACAACAGCT
1751 TGGATAGCAA AAAAGAAATT GCCTACAACG GTTGGTTTGG CGAGAAAGAT
1801 ACGACCAAAA CGAACGGGCG GCTCAACCTT GTTTACCAGC CGCCGCAGA
1851 AGACCGCACC CTGCTGCTTT CCGGCGGAAC AAATTTAAAC GGCAACATCA
1901 CGCAAACAAA CGGCAAACTG TTTTTCAGCG GCAGACCAAC ACCGCACGCC
1951 TACAATCATT TAAACGACCA TTGGTCGCAA AAAGAGGGCA TTCCTCGCGG
2001 GGAAATCGTG TGGGACAACG ACTGGATCAA CCGCACATTT AAAGCGGAAA
2051 ACTTCCAAAT TAAAGGCGGA CAGGCGGTGG TTTCCCGCAA TGTTGCCAAA
2101 GTGAAAGGCG ATTGGCATTT GAGCAATCAC GCCCAAGCAG TTTTTGGTGT
2151 CGCACCGCAT CAAAGCCACA CAATCTGTAC ACGTTCGGAC TGGACGGGTC
2201 TGACAAATTG TGTCGAAAAA ACCATTACCG ACGATAAAGT GATTGCTTCA
2251 TTGACTAAGA CCGACATCAG CGGCAATGTC GATCTTGCCG ATCACGCTCA
2301 TTTAAATCTC ACAGGGCTTG CCACACTCAA CGGCAATCTT AGTGCAAATG
2351 GCGATACACG TTATACAGTC AGCCACAACG CCACCCAAAA CGGCAACCTT
2401 AGCCTCGTGG GCAATGCCCA AGCAACATTT AATCAAGCCA CATTAAACGG
2451 CAACACATCG GCTTCGGGCA ATGCTTCATT TAATCTAAGC GACCACGCCG
2501 TACAAACGG CAGTCTGACG CTTTCCGGCA ACGCTAAGGC AAACGTAAGC
2551 CATTCCGCAC TCAACGGTAA TGTCTCCCTA GCCGATAAGG CAGTATTCCA
2601 TTTTGAAAGC AGCCGCTTTA CCGGACAAAT CAGCGGCGGC AAGGATACGG
2651 CATTACACTT AAAAGACAGC GAATGGACGC TGCCGTCAGG CACGGAATTA
2701 GGCAATTTAA ACCTTGACAA CGCCACCATT ACACTCAATT CCGCCTATCG
2751 CCACGATGCG GCAGGGGCGC AAACCGGCAG TGCGACAGAT GCGCCGCGCC
2801 GCCGTTCGCG CCGTTCGCGC CGTTCCCTAT TATCCGTTAC ACCGCCAACT
2851 TCGGTAGAAT CCCGTTTCAA CACGCTGACG GTAAACGGCA AATTGAACGG
2901 TCAGGGAACA TTCCGCTTTA TGTCGGAACT CTTCGGCTAC CGCAGCGACA
2951 AATTGAAGCT GGCGGAAAGT TCCGAAGGCA CTTACACCTT GGCGGTCAAC
3001 AATACCGGCA ACGAACCTGC AAGCCTCGAA CAATTGACGG TAGTGGAAGG
3051 AAAAGACAAC AAACCGCTGT CCGAAAACCT TAATTTCACC CTGCAAAACG
3101 AACACGTCGA TGCCGGCGCG TGGCGTTACC AACTCATCCG CAAAGACGGC
```

- 113 -

```
     3151   GAGTTCCGCC TGCATAATCC GGTCAAAGAA CAAGAGCTTT CCGACAAACT
     3201   CGGCAAGGCA GAAGCCAAAA AACAGGCGGA AAAAGACAAC GCGCAAAGCC
     3251   TTGACGCGCT GATTGCGGCC GGGCGCGATG CCGTCGAAAA GACAGAAAGC
     3301   GTTGCCGAAC CGGCCCGGCA GGCAGGCGGG GAAAATGTCG GCATTATGCA
     3351   GGCGGAGGAA GAGAAAAAAC GGGTGCAGGC GGATAAAGAC ACCGCCTTGG
     3401   CGAAACAGCG CGAAGCGGAA ACCCGGCCGG CTACCACCGC CTTCCCCCGC
     3451   GCCCGCCGCG CCCGCCGGGA TTTGCCGCAA CTGCAACCCC AACCGCAGCC
     3501   CCAACCGCAG CGCGACCTGA TCAGCCGTTA TGCCAATAGC GGTTTGAGTG
     3551   AATTTTCCGC CACGCTCAAC AGCGTTTTCG CCGTACAGGA CGAATTAGAC
     3601   CGCGTATTTG CCGAAGACCG CCGCAACGCC GTTTGGACAA GCGGCATCCG
     3651   GGACACCAAA CACTACCGTT CGCAAGATTT CCGCGCCTAC CGCCAACAAA
     3701   CCGACCTGCG CCAAATCGGT ATGCAGAAAA ACCTCGGCAG CGGGCGCGTC
     3751   GGCATCCTGT TTTCGCACAA CCGGACCGAA AACACCTTCG ACGACGGCAT
     3801   CGGCAACTCG GCACGGCTTG CCCACGGCGC CGTTTTCGGG CAATACGGCA
     3851   TCGACAGGTT CTACATCGGC ATCAGCGCGG GCGCGGGGTT TAGCAGCGGC
     3901   AGCCTTTCAG ACGGCATCGG AGGCAAAATC CGCCGCCGCG TGCTGCATTA
     3951   CGGCATTCAG GCACGATACC GCGCCGGTTT CGGCGGATTC GGCATCGAAC
     4001   CGCACATCGG CGCAACGCGC TATTTCGTCC AAAAAGCGGA TTACCGCTAC
     4051   GAAAACGTCA ATATCGCCAC CCCCGGCCTT GCATTCAACC GCTACCGCGC
     4101   GGGCATTAAG GCAGATTATT CATTCAAACC GGCGCAACAC ATTTCCATCA
     4151   CGCCTTATTT GAGCCTGTCC TATACCGATG CCGCTTCGGG CAAAGTCCGA
     4201   ACACGCGTCA ATACCGCCGT ATTGGCTCAG GATTTCGGCA AAACCCGCAG
     4251   TGCGGAATGG GGCGTAAACG CCGAAATCAA AGGTTTCACG CTGTCCCTCC
     4301   ACGCTGCCGC CGCCAAAGGC CCGCAACTGG AAGCGCAACA CAGCGCGGGC
     4351   ATCAAATTAG GCTACCGCTG GTAA
```

This corresponds to the amino acid sequence <SEQ ID 1047; ORF orfl-1>:

```
orfl-1.pep
        1   MKTTDKRTTE THRKAPKTGR IRFSPAYLAI CLSFGILPQA WAGHTYFGIN
       51   YQYYRDFAEN KGKFAVGAKD IEVYNKKGEL VGKSMTKAPM IDFSVVSRNG
      101   VAALVGDQYI VSVAHNGGYN NVDFGAEGRN PDQHRFTYKI VKRNNYKAGT
      151   KGHPYGGDYH MPRLHKFVTD AEPVEMTSYM DGRKYIDQNN YPDRVRIGAG
      201   RQYWRSDEDE PNNRESSYHI ASAYSWLVGG NTFAQNGSGG GTVNLGSEKI
      251   KHSPYGFLPT GGSFGDSGSP MFIYDAQKQK WLINGVLQTG NPYIGKSNGF
      301   QLVRKDWFYD EIFAGDTHSV FYEPRQNGKY SFNDDNNGTG KINAKHEHNS
      351   LPNRLKTRTV QLFNVSLSET AREPVYHAAG GVNSYRPRLN NGENISFIDE
      401   GKGELILTSN INQGAGGLYF QGDFTVSPEN NETWQGAGVH ISEDSTVTWK
      451   VNGVANDRLS KIGKGTLHVQ AKGENQGSIS VGDGTVILDQ QADDKGKKQA
      501   FSEIGLVSGR GTVQLNADNQ FNPDKLYFGF RGGRLDLNGH SLSFHRIQNT
      551   DEGAMIVNHN QDKESTVTIT GNKDIATTGN NNSLDSKKEI AYNGWFGEKD
      601   TTKTNGRLNL VYQPAAEDRT LLLSGGTNLN GNITQTNGKL FFSGRPTPHA
      651   YNHLNDHWSQ KEGIPRGEIV WDNDWINRTF KAENFQIKGG QAVVSRNVAK
      701   VKGDWHLSNH AQAVFGVAPH QSHTICTRSD WTGLTNCVEK TITDDKVIAS
      751   LTKTDISGNV DLADHAHLNL TGLATLNGNL SANGDTRYTV SHNATQNGNL
      801   SLVGNAQATF NQATLNGNTS ASGNASFNLS DHAVQNGSLT LSGNAKANVS
      851   HSALNGNVSL ADKAVFHFES SRFTGQISGG KDTALHLKDS EWTLPSGTEL
      901   GNLNLDNATI TLNSAYRHDA AGAQTGSATD APRRRSRRSR RSLLSVTPPT
      951   SVESRFNTLT VNGKLNGQGT FRFMSELFGY RSDKLKLAES SEGTYTLAVN
     1001   NTGNEPASLE QLTVVEGKDN KPLSENLNFT LQNEHVDAGA WRYQLIRKDG
     1051   EFRLHNPVKE QELSDKLGKA EAKKQAEKDN AQSLDALIAA GRDAVEKTES
     1101   VAEPARQAGG ENVGIMQAEE EKKRVQADKD TALAKQREAE TRPATTAFPR
     1151   ARRARRDLPQ LQPQPQPQPQ RDLISRYANS GLSEFSATLN SVFAVQDELD
     1201   RVFAEDRRNA VWTSGIRDTK HYRSQDFRAY RQQTDLRQIG MQKNLGSGRV
     1251   GILFSHNRTE NTFDDGIGNS ARLAHGAVFG QYGIDRFYIG ISAGAGFSSG
     1301   SLSDGIGGKI RRRVLHYGIQ ARYRAGFGGF GIEPHIGATR YFVQKADYRY
     1351   ENVNIATPGL AFNRYRAGIK ADYSFKPAQH ISITPYLSLS YTDAASGKVR
     1401   TRVNTAVLAQ DFGKTRSAEW GVNAEIKGFT LSLHAAAAKG PQLEAQHSAG
     1451   IKLGYRW*
```

- 114 -

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1048>:

```
orf46-2.seq
       1  TTGGGCATTT CCCGCAAAAT ATCCCTTATT CTGTCCATAC TGGCAGTGTG
      51  CCTGCCGATG CATGCACACG CCTCAGATTT GGCAAACGAT TCTTTTATCC
     101  GGCAGGTTCT CGACCGTCAG CATTTCGAAC CCGACGGGAA ATACCACCTA
     151  TTCGGCAGCA GGGGGGAACT TGCCGAGCGC AGCGGCCATA TCGGATTGGG
     201  AAAAATACAA AGCCATCAGT TGGGCAACCT GATGATTCAA CAGGCGGCCA
     251  TTAAAGGAAA TATCGGCTAC ATTGTCCGCT TTTCCGATCA CGGGCACGAA
     301  GTCCATTCCC CCTTCGACAA CCATGCCTCA CATTCCGATT CTGATGAAGC
     351  CGGTAGTCCC GTTGACGGAT TTAGCCTTTA CCGCATCCAT TGGGACGGAT
     401  ACGAACACCA TCCCGCCGAC GGCTATGACG GGCCACAGGG CGGCGGCTAT
     451  CCCGCTCCCA AAGGCGCGAG GGATATATAC AGCTACGACA TAAAAGGCGT
     501  TGCCCAAAAT ATCCGCCTCA ACCTGACCGA CAACCGCAGC ACCGGACAAC
     551  GGCTTGCCGA CCGTTTCCAC AATGCCGGTA GTATGCTGAC GCAAGGAGTA
     601  GGCGACGGAT TCAAACGCGC CACCCGATAC AGCCCCGAGC TGGACAGATC
     651  GGGCAATGCC GCCGAAGCCT TCAACGGCAC TGCAGATATC GTTAAAAACA
     701  TCATCGGCGC GGCAGGAGAA ATTGTCGGCG CAGGCGATGC CGTGCAGGGC
     751  ATAAGCGAAG GCTCAAACAT TGCTGTCATG CACGGCTTGG GTCTGCTTTC
     801  CACCGAAAAC AAGATGGCGC GCATCAACGA TTTGGCAGAT ATGGCGCAAC
     851  TCAAAGACTA TGCCGCAGCA GCCATCCGCG ATTGGGCAGT CCAAAACCCC
     901  AATGCCGCAC AAGGCATAGA AGCCGTCAGC AATATCTTTA TGGCAGCCAT
     951  CCCCATCAAA GGGATTGGAG CTGTTCGGGG AAAATACGGC TTGGGCGGCA
    1001  TCACGGCACA TCCTATCAAG CGGTCGCAGA TGGGCGCGAT CGCATTGCCG
    1051  AAAGGGAAAT CCGCCGTCAG CGACAATTTT GCCGATGCGG CATACGCCAA
    1101  ATACCCGTCC CCTTACCATT CCCGAAATAT CCGTTCAAAC TTGGAGCAGC
    1151  GTTACGGCAA AGAAAACATC ACCTCCTCAA CCGTGCCGCC GTCAAACGGC
    1201  AAAAATGTCA AACTGGCAGA CCAACGCCAC CCGAAGACAG GCGTACCGTT
    1251  TGACGGTAAA GGGTTTCCGA ATTTTGAGAA GCACGTGAAA TATGATACGA
    1301  AGCTCGATAT TCAAGAATTA TCGGGGGGCG GTATACCTAA GGCTAAGCCT
    1351  GTGTTTGATG CGAAACCGAG ATGGGAGGTT GATAGGAAGC TTAATAAATT
    1401  GACAACTCGT GAGCAGGTGG AGAAAAATGT TCAGGAAATA AGGAACGGTA
    1451  ATATAAACAG TAACTTTAGC CAACATGCTC AACTAGAGAG GGAAATTAAT
    1501  AAACTAAAAT CTGCCGATGA AATTAATTTT GCAGATGGAA TGGGAAAATT
    1551  TACCGATAGC ATGAATGACA AGGCTTTTAG TAGGCTTGTG AAATCAGTTA
    1601  AAGAGAATGG CTTCACAAAT CCAGTTGTGG AGTACGTTGA AATAAATGGA
    1651  AAAGCATATA TCGTAAGAGG AAATAATRGG GTTTTTGCTG CAGAATACCT
    1701  TGGCAGGATA CATGAATTAA AATTTAAAAA AGTTGACTTT CCTGTTCCTA
    1751  ATACTAGTTG GAAAAATCCT ACTGATGTCT TGAATGAATC AGGTAATGTT
    1801  AAGAGACCTC GTTATAGGAG TAAATAA
```

This corresponds to the amino acid sequence <SEQ ID 1049; ORF orf46-2>:

```
orf46-2.pep
       1  LGISRKISLI LSILAVCLPM HAHASDLAND SFIRQVLDRQ HFEPDGKYHL
      51  FGSRGELAER SGHIGLGKIQ SHQLGNLMIQ QAAIKGNIGY IVRFSDHGHE
     101  VHSPFDNHAS HSDSDEAGSP VDGFSLYRIH WDGYEHHPAD GYDGPQGGGY
     151  PAPKGARDIY SYDIKGVAQN IRLNLTDNRS TGQRLADRFH NAGSMLTQGV
     201  GDGFKRATRY SPELDRSGNA AEAFNGTADI VKNIIGAAGE IVGAGDAVQG
     251  ISEGSNIAVM HGLGLLSTEN KMARINDLAD MAQLKDYAAA AIRDWAVQNP
     301  NAAQGIEAVS NIFMAAIPIK GIGAVRGKYG LGGITAHPIK RSQMGAIALP
     351  KGKSAVSDNF ADAAYAKYPS PYHSRNIRSN LEQRYGKENI TSSTVPPSNG
     401  KNVKLADQRH PKTGVPFDGK GFPNFEKHVK YDTKLDIQEL SGGGIPKAKP
     451  VFDAKPRWEV DRKLNKLTTR EQVEKNVQEI RNGNINSNFS QHAQLEREIN
     501  KLKSADEINF ADGMGKFTDS MNDKAFSRLV KSVKENGFTN PVVEYVEING
     551  KAYIVRGNNR VFAAEYLGRI HELKFKKVDF PVPNTSWKNP TDVLNESGNV
     601  KRPRYRSK*
```

Using the above-described procedures, the following oligonucleotide primers were employed in the polymerase chain reaction (PCR) assay in order to clone the ORFs as indicated:

Oligonucleotides used for PCR

Table 1

ORF	Primer	Sequence	Restriction sites
279	Forward	CGCGGATCCCATATG-TTGCCTGCAATCACGATT <SEQ ID 1050>	BamHI-NdeI
	Reverse	CCCGCTCGAG-TTTAGAAGCGGGCGGCAA <SEQ ID 1051>	XhoI
519	Forward	CGCGGATCCCATATG-TTCAAATCCTTTGTCGTCA <SEQ ID 1052>	BamHI-NdeI
	Reverse	CCCGCTCGAG-TTTGGCGGTTTTGCTGC <SEQ ID 1053>	XhoI
576	Forward	CGCGGATCCCATATG-GCCGCCCCGCATCT <SEQ ID 1054>	BamHI-NdeI
	Reverse	CCCGCTCGAG-ATTTACTTTTTTGATGTCGAC <SEQ ID 1055>	XhoI
919	Forward	CGCGGATCCCATATG-TGCCAAAGCAAGAGCATC <SEQ ID 1056>	BamHI-NdeI
	Reverse	CCCGCTCGAG-CGGGCGGTATTCGGG <SEQ ID 1057>	XhoI
121	Forward	CGCGGATCCCATATG-GAAACACAGCTTTACAT <SEQ ID 1058>	BamHI-NdeI
	Reverse	CCCGCTCGAG-ATAATAATATCCCGCGCCC <SEQ ID 1059>	XhoI
128	Forward	CGCGGATCCCATATG-ACTGACAACGCACT <SEQ ID 1060>	BamHI-NdeI
	Reverse	CCCGCTCGAG-GACCGCGTTGTCGAAA <SEQ ID 1061>	XhoI
206	Forward	CGCGGATCCCATATG-AAACACCGCCAACCGA <SEQ ID 1062>	BamHI-NdeI
	Reverse	CCCGCTCGAG-TTCTGTAAAAAAAGTATGTGC <SEQ ID 1063>	XhoI
287	Forward	CCGGAATTCTAGCTAGC-CTTTCAGCCTGCGGG <SEQ ID 1064>	EcoRI-NheI
	Reverse	CCCGCTCGAG-ATCCTGCTCTTTTTTGCC <SEQ ID 1065>	XhoI
406	Forward	CGCGGATCCCATATG-TGCGGGACACTGACAG <SEQ ID 1066>	BamHI-NdeI

	Reverse	CCCGCTCGAG-AGGTTGTCCTTGTCTATG <SEQ ID 1067>	XhoI

EXAMPLE 2

Expression of ORF 919

5   The primer described in Table 1 for ORF 919 was used to locate and clone ORF 919. The predicted gene *919* was cloned in pET vector and expressed in *E. coli*. The product of protein expression and purification was analyzed by SDS-PAGE. In panel A) is shown the analysis of 919-His fusion protein purification. Mice were immunized with the purified 919-His and sera were used for Western blot (panel B), FACS analysis (panel C), bactericidal

10   assay (panel D), and ELISA assay (panel E). Symbols: M1, molecular weight marker; PP, purified protein, TP, *N. meningitidis* total protein extract; OMV, *N. meningitidis* outer membrane vesicle preparation. Arrows indicate the position of the main recombinant protein product (A) and the *N. meningitidis* immunoreactive band (B). These experiments confirm that 919 is a surface-exposed protein and that it is a useful immunogen. The hydrophilicity

15   plots, antigenic index, and amphipatic regions of ORF 919 are provided in Figure 10. The AMPHI program is used to predict putative T-cell epitopes (Gao et al 1989, *J. Immunol* 143:3007; Roberts et al. 1996, *AIDS Res Human Retroviruses* 12:593; Quakyi et al. 1992, *Scand J Immunol Suppl* 11:9). The nucleic acid sequence of ORF 919 and the amino acid sequence encoded thereby is provided in Example 1.

20

EXAMPLE 3

Expression of ORF 279

The primer described in Table 1 for ORF 279 was used to locate and clone ORF 279. The predicted gene *279* was cloned in pGex vector and expressed in *E. coli*. The product of

25   protein expression and purification was analyzed by SDS-PAGE. In panel A) is shown the analysis of 279-GST purification. Mice were immunized with the purified 279-GST and sera were used for Western blot analysis (panel B), FACS analysis (panel C), bactericidal assay (panel D), and ELISA assay (panel E). Symbols: M1, molecular weight marker; TP, *N. meningitidis* total protein extract; OMV, *N. meningitidis* outer membrane vescicle

30   preparation. Arrows indicate the position of the main recombinant protein product (A) and

- 117 -

the *N. meningitidis* immunoreactive band (B). These experiments confirm that 279 is a surface-exposed protein and that it is a useful immunogen. The hydrophilicity plots, antigenic index, and amphipatic regions of ORF 279 are provided in Figure 11. The AMPHI program is used to predict putative T-cell epitopes (Gao et al 1989, *J. Immunol* 143:3007;

5   Roberts et al. 1996, *AIDS Res Human Retroviruses* 12:593; Quakyi et al. 1992, *Scand J Immunol Suppl* 11:9). The nucleic acid sequence of ORF 279 and the amino acid sequence encoded thereby is provided in Example 1.

10   EXAMPLE 4

                                     Expression of ORF 576

         The primer described in Table 1 for ORF 576 was used to locate and clone ORF 576.
The predicted gene *576* was cloned in pGex vector and expressed in *E. coli*. The product of
protein purification was analyzed by SDS-PAGE. In panel A) is shown the analysis of 576-

15   GST fusion protein purification. Mice were immunized with the purified 576-GST and sera
were used for Western blot (panel B), FACS analysis (panel C), bactericidal assay (panel D),
and ELISA assay (panel E). Symbols: M1, molecular weight marker; TP, *N. meningitidis*
total protein extract; OMV, *N. meningitidis* outer membrane vescicle preparation. Arrows
indicate the position of the main recombinant protein product (A) and the *N. meningitidis*

20   immunoreactive band (B).. These experiments confirm that ORF 576 is a surface-exposed
protein and that it is a useful immunogen. The hydrophilicity plots, antigenic index, and
amphipatic regions of ORF 576 are provided in Figure 12. The AMPHI program is used to
predict putative T-cell epitopes (Gao et al 1989, *J. Immunol* 143:3007; Roberts et al. 1996,
AIDS Res Human Retroviruses 12:593; Quakyi et al. 1992, *Scand J Immunol Suppl* 11:9).

25   The nucleic acid sequence of ORF 576 and the amino acid sequence encoded thereby is
provided in Example 1.

                                            EXAMPLE 5

                                     Expression of ORF 519

30   The primer described in Table 1 for ORF 519 was used to locate and clone ORF 519.
The predicted gene *519* was cloned in pET vector and expressed in *E. coli*. The product of

- 118 -

protein purification was analyzed by SDS-PAGE. In panel A) is shown the analysis of 519-
His fusion protein purification. Mice were immunized with the purified 519-His and sera
were used for Western blot (panel B), FACS analysis (panel C), bactericidal assay (panel D),
and ELISA assay (panel E). Symbols: M1, molecular weight marker; TP, *N. meningitidis*
5   total protein extract; OMV, *N. meningitidis* outer membrane vesicle preparation. Arrows
indicate the position of the main recombinant protein product (A) and the *N. meningitidis*
immunoreactive band (B). These experiments confirm that 519 is a surface-exposed protein
and that it is a useful immunogen. The hydrophilicity plots, antigenic index, and amphipatic
regions of ORF 519 are provided in Figure 13. The AMPHI program is used to predict
10   putative T-cell epitopes (Gao et al 1989, *J. Immunol* 143:3007; Roberts et al. 1996, *AIDS Res
Human Retroviruses* 12:593; Quakyi et al. 1992, *Scand J Immunol Suppl* 11:9). The nucleic
acid sequence of ORF 519 and the amino acid sequence encoded thereby is provided in
Example 1.

15   EXAMPLE 6

                                        Expression of ORF 121

       The primer described in Table 1 for ORF 121 was used to locate and clone ORF 121.
The predicted gene *121* was cloned in pET vector and expressed in *E. coli*. The product of
protein purification was analyzed by SDS-PAGE. In panel A) is shown the analysis of 121-
20   His fusion protein purification. Mice were immunized with the purified 121-His and sera
were used for Western blot analysis (panel B), FACS analysis (panel C), bactericidal assay
(panel D), and ELISA assay (panel E). Results show that 121 is a surface-exposed protein.
Symbols: M1, molecular weight marker; TP, *N. meningitidis* total protein extract; OMV, *N.
meningitidis* outer membrane vescicle preparation. Arrows indicate the position of the main
25   recombinant protein product (A) and the *N. meningitidis* immunoreactive band (B). These
experiments confirm that 121 is a surface-exposed protein and that it is a useful immunogen.
The hydrophilicity plots, antigenic index, and amphipatic regions of ORF 121 are provided in
Figure 14. The AMPHI program is used to predict putative T-cell epitopes (Gao et al 1989, *J.
Immunol* 143:3007; Roberts et al. 1996, *AIDS Res Human Retroviruses* 12:593; Quakyi et al.
30   1992, *Scand J Immunol Suppl* 11:9). The nucleic acid sequence of ORF 121 and the amino
acid sequence encoded thereby is provided in Example 1.

- 119 -

EXAMPLE 7

Expression of ORF 128

The primer described in Table 1 for ORF 128 was used to locate and clone ORF 128.

5   The predicted gene *128* was cloned in pET vector and expressed in *E. coli*. The product of
protein purification was analyzed by SDS-PAGE. In panel A) is shown the analysis of 128-
His purification. Mice were immunized with the purified 128-His and sera were used for
Western blot analysis (panel B), FACS analysis (panel C), bactericidal assay (panel D) and
ELISA assay (panel E). Results show that 128 is a surface-exposed protein. Symbols: M1,

10   molecular weight marker; TP, *N. meningitidis* total protein extract; OMV, *N. meningitidis*
outer membrane vesicle preparation. Arrows indicate the position of the main recombinant
protein product (A) and the *N. meningitidis* immunoreactive band (B). These experiments
confirm that 128 is a surface-exposed protein and that it is a useful immunogen. The
hydrophilicity plots, antigenic index, and amphipatic regions of ORF 128 are provided in

15   Figure 15. The AMPHI program is used to predict putative T-cell epitopes (Gao et al 1989, *J.
Immunol* 143:3007; Roberts et al. 1996, *AIDS Res Human Retroviruses* 12:593; Quakyi et al.
1992, *Scand J Immunol Suppl* 11:9). The nucleic acid sequence of ORF 128 and the amino
acid sequence encoded thereby is provided in Example 1.

20   EXAMPLE 8

Expression of ORF 206

The primer described in Table 1 for ORF 206 was used to locate and clone ORF 206.
The predicted gene *206* was cloned in pET vector and expressed in *E. coli*. The product of
protein purification was analyzed by SDS-PAGE. In panel A) is shown the analysis of 206-

25   His purification. Mice were immunized with the purified 206-His and sera were used for
Western blot analysis (panel B). It is worthnoting that the immunoreactive band in protein
extracts from meningococcus is 38 kDa instead of 17 kDa (panel A). To gain information on
the nature of this antibody staining we expressed ORF 206 in *E. coli* without the His-tag and
including the predicted leader peptide. Western blot analysis on total protein extracts from *E.

30   coli* expressing this native form of the 206 protein showed a recative band at a position of 38
kDa, as observed in meningococcus. We conclude that the 38 kDa band in panel B) is

- 120 -

specific and that anti-206 antibodies, likely recognize a multimeric protein complex. In panel

C is shown the FACS analysis, in panel D the bactericidal assay, and in panel E) the ELISA

assay. Results show that 206 is a surface-exposed protein. Symbols: M1, molecular weight

marker; TP, *N. meningitidis* total protein extract; OMV, *N. meningitidis* outer membrane

5   vesicle preparation. Arrows indicate the position of the main recombinant protein product (A)

and the *N. meningitidis* immunoreactive band (B). These experiments confirm that 206 is a

surface-exposed protein and that it is a useful immunogen. The hydrophilicity plots,

antigenic index, and amphipatic regions of ORF 519 are provided in Figure 16. The AMPHI

program is used to predict putative T-cell epitopes (Gao et al 1989, *J. Immunol* 143:3007;

10   Roberts et al. 1996, *AIDS Res Human Retroviruses* 12:593; Quakyi et al. 1992, *Scand J

Immunol Suppl* 11:9). The nucleic acid sequence of ORF 206 and the amino acid sequence

encoded thereby is provided in Example 1.

EXAMPLE 9

15   Expression of ORF 287

         The primer described in Table 1 for ORF 287 was used to locate and clone ORF 287.

The predicted gene *287* was cloned in pGex vector and expressed in *E. coli*. The product of

protein purification was analyzed by SDS-PAGE. In panel A) is shown the analysis of 287-

GST fusion protein purification. Mice were immunized with the purified 287-GST and sera

20   were used for FACS analysis (panel B), bactericidal assay (panel C), and ELISA assay (panel

D). Results show that 287 is a surface-exposed protein. Symbols: M1, molecular weight

marker. Arrow indicates the position of the main recombinant protein product (A). These

experiments confirm that 287 is a surface-exposed protein and that it is a useful immunogen.

The hydrophilicity plots, antigenic index, and amphipatic regions of ORF 287 are provided in

25   Figure 17. The AMPHI program is used to predict putative T-cell epitopes (Gao et al 1989, *J.

Immunol* 143:3007; Roberts et al. 1996, *AIDS Res Human Retroviruses* 12:593; Quakyi et al.

1992, *Scand J Immunol Suppl* 11:9). The nucleic acid sequence of ORF 287 and the amino

acid sequence encoded thereby is provided in Example 1.

- 121 -

EXAMPLE 10

Expression of ORF 406

The primer described in Table 1 for ORF 406 was used to locate and clone ORF 406. The predicted gene *406* was cloned in pET vector and expressed in *E. coli*. The product of

5   protein purification was analyzed by SDS-PAGE. In panel A) is shown the analysis of 406-His fusion protein purification. Mice were immunized with the purified 406-His and sera were used for Western blot analysis (panel B), FACS analysis (panel C), bactericidal assay (panel D), and ELISA assay (panel E). Results show that 406 is a surface-exposed protein. Symbols: M1, molecular weight marker; TP, *N. meningitidis* total protein extract; OMV, *N.*

10   *meningitidis* outer membrane vescicle preparation. Arrows indicate the position of the main recombinant protein product (A) and the *N. meningitidis* immunoreactive band (B). These experiments confirm that 406 is a surface-exposed protein and that it is a useful immunogen. The hydrophilicity plots, antigenic index, and amphipatic regions of ORF 406 are provided in Figure 18. The AMPHI program is used to predict putative T-cell epitopes (Gao et al 1989, *J.*

15   *Immunol* 143:3007; Roberts et al. 1996, *AIDS Res Human Retroviruses* 12:593; Quakyi et al. 1992, *Scand J Immunol Suppl* 11:9). The nucleic acid sequence of ORF 406 and the amino acid sequence encoded thereby is provided in Example 1.

The foregoing examples are intended to illustrate but not to limit the invention.

- 122 -

Claims

1.   A method for identifying an amino acid sequence, comprising the step of searching for putative open reading frames or protein-coding sequences within one or more of *N. meningitidis* nucleotide sequences SEQ ID NOs 1-961 and 1068, or even-numbered SEQ ID NOs from SEQ ID 962 to SEQ ID 1044.

2.   A method according to claim 1, comprising the steps of searching a *N. meningitidis* nucleotide sequence for an initiation codon and searching the upstream sequence for an in-frame termination codon.

3.   A method for producing a protein, comprising the step of expressing a protein comprising an amino acid sequence identified according to any one of claims 1-2.

4.   A method for identifying a protein in *N. mengitidis*, comprising the steps of producing a protein according to claim 3, producing an antibody which binds to the protein, and determining whether the antibody recognises a protein produced by *N. menigitidis*.

5.   Nucleic acid comprising an open reading frame or protein-coding sequence identified by a method according to any one of claims 1-2.

6.   A protein obtained by the method of claim 3.

7.   Nucleic acid comprising one or more of the *N. meningitidis* nucleotide sequences SEQ ID NOs 1-961 and 1068, or even-numbered SEQ ID NOs from SEQ ID NO 962 to SEQ ID NO 1044.

8.   Nucleic acid comprising a nucleotide sequence having greater than 50% sequence identity to a nucleotide sequence disclosed in the sequence listing SEQ ID NOs 1-961 and 1068, or even-numbered SEQ ID NOs from SEQ ID 962 to SEQ ID 1044.

- 123 -

9.   Nucleic acid comprising a fragment of a nucleotide sequence disclosed in the sequence listing SEQ ID NOs 1-961 and 1068, or even-numbered SEQ ID NOs from SEQ ID 962 to SEQ ID 1044.

5   10.   Nucleic acid according to claim 9, wherein the fragment is unique to the genome of *N. meningitidis*.

11.   Nucleic acid complementary to the nucleic acid of any one of claims 7-10.

10   12.   A protein comprising an amino acid sequence encoded within one or more of the *N. meningitidis* nucleotide sequences SEQ ID NOs 1-961 and 1068, or even-numbered SEQ ID NOs from SEQ ID 962 to SEQ ID 1044.

13.   A protein comprising an amino acid sequences having greater than 50%
15   sequence identity to an amino acid sequence encoded within one or more of the *N. meningitidis* nucleotide sequences SEQ ID NOs 1-961 and 1068, or even-numbered SEQ ID NOs from SEQ ID 962 to SEQ ID 1044.

14.   A protein comprising a fragment of an amino acid sequence selected from the
20   group consisting of one or more odd-numbered SEQ ID NOs 963-1037, amino acid sequences having greater than 50% identity with one or more odd-numbered SEQ ID NOs 963-1045, amino acid sequences encoded within one or more of the *N. meningitidis* nucleotide sequences SEQ ID NOs 1-961 and 1068, and amino acid sequences encoded by one or more even-numbered SEQ ID NOs from SEQ ID 962 to SEQ ID 1044.

25
15.   Nucleic acid encoding a protein according to any one of claims 6-8.

16.   A computer, a computer memory, a computer storage medium or a computer database containing the nucleotide sequence of a nucleic acid according to any one of claims
30   7-11.

- 124 -

17. A computer, a computer memory, a computer storage medium or a computer database containing one or more of the *N. meningitidis* nucleotide sequences SEQ ID NOs 1-961.

18. A polyclonal or monoclonal antibody which binds to a protein according to any one of claims 12-14 or 6.

19. A nucleic acid probe comprising nucleic acid according to any one of claims 5, 7-10, or 15.

20. An amplification primer comprising nucleic acid according to any one of claims 5, 7-10, or 15.

21. A composition comprising (a) nucleic acid according to any one of claims 5, 7-10, or 15; (b) protein according to any one of claims 12-14; and/or (c) an antibody according to claim 18.

22. The use of a composition according to claim 21 as a medicament or as a diagnostic reagent.

23. The use of a composition according to claim 21 in the manufacture of (a) a medicament for treating or preventing infection due to Neisserial bacteria and/or (b) a diagnostic reagent for detecting the presence of Neisserial bacteria or of antibodies raised against Neisserial bacteria.

24. A method of treating a patient, comprising administering to the patient a therapeutically effective amount of a composition according to claim 21.

FIG. 1A
919 (46 kDa)
PURIFICATION
M1 919
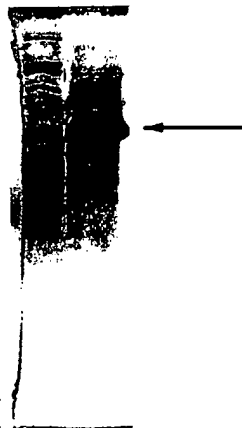
FIG. 1B
919 (46 kDa)
WESTERN BLOT
OMV   TP   PP
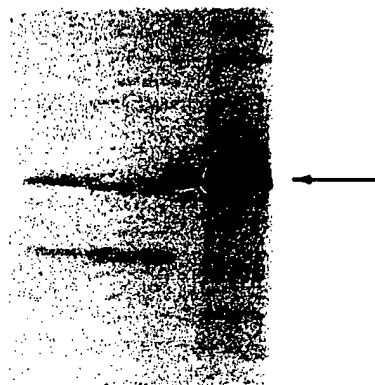
FIG. 1C
919 (46 kDa)
FACS

FIG. 1D
919 (46 kDa)
BACTERICIDAL ASSAY

- preimmune
- GST
- 919

colonies

time
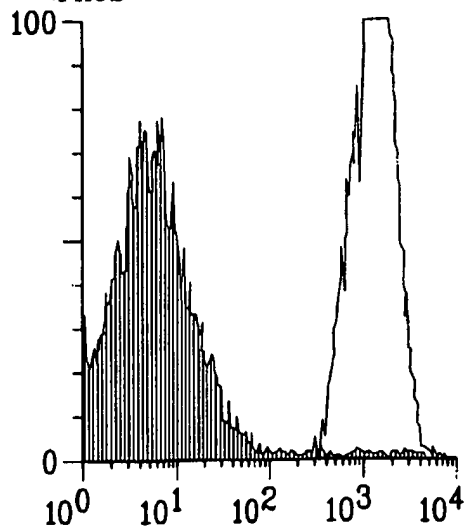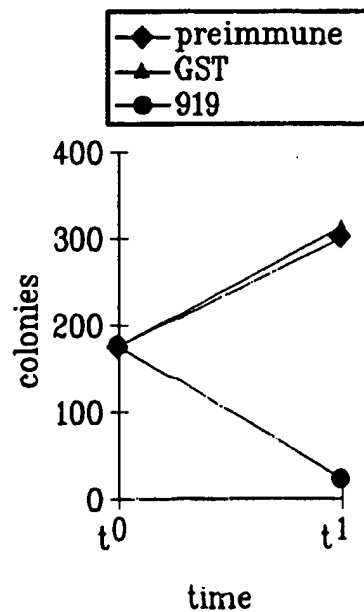
FIG. 1E

919 (46 kDa)
ELISA assay: positive

FIG. 2A

279 (10.5 kDa)
PURIFICATION
M1 279
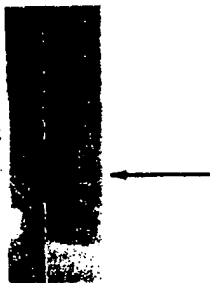
FIG. 2B

279 (10.5 kDa)
WESTERN BLOT
TP OMV

FIG. 2C

279 (10.5 kDa)
FACS
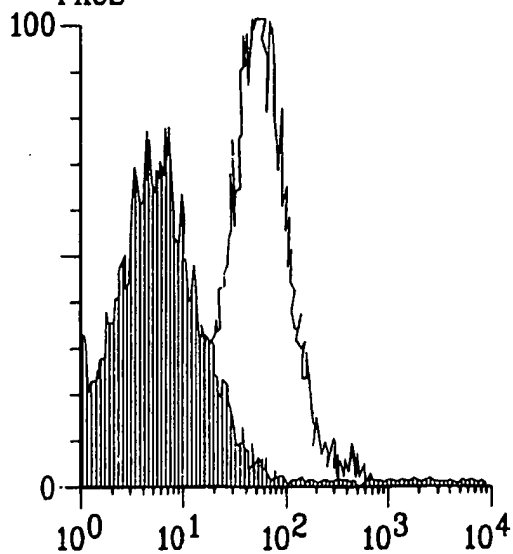
FIG. 2D

279 (10.5 kDa)
BACTERICIDAL ASSAY

- ◆ preimmune
- ▲ GST
- ● 279
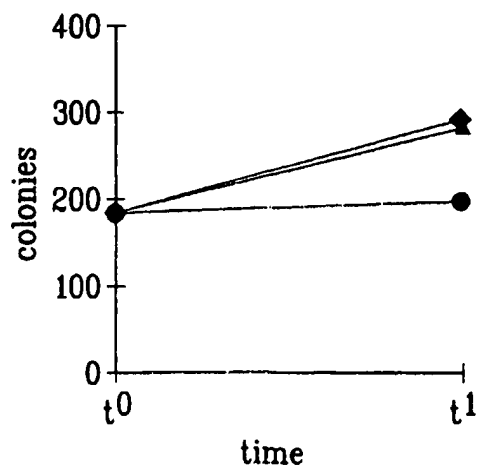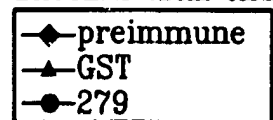
FIG. 2E

279 (10.5 kDa)

ELISA assay: <u>positive</u>

FIG. 3A
576 (27.8 kDa)
PURIFICATION
M1   576
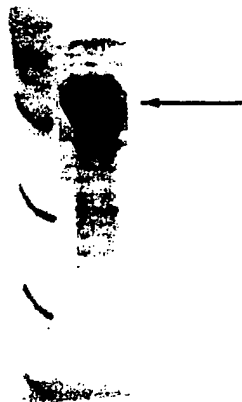
FIG. 3B
576 (27.8 kDa)
WESTERN BLOT
TP OMV
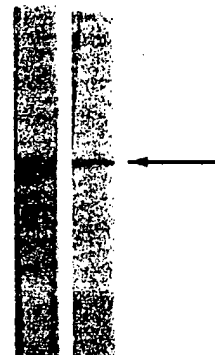
FIG. 3C
576 (27.8 kDa)
FACS
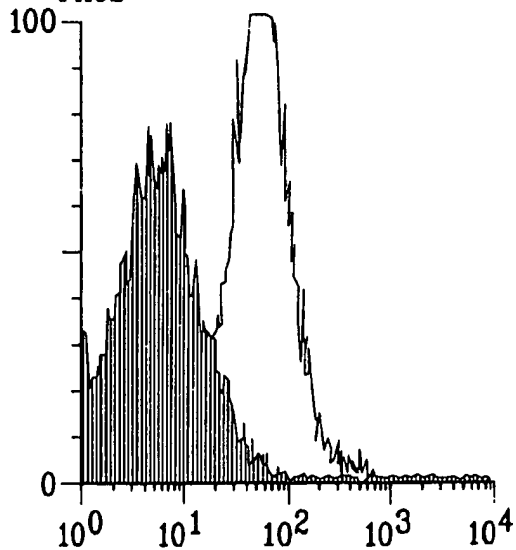
FIG. 3D
576 (27.8 kDa)
BACTERICIDAL ASSAY

◆ preimmune
▲ GST
● 576
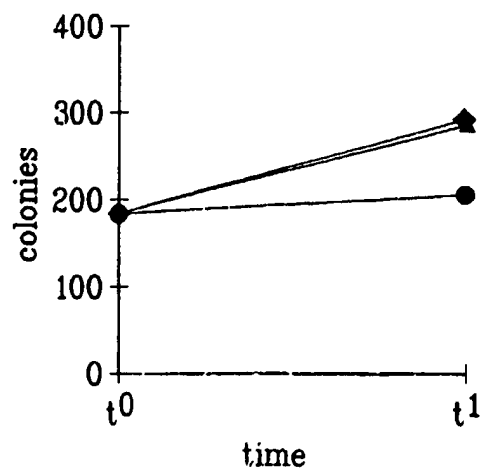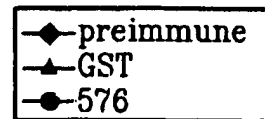
FIG. 3E

576 (27.8 kDa)
ELISA assay: positive

FIG. 4A
519 (33 kDa)
PURIFICATION
M1   519
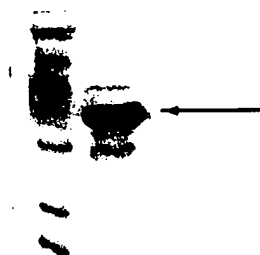
FIG. 4B
519 (33 kDa)
WESTERN BLOT
TP   OMV
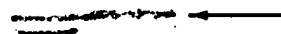
FIG. 4C
519 (33 kDa)
FACS
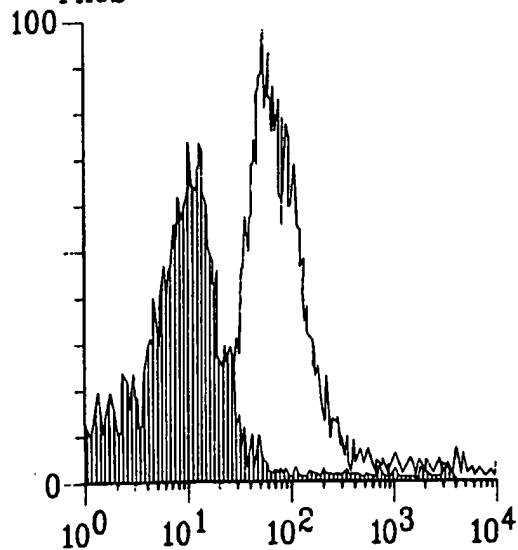
FIG. 4D
519 (33 kDa)
BACTERICIDAL ASSAY

◆ preimmune
▲ GST
● 519
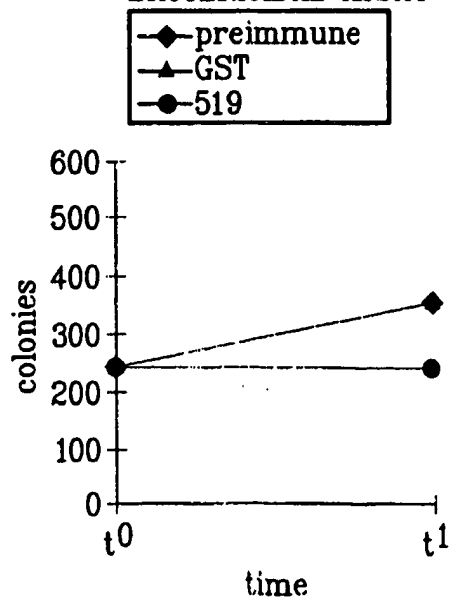
FIG. 4E
519 (33 kDa)
ELISA assay: positive

FIG. 5A
121 (40 kDa)
PURIFICATION
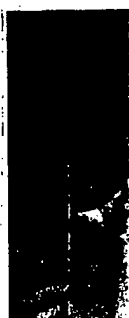
FIG. 5B
121 (40 kDa)
WESTERN BLOT

FIG. 5C
121 (40 kDa)
FACS
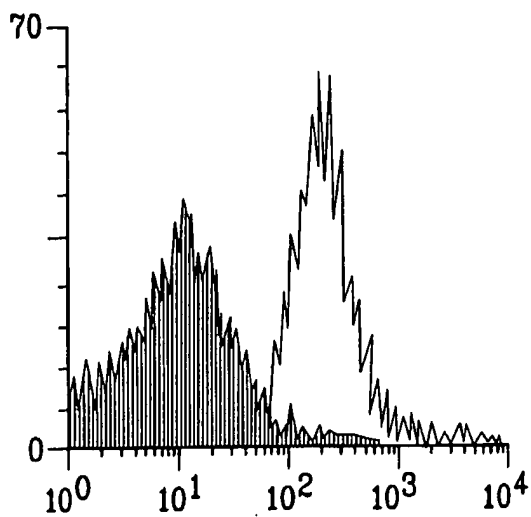
FIG. 5D
121 (40 kDa)
BACTERICIDAL ASSAY
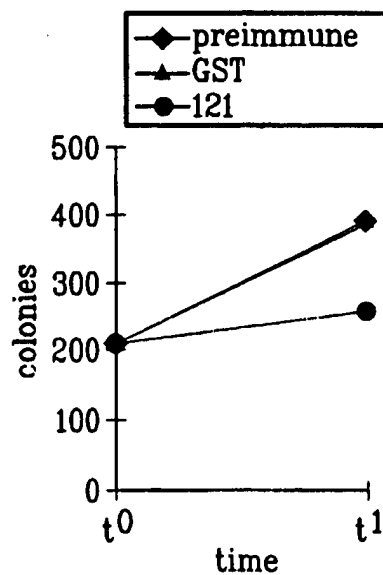
FIG. 5E
121 (40 kDa)

ELISA assay: positive

FIG. 6A

128 (101 kDa)
PURIFICATION
M1   128
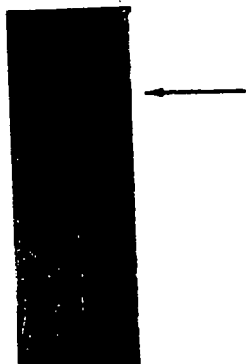
FIG. 6B

128 (101 kDa)
WESTERN BLOT
TP OMV

FIG. 6C

128 (101 kDa)
FACS
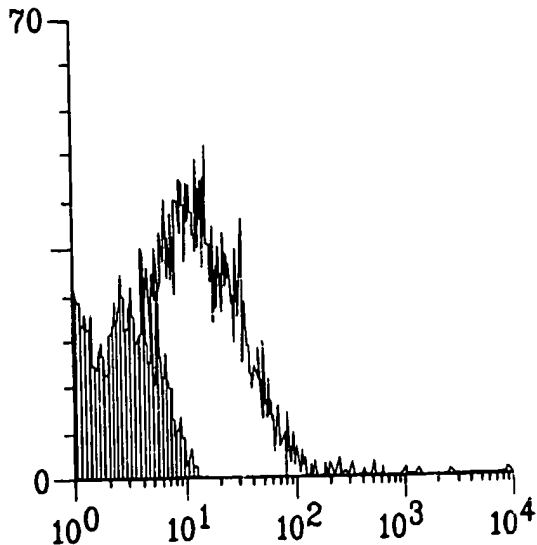
FIG. 6D

128 (101 kDa)
BACTERICIDAL ASSAY

| ◆ preimmune |
| ▲ GST |
| ● 128 |
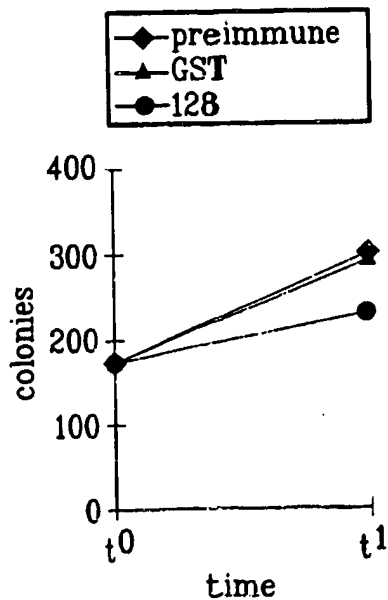
FIG. 6E

128 (101 kDa)
ELISA assay: positive

FIG. 7A
206 (17 kDa)
PURIFICATION
M1   206
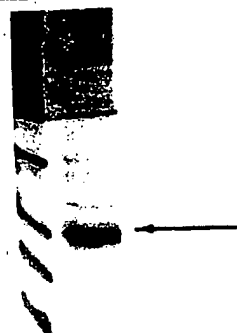
FIG. 7B
206 (17 kDa)
WESTERN BLOT
TP   OMV

FIG. 7C
206 (17 kDa)
FACS
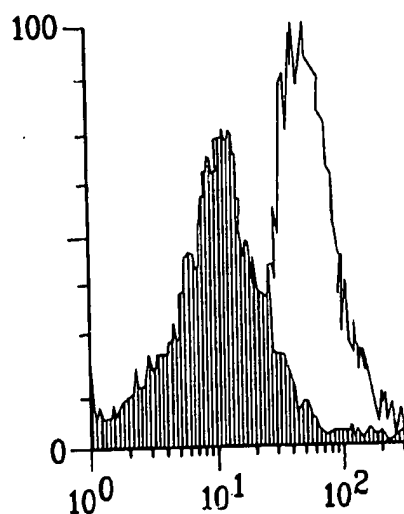
FIG. 7D
206 (17 kDa)
BACTERICIDAL ASSAY

- preimmune
- GST
- 206
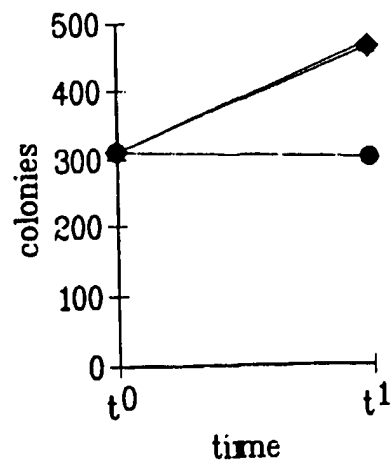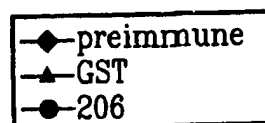
FIG. 7E
206 (17 kDa)

ELISA assay: positive

FIG. 8A

287 (78 kDa)
PURIFICATION

FIG. 8B

287 (78 kDa)
FACS
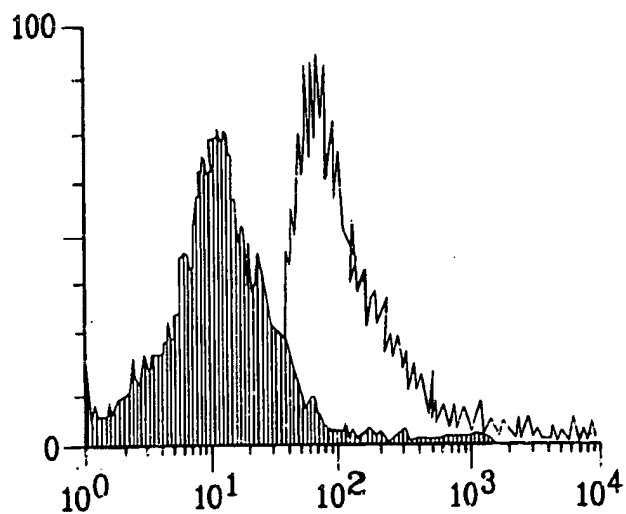
FIG. 8C

287 (78 kDa)
BACTERICIDAL ASSAY
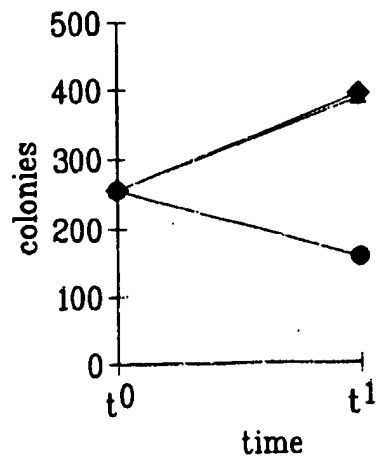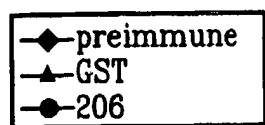
FIG. 8D

287 (78 kDa)
ELISA assay: positive

FIG. 9A

406 (33 kDa)
PURIFICATION

M1   406

FIG. 9B

406 (33 kDa)
WESTERN BLOT
TP   OMV
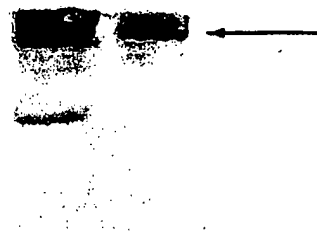
FIG. 9C

406 (33 kDa)
FACS
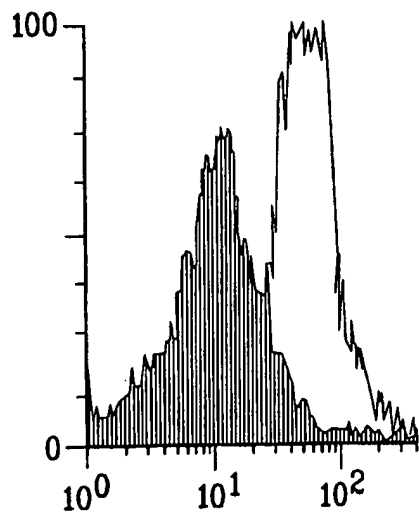
FIG. 9D

406 (33 kDa)
BACTERICIDAL ASSAY

◆ preimmune
▲ GST
● 406
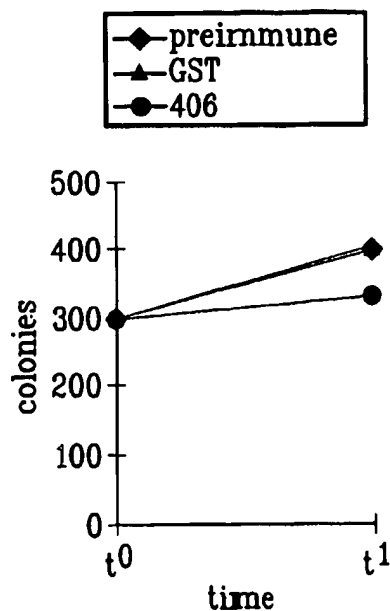
FIG. 9E

406 (33 kDa)

ELISA assay: positive

SUBSTITUTE SHEET (RULE 26)

919
Hydrophilicity Plot, Antigenic Index and AMPHI Regions
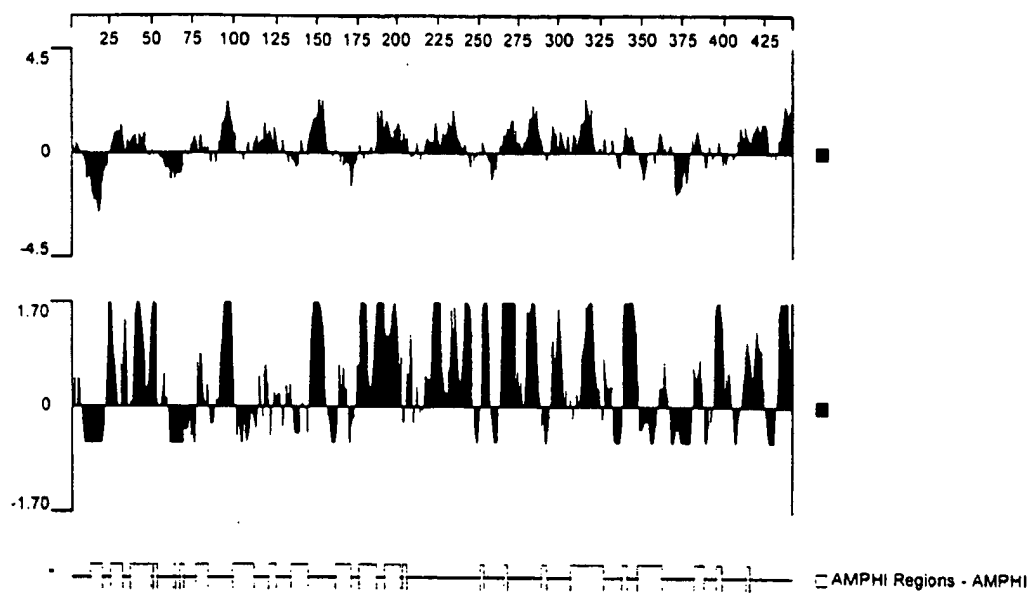
Fig. 10

279

Hydrophilicity Plot, Antigenic Index and AMPHI Regions
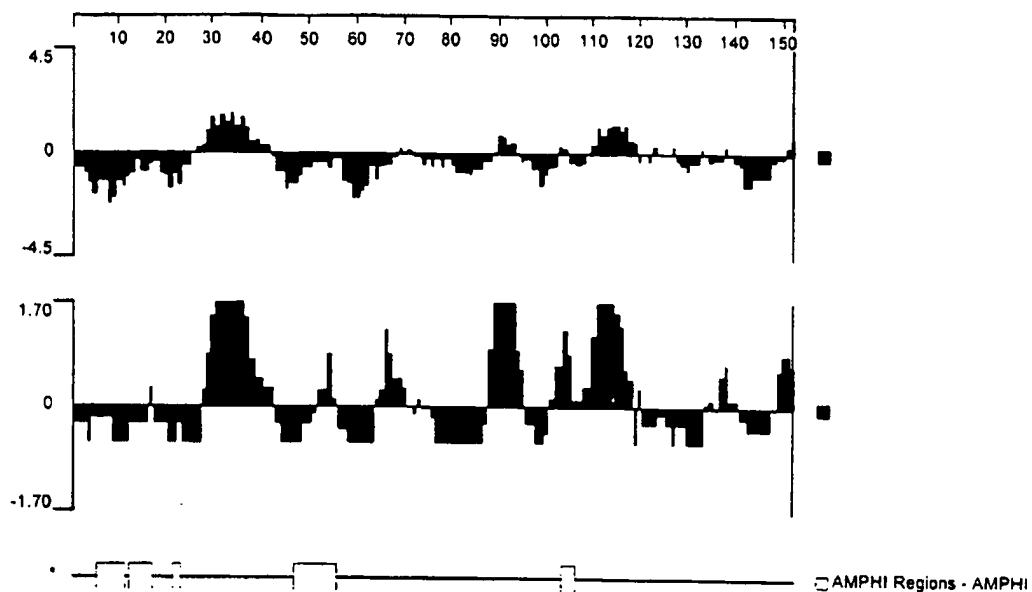
Fig. 11

576-1
Hydrophilicity Plot, Antigenic Index and AMPHI Regions
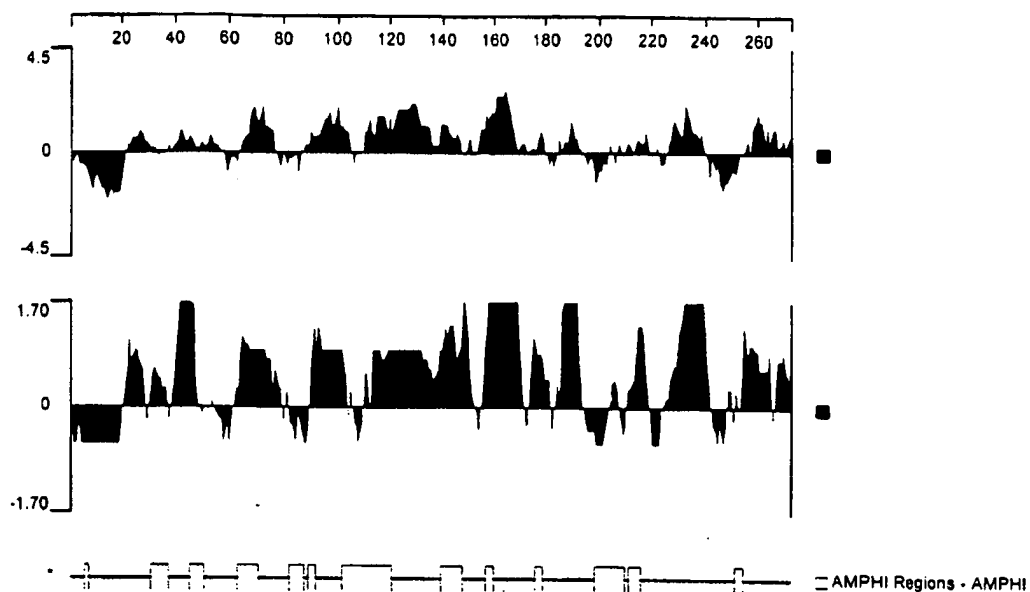
Fig. 12

519-1
Hydrophilicity Plot, Antigenic Index and AMPHI Regions
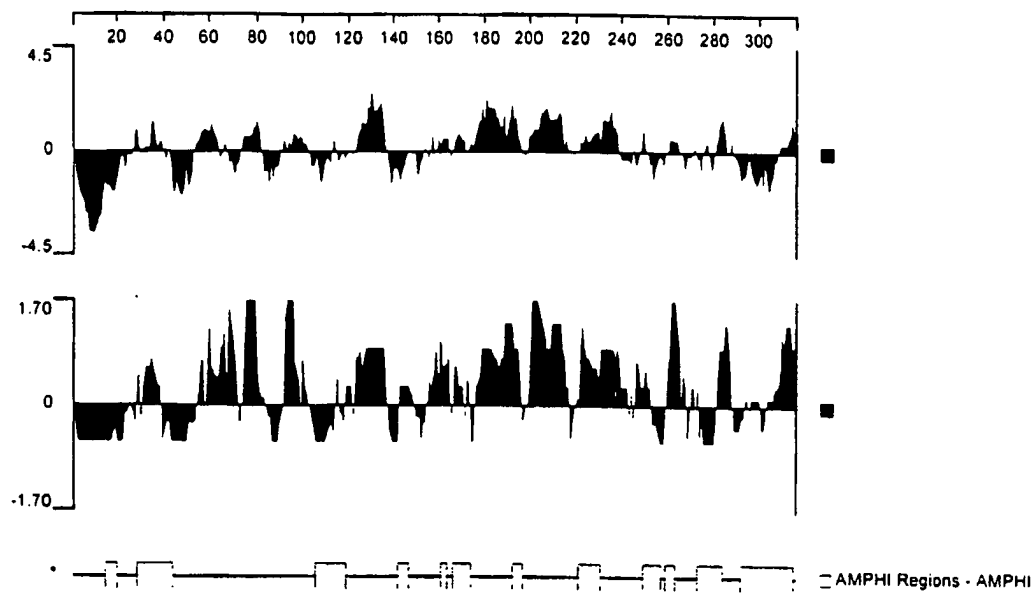
Fig. 13

121-1
Hydrophilicity Plot, Antigenic Index and AMPHI Regions
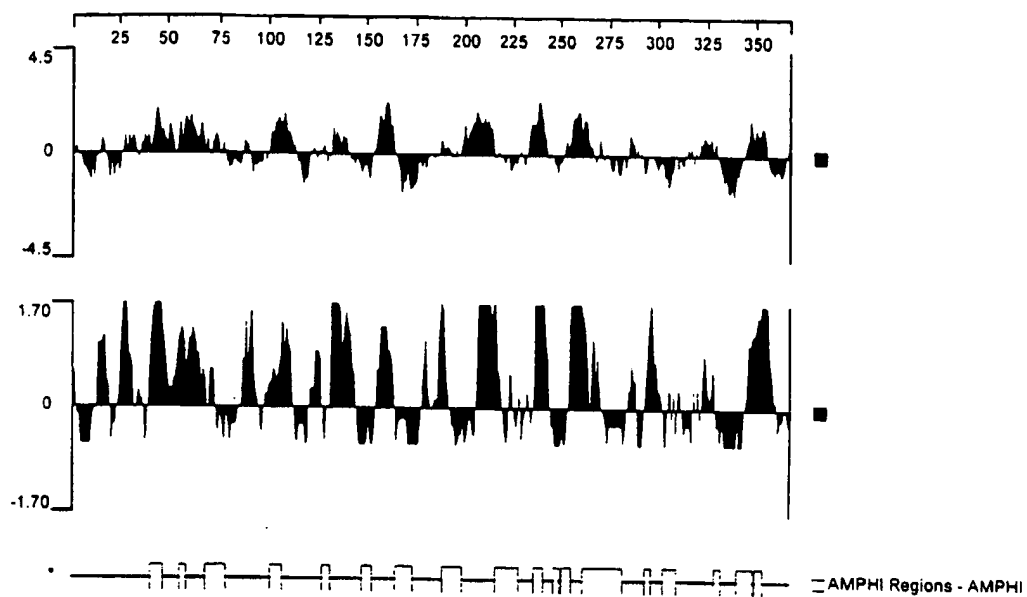
Fig. 14

128-1
Hydrophilicity Plot, Antigenic Index and AMPHI Regions
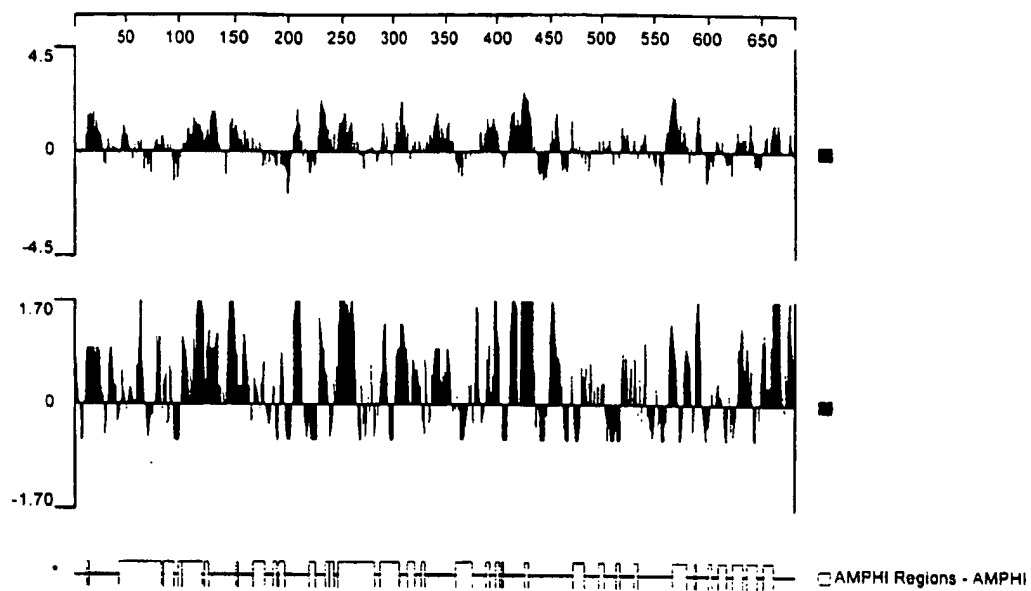
Fig. 15

206
Hydrophilicity Plot, Antigenic Index and AMPHI Regions
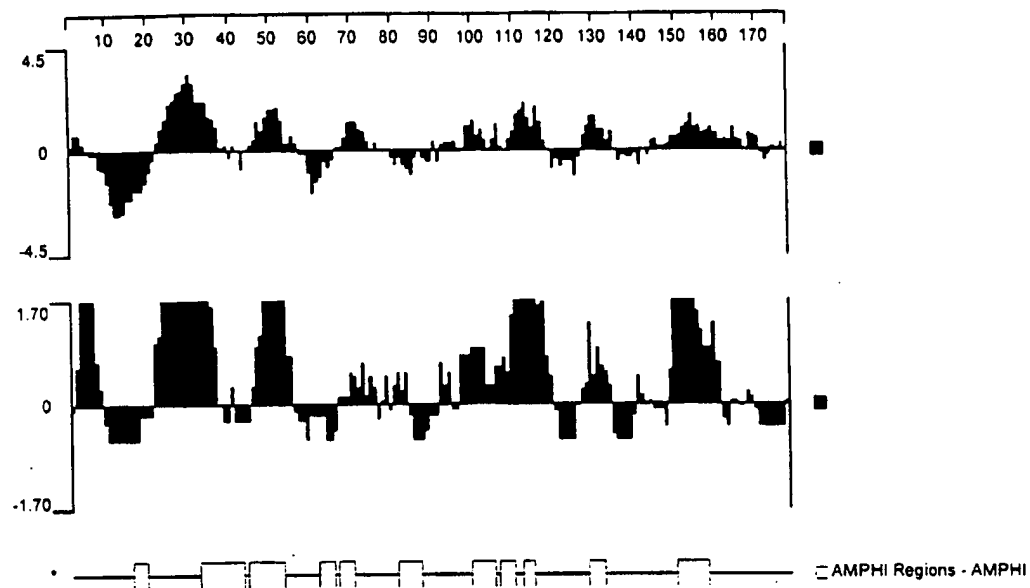
Fig. 16

287
Hydrophilicity Plot, Antigenic Index and AMPHI Regions
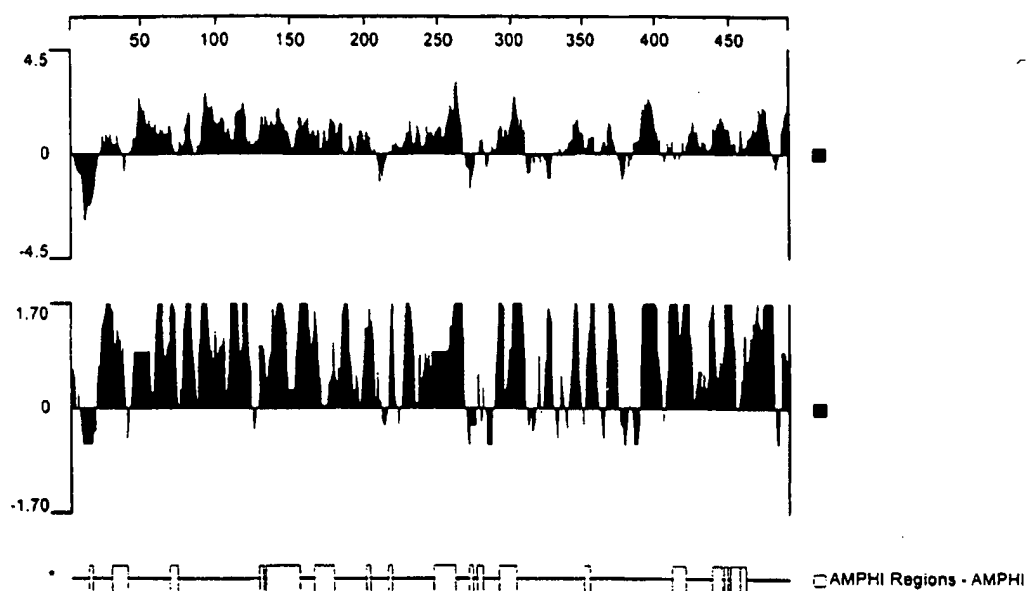
Fig. 17

406
Hydrophilicity Plot, Antigenic Index and AMPHI Regions
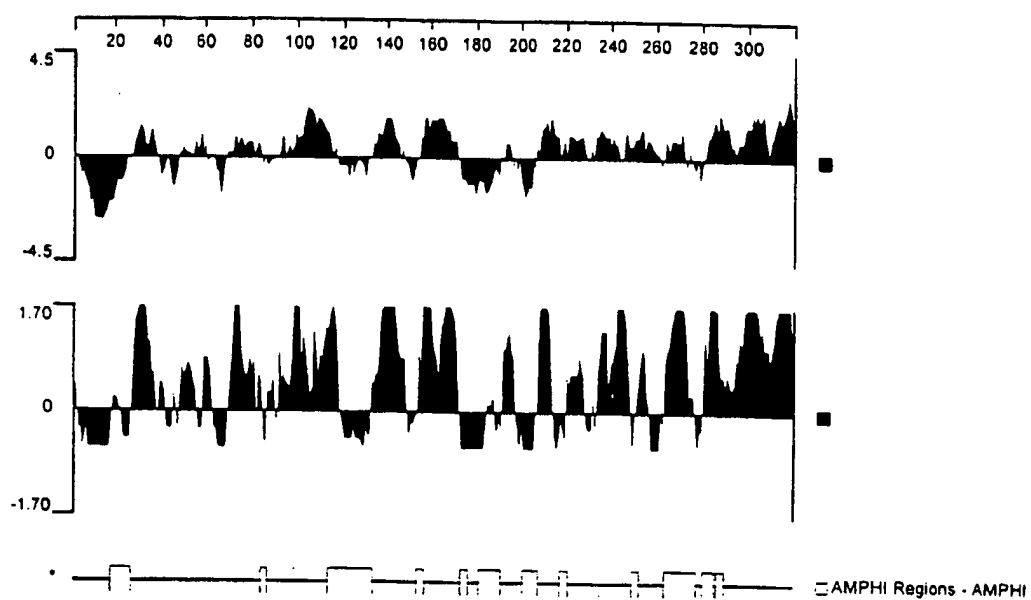
Fig. 18

APPENDIX A

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
1	GNMAA01R	9866	10311
1	GNMAA27F	10765	11284
1	GNMAA27R	11771	12130
1	GNMBA57F	5365	5930
1	GNMBA57R	6594	7118
1	GNMCD17F	9494	10035
1	GNMCD21F	14937	15512
1	GNMCD21R	16217	16700
1	GNMCD26F	27033	27561
1	GNMCD26R	25650	26101
1	GNMCD28F	27012	27561
1	GNMCD58F	27525	28047
1	GNMCD58R	26208	26582
1	GNMCF39F	25928	26411
1	GNMCF39R	24501	25188
1	GNMCK12F	18475	18966
1	GNMCK12R	16734	17175
1	GNMCL43F	31264	31793
1	GNMCL43R	32603	33038
1	GNMCL77F	7112	7681
1	GNMCL77R	8587	9143
1	GNMCO24R	8321	8920
1	GNMCP77F	24906	25412
1	GNMCP77R	26565	27107
1	GNMCQ74F	14937	15617
1	GNMCQ74R	13764	14477
1	GNMCS43F	3607	4278
1	GNMCS56F	21955	22578
1	GNMCS57F	7909	8608
1	GNMCV14F	5771	6272
1	GNMCV15R	7143	7800
1	GNMCV64F	23017	23484
1	GNMCV64R	21277	22018
1	GNMCV74F	16990	17305
1	GNMCV74R	18058	18796
1	GNMCV83F	4008	4503
1	GNMCV83R	2768	3286
1	GNMCY30F	7157	7897
1	GNMCY30R	8378	8912
1	GNMCZ78F	14192	14686
1	GNMCZ78R	15697	16234
1	GNMCZ93F	31337	31862
1	GNMCZ93R	30119	30639
2	GNMAA02F	27133	27648

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
2	GNMAA02R	26120	26546
2	GNMAA38F	16163	16379
2	GNMAA38R	14815	15335
2	GNMAA46F	2337	2704
2	GNMAA46R	3242	3746
2	GNMBA17F	15637	15798
2	GNMCD47F	11113	11453
2	GNMCD78F	13704	14196
2	GNMCD78R	15013	15380
2	GNMCK27F	4941	5490
2	GNMCK27R	3670	4086
2	GNMCL17F	23033	23527
2	GNMCL17R	21424	21995
2	GNMCL82F	24805	25200
2	GNMCL82R	26093	26659
2	GNMCN19F	5929	6601
2	GNMCP32F	18556	19103
2	GNMCP32R	19956	20403
2	GNMCQ84F	16351	17040
2	GNMCQ92F	3243	3692
2	GNMCQ92R	2022	2644
2	GNMCS51F	6645	7300
2	GNMCV24F	28139	28637
2	GNMCV25R	26839	27453
2	GNMCV77F	5149	5575
2	GNMCV77R	6008	6841
2	GNMCY52F	21892	22580
2	GNMCY52R	23157	23662
2	GNMCY74F	21900	22552
2	GNMCY74R	23519	24073
2	GNMCZ69F	1489	1999
2	GNMCZ70F	1489	1985
2	GNMCZ70R	2707	3232
3	GNMAA03F	16946	17459
3	GNMAA03R	18236	18447
3	GNMAA15F	3641	4156
3	GNMAA15R	4704	5176
3	GNMCA12F	8812	9427
3	GNMCB27F	19908	20403
3	GNMCB27R	21309	21630
3	GNMCB59F	22046	22554
3	GNMCB59R	20650	21230
3	GNMCD50F	8711	9229
3	GNMCF53F	15376	15861
3	GNMCF53R	16619	17312
3	GNMCF86F	22322	22760

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
3	GNMCL55F	12659	13194
3	GNMCL55R	13854	14380
3	GNMCM46R	11972	12662
3	GNMCM63F	7397	8071
3	GNMCM63R	8734	9381
3	GNMCP05F	2224	2964
3	GNMCV27F	10472	10969
3	GNMCV28R	11455	12172
4	GNMAA04R	21367	21727
4	GNMAA66F	9998	10514
4	GNMAA66R	9150	9669
4	GNMAA70F	19444	19961
4	GNMAA70R	20446	20841
4	GNMAB18F	34311	34576
4	GNMAB18R	32690	33102
4	GNMBA24F	21408	21950
4	GNMCA71F	35444	36106
4	GNMCA85F	14906	15535
4	GNMCB46F	27141	27652
4	GNMCB46R	28558	29138
4	GNMCD85F	25929	26447
4	GNMCF35F	37587	38065
4	GNMCF35R	36661	37327
4	GNMCK26F	23722	24268
4	GNMCK26R	25176	25751
4	GNMCK39F	26270	26836
4	GNMCK39R	27576	27934
4	GNMCK64F	37686	38053
4	GNMCK64R	36356	36915
4	GNMCL60F	2659	3206
4	GNMCL60R	4028	4520
4	GNMCM12F	21992	22465
4	GNMCM12R	23335	23919
4	GNMCM80F	15507	16171
4	GNMCM80R	16264	16990
4	GNMCN08R	33415	33739
4	GNMCO47F	23101	23700
4	GNMCO47R	24872	25344
4	GNMCP24F	34864	35552
4	GNMCP24R	33620	34225
4	GNMCP44F	24613	24976
4	GNMCP44R	25712	26279
4	GNMCQ80F	35274	35964
4	GNMCQ80R	34053	34632
4	GNMCS02F	37528	38035
4	GNMCV40F	33203	33632

-4-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
4	GNMCX19F	37333	38076
4	GNMCX19R	36229	36871
4	GNMCX25F	28667	29362
4	GNMCX25R	27755	28398
4	GNMCX31F	1336	2085
4	GNMCX31R	1	640
4	GNMCX38F	15063	15774
4	GNMCX38R	14158	14836
4	GNMCY53F	8159	8846
4	GNMCY53R	6905	7405
4	GNMCZ25F	42411	42912
4	GNMCZ25R	40673	41229
4	GNMCZ27F	4786	5245
4	GNMCZ27R	3484	4030
5	GNMAA05F	5819	6334
5	GNMAA05R	6898	7190
5	GNMAA09F	15867	16369
5	GNMAA09R	15935	16368
5	GNMAA50R	17996	18383
5	GNMAA51F	44043	44409
5	GNMAA51R	43157	43679
5	GNMCA06F	43254	43764
5	GNMCA72F	7437	8102
5	GNMCA87F	36458	36899
5	GNMCB41F	44654	45224
5	GNMCB41R	45601	46039
5	GNMCD77F	46927	47437
5	GNMCD77R	48378	48761
5	GNMCF13F	18408	18911
5	GNMCF13R	16858	17553
5	GNMCF26F	44946	45450
5	GNMCF26R	46355	47018
5	GNMCF51F	31870	32355
5	GNMCK15F	34028	34591
5	GNMCK15R	33072	33560
5	GNMCK52F	13042	13587
5	GNMCK52R	11706	12267
5	GNMCK67F	16111	16399
5	GNMCK67R	14116	14459
5	GNMCL36F	26130	26644
5	GNMCL36R	24478	25038
5	GNMCL57F	46883	47459
5	GNMCL57R	48232	48759
5	GNMCL93F	6901	7404
5	GNMCL93R	5298	5897
5	GNMCN22F	4118	4792

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
5	GNMCN22R	5337	5969
5	GNMCN58F	17211	17798
5	GNMCN58R	15825	16436
5	GNMCN85F	38026	38698
5	GNMCN85R	39079	39669
5	GNMCP14F	47197	47893
5	GNMCP14R	47924	48597
5	GNMCP42F	23201	23701
5	GNMCP42R	24295	24875
5	GNMCP60F	31050	31537
5	GNMCP60R	29886	30442
5	GNMCQ39R	321	1003
5	GNMCS18F	39300	39713
5	GNMCS74F	41338	41970
5	GNMCS84F	47085	47801
5	GNMCS85R	48062	48687
5	GNMCV51F	33257	33720
5	GNMCV53F	35594	36106
5	GNMCV53R	36624	37232
5	GNMCV80F	3433	3924
5	GNMCV80R	2239	2949
5	GNMCX14F	15425	16088
5	GNMCX14R	14412	15041
5	GNMCY05F	26090	26786
5	GNMCY05R	25093	25665
5	GNMCY24F	45941	46684
5	GNMCY24R	47197	47748
5	GNMCY75F	9003	9618
5	GNMCY75R	9968	10503
5	GNMCZ74F	32693	33186
5	GNMCZ74R	31650	32179
6	GNMAA06F	43077	43280
6	GNMAA33F	21695	22061
6	GNMAA33R	22761	23120
6	GNMAA39F	11023	11390
6	GNMAA39R	12412	12870
6	GNMAB43F	13579	14098
6	GNMAB56F	20656	21079
6	GNMCA67F	37544	38219
6	GNMCB01F	34331	34902
6	GNMCB01R	35502	36050
6	GNMCD62F	6122	6648
6	GNMCD62R	4831	5183
6	GNMCD93F	1679	2157
6	GNMCD93R	3169	3495
6	GNMCK06F	20928	21478

-6-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
6	GNMCK06R	19697	20289
6	GNMCL39F	24705	25251
6	GNMCL39R	23194	23548
6	GNMCM21F	32432	33056
6	GNMCM21R	33649	34334
6	GNMCN70R	14256	14926
6	GNMCO52F	13197	13922
6	GNMCO85F	26216	26827
6	GNMCO85R	25022	25686
6	GNMCS27F	16689	17300
6	GNMCS61F	3508	4184
6	GNMCS77F	40570	41276
6	GNMCS83F	32447	33093
6	GNMCS84R	30598	31235
6	GNMCV08F	42819	43260
6	GNMCV09R	44363	44932
6	GNMCV75F	14981	15479
6	GNMCX36F	38996	39738
6	GNMCX36R	39855	40528
6	GNMCX59F	39178	39574
6	GNMCX59R	40477	41178
6	GNMCY92F	24695	25185
6	GNMCZ42F	15656	16179
6	GNMCZ42R	17126	17641
6	GNMCZ59F	38912	39364
6	GNMCZ59R	37528	38062
7	GNMAA07F	8291	8808
7	GNMAA07R	9371	9793
7	GNMAA10F	39307	39822
7	GNMAA10R	37810	38060
7	GNMAA76F	289	796
7	GNMAA76R	1117	1517
7	GNMAB01F	33973	34541
7	GNMAB01R	34969	35306
7	GNMAB04F	53611	54157
7	GNMAB04R	52653	53059
7	GNMAB52F	37174	37740
7	GNMAB55F	52123	52618
7	GNMBA81F	28757	29327
7	GNMBA81R	27546	28097
7	GNMBB21F	40393	40959
7	GNMBB21R	39008	39449
7	GNMCA75F	31357	32032
7	GNMCB25F	33514	34085
7	GNMCB25R	34748	35431
7	GNMCB48F	14504	15191

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
7	GNMCB56F	36436	37114
7	GNMCB56R	35390	36079
7	GNMCB67F	42108	42771
7	GNMCB67R	41133	41740
7	GNMCB69F	27142	27807
7	GNMCB69R	25881	26530
7	GNMCD33R	50431	50757
7	GNMCD51F	6134	6629
7	GNMCF11F	35219	35727
7	GNMCF11R	36756	37229
7	GNMCF37F	51876	52358
7	GNMCF37R	49997	50607
7	GNMCF45F	40695	41177
7	GNMCF45R	41795	42403
7	GNMCF58F	6844	7311
7	GNMCF58R	5528	6208
7	GNMCF89F	52016	52469
7	GNMCF89R	53363	54002
7	GNMCH63F	39350	39770
7	GNMCH80F	20170	20607
7	GNMCK02F	43141	43483
7	GNMCK02R	41418	41852
7	GNMCK03F	41843	42407
7	GNMCK03R	40397	40952
7	GNMCK75F	29011	29346
7	GNMCK75R	27279	27840
7	GNMCL37F	37566	38097
7	GNMCL37R	38870	39442
7	GNMCL38F	38465	38990
7	GNMCL38R	37261	37843
7	GNMCL50F	52471	53006
7	GNMCL50R	51307	51879
7	GNMCM16R	43200	43943
7	GNMCM28F	31079	31677
7	GNMCM28R	29986	30699
7	GNMCM75F	29426	30002
7	GNMCM75R	28230	28947
7	GNMCN07R	31678	32296
7	GNMCN08F	30220	30908
7	GNMCN66F	49682	50383
7	GNMCN68R	48507	48702
7	GNMCP52F	53906	54238
7	GNMCP75F	3335	3631
7	GNMCP75R	2430	2916
7	GNMCP87F	19818	20336
7	GNMCP87R	21539	21853

-8-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
7	GNMCQ05F	16992	17629
7	GNMCQ05R	15900	16596
7	GNMCQ06F	8173	8758
7	GNMCQ06R	6774	7461
7	GNMCQ11F	35268	35953
7	GNMCQ11R	36305	36981
7	GNMCQ13F	28320	29037
7	GNMCQ13R	29418	30079
7	GNMCQ24F	40176	40783
7	GNMCQ24R	40841	41510
7	GNMCQ37R	20188	20919
7	GNMCQ55F	40743	41309
7	GNMCQ55R	41980	42698
7	GNMCS30F	49344	49993
7	GNMCS53F	16879	17595
7	GNMCS95F	29469	29622
7	GNMCV01R	30937	31651
7	GNMCV17F	24334	24812
7	GNMCV18R	25368	26100
7	GNMCV28F	26427	26916
7	GNMCV29R	24847	25211
7	GNMCV69F	16647	17098
7	GNMCV91F	10009	10521
7	GNMCV91R	8630	9420
7	GNMCX23F	36634	37387
7	GNMCX23R	38318	38893
7	GNMCX24R	33857	34497
7	GNMCX67F	44537	45096
7	GNMCX67R	45763	46455
7	GNMCX77F	3423	4090
7	GNMCY56F	44117	44788
7	GNMCY56R	45883	46440
7	GNMCY79F	37394	38041
7	GNMCY79R	38954	39287
7	GNMCY84F	7387	8023
7	GNMCY84R	8749	9223
7	GNMCZ21F	28454	28986
7	GNMCZ21R	29774	30347
8	GNMAA08F	3883	4232
8	GNMAA08R	4930	5373
8	GNMAA17F	20102	20622
8	GNMAA17R	19135	19510
8	GNMAA18F	18255	18770
8	GNMAA69F	3985	4501
8	GNMAA69R	2840	3310
8	GNMBA02R	18827	19205

-9-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
8	GNMBA38R	20196	20729
8	GNMBB17F	16245	16809
8	GNMBB17R	14789	15278
8	GNMCD01F	1726	2071
8	GNMCD01R	3032	3560
8	GNMCD57F	15533	16080
8	GNMCD57R	14017	14387
8	GNMCH21F	7735	8074
8	GNMCH58F	20193	20483
8	GNMCK17F	12025	12589
8	GNMCK17R	13519	14068
8	GNMCN37F	11716	12367
8	GNMCN37R	10459	10898
8	GNMCQ71F	15717	16394
8	GNMCQ71R	17082	17799
8	GNMCV56F	2818	3221
8	GNMCV56R	4184	4873
8	GNMCW18F	11443	12002
8	GNMCW19F	12243	12874
8	GNMCX44F	13230	13907
8	GNMCX44R	12093	12776
8	GNMCX81F	6904	7509
8	GNMCX81R	8613	9312
9	GNMAA11R	3820	4070
9	GNMCF10F	4237	4718
9	GNMCF10R	5381	6021
9	GNMCF16F	6231	6723
9	GNMCF16R	4976	5578
9	GNMCH10F	8003	8324
9	GNMCH10R	6412	6686
9	GNMCS36F	8057	8725
9	GNMCX89R	7787	8447
10	GNMAA12F	700	1214
11	GNMAA13F	48121	48639
11	GNMAA13R	49787	50045
11	GNMAA73F	9309	9827
11	GNMAA73R	10319	10725
11	GNMAA95F	5068	5583
11	GNMAA95R	4340	4731
11	GNMAB70F	44475	44906
11	GNMAB70R	45692	46213
11	GNMAB84F	34949	35517
11	GNMAB84R	35628	36115
11	GNMBA30F	35071	35637
11	GNMBA30R	34080	34618
11	GNMBA65F	46358	46779

-10-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
11	GNMBA65R	48334	48629
11	GNMBA96F	25616	26168
11	GNMBA96R	27180	27576
11	GNMCA79F	12432	13093
11	GNMCA81F	64372	65033
11	GNMCB75F	12474	13003
11	GNMCB75R	11368	11898
11	GNMCB79F	12463	12998
11	GNMCB79R	11374	11879
11	GNMCB80F	12394	13044
11	GNMCB80R	11355	11761
11	GNMCB88F	26453	27107
11	GNMCB88R	25225	25878
11	GNMCD37R	1837	2210
11	GNMCD48F	36014	36541
11	GNMCD48R	37485	37833
11	GNMCD61F	33776	34331
11	GNMCD61R	32513	32886
11	GNMCF05F	61923	62430
11	GNMCF05R	63324	63994
11	GNMCF20F	64093	64548
11	GNMCF20R	62670	63312
11	GNMCF27F	7865	8322
11	GNMCF27R	6252	6941
11	GNMCF31F	2643	3144
11	GNMCF31R	3621	4255
11	GNMCF32F	34812	35310
11	GNMCF32R	33489	34167
11	GNMCF44F	7905	8323
11	GNMCF44R	6275	6806
11	GNMCF54F	4208	4682
11	GNMCF54R	5789	6419
11	GNMCH29F	4781	5137
11	GNMCH75F	60773	61203
11	GNMCH75R	62111	62403
11	GNMCK80F	40661	41202
11	GNMCK80R	39298	39847
11	GNMCL01F	59052	59569
11	GNMCL01R	57689	58283
11	GNMCL62F	36623	37174
11	GNMCL62R	38138	38721
11	GNMCL65F	11758	12282
11	GNMCL65R	13221	13807
11	GNMCM44R	3393	4077
11	GNMCM85R	60497	61118
11	GNMCN29F	75370	76048

-11-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
11	GNMCN29R	76487	77001
11	GNMCN90F	53115	53836
11	GNMCN90R	51986	52525
11	GNMCP26F	38602	39106
11	GNMCP26R	37257	37549
11	GNMCQ58F	61396	62055
11	GNMCQ58R	62637	63355
11	GNMCS12F	7065	7598
11	GNMCV05F	4623	5085
11	GNMCV06R	3299	4083
11	GNMCV16F	51884	52341
11	GNMCV17R	53784	54354
11	GNMCV88F	70556	71043
11	GNMCV88R	69005	69740
11	GNMCW41F	39495	40133
11	GNMCX04F	26396	27141
11	GNMCX04R	25242	25882
11	GNMCX65F	43846	44360
11	GNMCX65R	45795	46258
11	GNMCY01F	42714	43318
11	GNMCY03F	16064	16747
11	GNMCY03R	17171	17665
11	GNMCY76F	36967	37624
11	GNMCY76R	38440	38999
11	GNMCZ26F	45695	46211
11	GNMCZ26R	46903	47445
11	GNMCZ30F	53419	53933
11	GNMCZ30R	54651	55202
11	GNMCZ86R	43568	43996
12	GNMAA14F	51035	51374
12	GNMAA62F	22307	22668
12	GNMAA62R	21211	21585
12	GNMAA84F	4132	4648
12	GNMAA84R	3028	3497
12	GNMAB19F	53197	53641
12	GNMAB19R	51715	51941
12	GNMAB34F	59820	60248
12	GNMAB75F	8230	8726
12	GNMAB75R	6772	7086
12	GNMBA16F	61880	62448
12	GNMBA16R	63397	63930
12	GNMBA55F	54894	55463
12	GNMBA55R	53249	53699
12	GNMBB07F	45401	45967
12	GNMBB07R	46474	46846
12	GNMBB23F	23330	23896

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
12	GNMBB23R	21762	22258
12	GNMBB28F	17524	18093
12	GNMBB28R	19255	19581
12	GNMCA08F	80267	80572
12	GNMCA26F	95492	95876
12	GNMCB71F	3761	4447
12	GNMCB71R	2760	3305
12	GNMCD40F	25822	26340
12	GNMCD40R	27392	27712
12	GNMCF14F	254	698
12	GNMCF23F	25032	25512
12	GNMCF23R	26296	26954
12	GNMCF59F	543	781
12	GNMCF59R	1909	2359
12	GNMCF75F	38537	38993
12	GNMCH09F	70027	70360
12	GNMCH09R	68764	69057
12	GNMCK63F	82010	82461
12	GNMCK63R	83284	83844
12	GNMCL27F	36594	37139
12	GNMCL27R	38339	38900
12	GNMCL83F	24969	25304
12	GNMCL83R	26594	27175
12	GNMCM24F	58035	58620
12	GNMCM24R	56788	57519
12	GNMCM26R	43862	44449
12	GNMCM33F	59354	60069
12	GNMCM33R	58194	58939
12	GNMCN23F	31658	32330
12	GNMCN23R	29999	30623
12	GNMCP07F	62762	63498
12	GNMCP07R	61716	62463
12	GNMCQ25F	29033	29713
12	GNMCQ25R	27952	28642
12	GNMCQ31F	33826	34489
12	GNMCQ31R	32628	33318
12	GNMCQ35F	99046	99645
12	GNMCQ35R	100151	100867
12	GNMCS06F	35210	35790
12	GNMCS07F	38327	38874
12	GNMCS37F	93209	93927
12	GNMCS45F	52207	52867
12	GNMCS59F	49955	50647
12	GNMCS63F	13556	14245
12	GNMCS75F	95191	95899
12	GNMCS94F	39007	39638

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
12	GNMCV02F	96642	97004
12	GNMCV03R	95290	96043
12	GNMCV19F	13169	13632
12	GNMCV20R	11334	12063
12	GNMCV67F	12472	12929
12	GNMCV67R	11158	11877
12	GNMCV95F	48011	48518
12	GNMCV95R	48642	49450
12	GNMCX03F	64105	64613
12	GNMCX03R	65502	66139
12	GNMCX62F	91416	91831
12	GNMCX68R	55716	56405
12	GNMCX82F	55372	56082
12	GNMCX82R	54147	54839
12	GNMCX90F	81959	82454
12	GNMCX90R	83099	83791
12	GNMCX91F	82087	82392
12	GNMCY47F	80254	80920
12	GNMCY47R	78886	79381
12	GNMCY81F	17736	18413
12	GNMCY81R	19180	19621
12	GNMCZ02F	24891	25412
12	GNMCZ02R	26406	26946
12	GNMCZ10F	34243	34706
12	GNMCZ10R	35555	36086
12	GNMCZ54F	59674	60174
12	GNMCZ54R	58180	58651
12	GNMCZ65F	70323	70828
12	GNMCZ65R	71871	72382
13	GNMAA19F	12931	13449
13	GNMAA19R	11822	12291
13	GNMAA55R	4581	5101
13	GNMAA63F	36862	37225
13	GNMAA63R	35706	36096
13	GNMAA77F	20561	20750
13	GNMAB20F	14416	14852
13	GNMBA41R	21126	21626
13	GNMCB15F	3423	3980
13	GNMCB15R	4343	4984
13	GNMCB38F	22717	23346
13	GNMCB38R	21451	22022
13	GNMCB57F	11695	12343
13	GNMCD23F	33967	34506
13	GNMCD23R	32498	32984
13	GNMCD27F	25756	26330
13	GNMCD27R	24266	24695

-14-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
13	GNMCD30F	25823	26369
13	GNMCD30R	24703	25016
13	GNMCD91F	36457	36958
13	GNMCF77F	11321	11777
13	GNMCF77R	9878	10580
13	GNMCH04F	9222	9510
13	GNMCK07F	20658	21162
13	GNMCK07R	21983	22516
13	GNMCK24F	11029	11566
13	GNMCK24R	12531	12904
13	GNMCL26F	33412	33883
13	GNMCL26R	32004	32585
13	GNMCL42F	25017	25487
13	GNMCL42R	26410	26988
13	GNMCM18F	9081	9580
13	GNMCM18R	7774	8463
13	GNMCM79F	28296	28959
13	GNMCM79R	29623	30321
13	GNMCN57F	43959	44583
13	GNMCN57R	42560	43109
13	GNMCO81F	36053	36717
13	GNMCO81R	34853	35488
13	GNMCP18F	20932	21612
13	GNMCP18R	19724	20394
13	GNMCS73F	26639	27284
13	GNMCS76R	25539	26264
13	GNMCV09F	46801	47242
13	GNMCV10R	45342	46019
13	GNMCV48F	40436	40867
13	GNMCV81F	21352	21853
13	GNMCW37F	45183	45820
13	GNMCX11F	1628	2393
13	GNMCX11R	2983	3629
13	GNMCX76F	41236	41920
13	GNMCX76R	42308	42978
13	GNMCY20F	20524	21188
13	GNMCY20R	19350	19922
13	GNMCY46F	15097	15751
13	GNMCY46R	16501	17054
13	GNMCY87F	21699	22313
13	GNMCY87R	20274	20660
13	GNMCZ29F	46571	47106
14	GNMAA20F	2883	3399
15	GNMAA21F	12719	13236
15	GNMAA21R	11967	12439
15	GNMAA83F	2799	3318

-15-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
15	GNMAA83R	3978	4448
15	GNMBA09F	4054	4621
15	GNMCB52F	15275	16007
15	GNMCB52R	16498	16827
15	GNMCB77F	18627	19229
15	GNMCB77R	20264	20766
15	GNMCB83F	18623	19271
15	GNMCB83R	20266	20777
15	GNMCL14F	3072	3593
15	GNMCL14R	1651	2228
15	GNMCL87R	9692	10245
15	GNMCN52F	5357	5991
15	GNMCN52R	6753	7339
15	GNMCP45F	11548	12079
15	GNMCP45R	13429	13801
15	GNMCQ09F	19788	20364
15	GNMCQ09R	18441	19134
15	GNMCQ40F	20922	21572
15	GNMCQ40R	22245	22939
15	GNMCV26F	13405	13894
15	GNMCV27R	12194	12828
15	GNMCW08F	23327	23910
15	GNMCX17F	4323	5048
15	GNMCX17R	3040	3690
16	GNMAA22F	54115	54632
16	GNMAA22R	55087	55557
16	GNMAA40R	44790	45219
16	GNMAA72F	58127	58639
16	GNMAA72R	57179	57650
16	GNMAB05F	47515	48081
16	GNMAB05R	46674	47004
16	GNMAB06F	65453	66020
16	GNMAB06R	66416	66833
16	GNMAB07F	65453	65772
16	GNMAB28F	70440	71008
16	GNMAB28R	71467	71806
16	GNMAB41F	21694	22260
16	GNMAB54F	45585	46150
16	GNMAB65F	18770	19084
16	GNMBA69F	9418	9986
16	GNMBA69R	8303	8848
16	GNMBA76F	39980	40549
16	GNMBA76R	41451	41944
16	GNMBA79R	1185	1359
16	GNMCA89F	63127	63781
16	GNMCB30F	5241	5748

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
16	GNMCB32R	3919	4495
16	GNMCD69F	20174	20609
16	GNMCD69R	21508	21899
16	GNMCD74F	20264	20751
16	GNMCF08F	25798	26287
16	GNMCF08R	24361	25036
16	GNMCF36R	42733	43371
16	GNMCF46R	4203	4663
16	GNMCF48F	40973	41398
16	GNMCF48R	39629	40232
16	GNMCF73F	27684	28143
16	GNMCF73R	26442	27127
16	GNMCF81F	67923	68332
16	GNMCH17F	68971	69291
16	GNMCH34R	22199	22496
16	GNMCK28F	17936	18486
16	GNMCK28R	16766	17104
16	GNMCK32F	20788	21317
16	GNMCK32R	21768	22345
16	GNMCK85F	4360	4910
16	GNMCK85R	5620	6191
16	GNMCL06F	5123	5624
16	GNMCL06R	3812	4383
16	GNMCL34F	28058	28532
16	GNMCL34R	26957	27535
16	GNMCL63F	31053	31621
16	GNMCL63R	32284	32700
16	GNMCL70F	26168	26684
16	GNMCM31F	50181	50817
16	GNMCM31R	48867	49582
16	GNMCN28F	69538	70215
16	GNMCN28R	68459	69068
16	GNMCN84F	68423	69040
16	GNMCN84R	66998	67589
16	GNMCO18F	2622	3166
16	GNMCO18R	1677	2332
16	GNMCO35F	70510	71084
16	GNMCO35R	69198	69780
16	GNMCP19F	46453	47147
16	GNMCP19R	48299	48962
16	GNMCP43F	14799	15124
16	GNMCQ02F	19223	19930
16	GNMCQ02R	20338	21001
16	GNMCQ22F	21355	22030
16	GNMCQ22R	19917	20600
16	GNMCQ53F	7175	7907

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
16	GNMCQ53R	8198	8928
16	GNMCQ96R	29546	30182
16	GNMCS41F	29075	29776
16	GNMCS68F	9040	9703
16	GNMCS75R	1277	1893
16	GNMCS76F	2498	3167
16	GNMCV38F	37452	37889
16	GNMCV55R	34048	34804
16	GNMCV60F	59043	59536
16	GNMCV60R	57614	58367
16	GNMCX12F	3746	4302
16	GNMCX12R	5111	5734
16	GNMCX21F	11333	11997
16	GNMCX21R	10200	10848
16	GNMCX63F	225	712
16	GNMCY14F	72030	72750
16	GNMCY14R	70731	71300
16	GNMCY23F	43229	43994
16	GNMCY23R	42063	42641
16	GNMCY41F	27768	28553
16	GNMCY41R	28801	29356
16	GNMCY50F	59253	60030
16	GNMCY50R	58094	58480
16	GNMCY59F	48831	49574
16	GNMCY59R	50018	50543
16	GNMCZ40F	12172	12645
16	GNMCZ40R	13578	14094
16	GNMCZ41F	60265	60795
16	GNMCZ41R	61535	62088
16	GNMCZ80F	29797	30278
16	GNMCZ80R	28542	29086
16	GNMCZ90R	34086	34573
17	GNMAA23F	31103	31553
17	GNMAA23R	32120	32558
17	GNMAA31F	20779	21295
17	GNMAA31R	21615	22086
17	GNMAA67F	32770	33282
17	GNMAA67R	33955	34310
17	GNMAB08F	35151	35717
17	GNMAB08R	33887	34310
17	GNMBA18F	51385	51952
17	GNMBA36F	8398	8967
17	GNMBA36R	9832	10331
17	GNMBA54F	57853	58426
17	GNMBA54R	56651	57182
17	GNMBA74F	22767	23336

-18-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
17	GNMBA74R	21413	21911
17	GNMBA85F	33077	33648
17	GNMBA85R	31797	32251
17	GNMCA19F	36042	36621
17	GNMCB06F	26433	26953
17	GNMCB06R	28247	28714
17	GNMCB10F	38250	38813
17	GNMCB10R	36756	37384
17	GNMCB82F	31729	32377
17	GNMCB82R	32858	33235
17	GNMCF22F	37912	38405
17	GNMCF22R	36753	37421
17	GNMCK05F	7321	7797
17	GNMCK05R	5987	6514
17	GNMCK57F	39678	40046
17	GNMCK57R	40958	41325
17	GNMCM38F	10453	11189
17	GNMCM38R	11737	12393
17	GNMCM58F	22688	23288
17	GNMCM58R	23628	24315
17	GNMCN30F	55573	56235
17	GNMCN30R	56832	57420
17	GNMCO01F	27343	28038
17	GNMCO07F	12194	12723
17	GNMCO07R	13433	14166
17	GNMCO26R	5725	6371
17	GNMCO43F	35750	36434
17	GNMCO43R	37161	37681
17	GNMCO44F	32920	33658
17	GNMCO44R	31733	32327
17	GNMCO55F	10439	11147
17	GNMCO55R	12310	12961
17	GNMCO56F	54670	55322
17	GNMCO56R	55704	56309
17	GNMCP57F	10671	10932
17	GNMCP57R	8680	9034
17	GNMCP66F	57727	58211
17	GNMCP66R	58838	59416
17	GNMCQ42F	22050	22733
17	GNMCQ42R	23218	23942
17	GNMCQ81F	41410	42152
17	GNMCQ81R	42968	43610
17	GNMCS03F	707	1334
17	GNMCS35F	52431	53137
17	GNMCS44F	35071	35764
17	GNMCS70F	6806	7540

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
17	GNMCS89F	38449	39120
17	GNMCS90R	39272	39972
17	GNMCV42F	51980	52438
17	GNMCV92F	43715	44212
17	GNMCV92R	42381	43040
17	GNMCX53F	18076	18436
17	GNMCX53R	16632	17267
17	GNMCY21F	26276	26984
17	GNMCY21R	25220	25785
17	GNMCY43F	55511	56209
17	GNMCY58F	10946	11675
17	GNMCY58R	9574	10130
17	GNMCZ14F	4034	4557
17	GNMCZ14R	5449	5997
17	GNMCZ81F	12505	13016
17	GNMCZ81R	10929	11485
18	GNMAA24F	14784	15300
18	GNMAA24R	15822	16278
18	GNMAA91F	3107	3623
18	GNMAA93F	14115	14633
18	GNMAA93R	12779	13156
18	GNMAB47F	6436	7001
18	GNMCA24F	17599	18212
18	GNMCB51F	10483	11109
18	GNMCB51R	9080	9547
18	GNMCK79F	4421	4931
18	GNMCK79R	5949	6533
18	GNMCM27F	17624	18228
18	GNMCM27R	16432	17178
18	GNMCM56F	13615	14160
18	GNMCM56R	14770	15435
18	GNMCN40R	15893	16523
18	GNMCN44F	14468	15195
18	GNMCN44R	15922	16524
18	GNMCP83F	14201	14738
18	GNMCP83R	15673	16259
18	GNMCY13F	2490	3240
18	GNMCZ03F	14791	15109
18	GNMCZ03R	16087	16657
18	GNMCZ15F	6918	7405
18	GNMCZ15R	5483	6044
18	GNMCZ61F	15232	15736
18	GNMCZ61R	16804	17347
19	GNMAA25F	3689	4210
19	GNMAA25R	4679	5150
19	GNMAA53F	17218	17584

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
19	GNMAA53R	16131	16651
19	GNMAB22F	11317	11854
19	GNMBA56F	29237	29799
19	GNMBB20F	42956	43521
19	GNMBB20R	41743	42275
19	GNMCB08F	1626	2186
19	GNMCB08R	2749	3408
19	GNMCB49F	24542	25193
19	GNMCB49R	23154	23800
19	GNMCB50F	1442	2136
19	GNMCB50R	457	1122
19	GNMCB84F	25574	26173
19	GNMCB84R	24112	24577
19	GNMCD36F	32463	32986
19	GNMCF17F	11187	11695
19	GNMCF17R	9855	10520
19	GNMCF56F	43830	44301
19	GNMCF56R	42446	43137
19	GNMCF62F	46052	46506
19	GNMCH41R	48920	49204
19	GNMCK19F	5471	5977
19	GNMCK19R	6934	7451
19	GNMCK60F	19464	19828
19	GNMCK60R	20624	21189
19	GNMCL07F	29947	30379
19	GNMCL07R	31253	31828
19	GNMCL47F	13187	13681
19	GNMCL47R	11739	12309
19	GNMCL67R	10328	10861
19	GNMCM83F	7074	7667
19	GNMCM83R	5824	6505
19	GNMCM87R	6816	7475
19	GNMCN69F	21718	22367
19	GNMCN69R	23279	23896
19	GNMCO19F	7892	8641
19	GNMCO19R	6509	7230
19	GNMCQ23F	22847	23439
19	GNMCQ23R	24531	25070
19	GNMCQ63F	24578	25176
19	GNMCQ63R	23445	24129
19	GNMCS09F	31343	31944
19	GNMCS34F	32710	33397
19	GNMCV13F	11334	11854
19	GNMCV14R	10046	10690
19	GNMCX15F	8333	9060
19	GNMCX15R	10180	10827

-21-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
19	GNMCX27F	8333	9060
19	GNMCX27R	10188	10827
19	GNMCX56F	40847	41206
19	GNMCX56R	41903	42589
19	GNMCX87F	33938	34084
19	GNMCX87R	31658	32349
19	GNMCY07F	37467	38035
19	GNMCZ04R	24360	24843
20	GNMAA26F	11314	11834
20	GNMAA34R	15825	16187
20	GNMBA46F	9402	9971
20	GNMBA83F	9481	10050
20	GNMBA83R	11039	11224
20	GNMBA92F	3716	4284
20	GNMBA92R	2437	2882
20	GNMCA93F	10570	11228
20	GNMCB42F	12316	12924
20	GNMCB42R	10720	11380
20	GNMCF68F	145	549
20	GNMCS13F	3147	3776
20	GNMCS19F	3135	3707
20	GNMCV43F	4932	5463
20	GNMCV43R	3493	4272
20	GNMCX01R	8929	9576
20	GNMCX32F	2827	3562
20	GNMCX32R	1753	2386
21	GNMAA29F	7970	8459
21	GNMAA29R	6973	7381
21	GNMAA79F	60518	61036
21	GNMAA79R	61382	61783
21	GNMAB13F	91199	91695
21	GNMAB13R	90065	90490
21	GNMAB15F	18098	18666
21	GNMAB15R	17086	17514
21	GNMAB38F	89228	89794
21	GNMAB49F	90018	90554
21	GNMAB53F	57858	58423
21	GNMAB76F	69791	70359
21	GNMAB76R	71099	71621
21	GNMBA08F	88398	88961
21	GNMBA08R	89946	90480
21	GNMBA62F	91149	91717
21	GNMBA62R	90149	90587
21	GNMBB08F	57329	57895
21	GNMBB08R	58629	59155
21	GNMCB36F	86172	86807

-22-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
21	GNMCB36R	87700	88359
21	GNMCB40F	55242	55889
21	GNMCB40R	56581	57269
21	GNMCD13F	26267	26840
21	GNMCD13R	24739	25235
21	GNMCD14F	63282	63678
21	GNMCD22F	39214	39744
21	GNMCD89F	20621	21136
21	GNMCD89R	19243	19626
21	GNMCE04F	48264	48570
21	GNMCE16F	8955	9401
21	GNMCE16R	10419	10933
21	GNMCK72F	28120	28413
21	GNMCK72R	29725	30288
21	GNMCK82F	16224	16679
21	GNMCK82R	17910	18284
21	GNMCK92F	21493	21930
21	GNMCK92R	22899	23382
21	GNMCL15F	15475	16027
21	GNMCL15R	16323	16894
21	GNMCL18F	40761	41272
21	GNMCL18R	39414	39980
21	GNMCL35F	58131	58677
21	GNMCL35R	56683	57252
21	GNMCM02F	77632	78241
21	GNMCM02R	76049	76774
21	GNMCM42F	44749	45453
21	GNMCM51F	70991	71600
21	GNMCM51R	72059	72786
21	GNMCM59F	46177	46805
21	GNMCM59R	47628	48296
21	GNMCM67F	58893	59524
21	GNMCM67R	57080	57810
21	GNMCN01F	29541	30134
21	GNMCN03R	26156	26805
21	GNMCN04F	27776	28333
21	GNMCN07F	3923	4589
21	GNMCN20F	23898	24435
21	GNMCN20R	22616	23262
21	GNMCN38R	27178	27843
21	GNMCN42F	28721	29325
21	GNMCN42R	27182	27579
21	GNMCN48F	31545	32275
21	GNMCN48R	30254	30829
21	GNMCN56F	38871	39524
21	GNMCN56R	37891	38510

-23-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
21	GNMCN74R	76122	76780
21	GNMCN76F	76705	77420
21	GNMCN87F	81602	82287
21	GNMCN87R	80523	81067
21	GNMCO27F	12120	12686
21	GNMCO27R	10881	11591
21	GNMCO37R	5718	6199
21	GNMCO40F	81181	81864
21	GNMCO40R	80087	80668
21	GNMCO41F	64583	65194
21	GNMCO41R	63303	63895
21	GNMCO62F	24786	25412
21	GNMCO62R	23316	23927
21	GNMCO69F	29872	30526
21	GNMCO69R	28732	29361
21	GNMCP53R	42566	43118
21	GNMCP68F	17274	17781
21	GNMCP68R	18590	19166
21	GNMCP78F	20880	21383
21	GNMCP78R	22662	23004
21	GNMCQ50F	52354	53060
21	GNMCQ50R	53094	53813
21	GNMCQ56F	24974	25298
21	GNMCQ56R	26318	26936
21	GNMCQ76F	26247	26921
21	GNMCQ76R	27401	28002
21	GNMCQ86F	45276	45978
21	GNMCQ86R	46636	47364
21	GNMCS08F	7772	7922
21	GNMCS22F	49814	50311
21	GNMCS62F	56147	56850
21	GNMCS82F	1052	1732
21	GNMCW22F	55865	56223
21	GNMCX02R	45344	45988
21	GNMCX09F	6251	6961
21	GNMCX09R	4718	5291
21	GNMCX16F	60624	61395
21	GNMCX16R	59855	60393
21	GNMCX60F	40043	40437
21	GNMCX60R	41031	41715
21	GNMCX74F	59663	60376
21	GNMCX74R	58460	59136
21	GNMCY45F	42419	43108
21	GNMCY45R	44124	44642
21	GNMCY64F	58336	59059
21	GNMCY64R	57045	57582

-24-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
21	GNMCZ28F	82973	83440
21	GNMCZ28R	81697	82250
21	GNMCZ46F	28043	28521
21	GNMCZ46R	26632	27064
21	GNMCZ77F	22158	22671
21	GNMCZ77R	23472	24017
22	GNMAA30F	2165	2683
22	GNMAA30R	3510	3980
22	GNMBA03F	25307	25874
22	GNMCB39F	5720	6103
22	GNMCB39R	3638	3945
22	GNMCK48F	14049	14546
22	GNMCK48R	12667	13251
22	GNMCL28F	17498	18022
22	GNMCL28R	16124	16700
22	GNMCM15R	284	872
22	GNMCN47R	4247	4891
22	GNMCO22F	9932	10637
22	GNMCO22R	11087	11794
22	GNMCO23F	10489	11080
22	GNMCO23R	11662	12303
22	GNMCQ04F	25363	26023
22	GNMCQ04R	24009	24693
22	GNMCS17F	5636	6187
22	GNMCS20F	21715	22271
22	GNMCV45F	11101	11552
22	GNMCV45R	12185	12992
22	GNMCV65F	21938	22388
22	GNMCW11F	21268	21882
22	GNMCZ08F	9245	9752
22	GNMCZ56R	4001	4481
22	GNMCZ57F	92	610
22	GNMCZ57R	1391	1949
23	GNMAA32R	501	916
24	GNMAA32F	34126	34644
24	GNMAA78F	12905	13389
24	GNMAA78R	11993	12173
24	GNMAA92F	5430	5906
24	GNMAA92R	6781	6979
24	GNMBA28F	25580	26147
24	GNMBA28R	24581	24744
24	GNMBA64F	44750	45281
24	GNMBA64R	43715	43924
24	GNMCA03F	47978	48229
24	GNMCA11F	5227	5845
24	GNMCB53F	31273	31860

-25-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
24	GNMCB53R	29940	30477
24	GNMCD60F	49318	49836
24	GNMCF28R	25897	26427
24	GNMCF33F	53794	54122
24	GNMCF33R	55250	55649
24	GNMCF55F	18332	18818
24	GNMCF55R	16670	17304
24	GNMCF88F	31085	31484
24	GNMCF88R	29803	30387
24	GNMCF94F	32330	32765
24	GNMCF94R	30474	31147
24	GNMCH39F	20653	21054
24	GNMCH71F	20501	20708
24	GNMCK74F	31152	31629
24	GNMCK74R	32456	33004
24	GNMCK94F	19578	20116
24	GNMCK94R	18366	18866
24	GNMCL74F	16135	16693
24	GNMCL74R	18346	18913
24	GNMCM07F	48543	49161
24	GNMCM07R	47427	48064
24	GNMCM72F	14897	15471
24	GNMCM72R	15789	16445
24	GNMCM86F	32288	32811
24	GNMCM86R	31171	31832
24	GNMCN14F	11430	12112
24	GNMCN14R	12286	12980
24	GNMCN59F	46864	47475
24	GNMCN59R	47935	48525
24	GNMCN60F	22771	23206
24	GNMCN60R	24286	24873
24	GNMCN91F	1694	2415
24	GNMCN91R	411	1022
24	GNMCO65F	4379	5044
24	GNMCO65R	5399	6070
24	GNMCO91F	54004	54574
24	GNMCO91R	55258	55836
24	GNMCP23F	21885	22586
24	GNMCP23R	20351	20912
24	GNMCP71F	53062	53612
24	GNMCP71R	54382	54958
24	GNMCQ33F	31360	32059
24	GNMCQ33R	30167	30816
24	GNMCS10F	52384	52999
24	GNMCS79R	9557	10245
24	GNMCV21F	13147	13602

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
24	GNMCV22R	14356	15028
24	GNMCV63F	11801	12250
24	GNMCV63R	12681	13494
24	GNMCV66F	53565	54040
24	GNMCV66R	52285	53073
24	GNMCV73R	42644	43443
24	GNMCV78F	23665	24161
24	GNMCV78R	24559	25362
24	GNMCX22F	8574	9293
24	GNMCX22R	9681	10320
24	GNMCX33F	23234	23994
24	GNMCX33R	21803	22176
24	GNMCX34F	23296	23994
24	GNMCX34R	21787	22355
24	GNMCX40F	28130	28866
24	GNMCX40R	29005	29697
24	GNMCX70F	10118	10635
24	GNMCX70R	11461	12043
24	GNMCX72F	27541	27741
24	GNMCY35F	32221	32765
24	GNMCY35R	31087	31546
24	GNMCY55F	45603	46359
24	GNMCY66R	2897	3449
24	GNMCY77F	29179	29866
24	GNMCY77R	27766	28254
24	GNMCY82F	9582	10184
24	GNMCY82R	11010	11421
24	GNMCY94F	6998	7520
24	GNMCY96F	22341	22994
24	GNMCY96R	23886	24294
24	GNMCZ37F	24346	24873
24	GNMCZ37R	23379	23953
25	GNMAA34F	450	701
25	GNMBA48F	4952	5519
25	GNMBA48R	4021	4222
25	GNMCA16F	14824	15438
25	GNMCB09F	22420	22990
25	GNMCB09R	23872	24453
25	GNMCD04F	2415	2961
25	GNMCD04R	1176	1633
25	GNMCK09F	3101	3667
25	GNMCK09R	4706	5009
25	GNMCK50F	8704	9235
25	GNMCK50R	10150	10511
25	GNMCM76R	3069	3807
25	GNMCM96F	13743	14447

-27-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
25	GNMCM96R	12253	12967
25	GNMCN04R	15105	15705
25	GNMCN05F	13789	14465
25	GNMCP16F	9455	10151
25	GNMCP16R	8452	9076
25	GNMCP62R	9951	10498
25	GNMCX61F	2026	2420
25	GNMCX61R	3150	3850
25	GNMCY04F	10646	11249
25	GNMCY04R	12076	12645
25	GNMCZ20F	13438	13952
25	GNMCZ20R	12311	12861
26	GNMAA37F	45118	45485
26	GNMAA37R	46181	46702
26	GNMAA44F	38832	39198
26	GNMAA44R	37468	37990
26	GNMBB25F	2584	3149
26	GNMBB25R	4308	4852
26	GNMCA28F	34335	34909
26	GNMCB61F	37090	37496
26	GNMCE76F	146	542
26	GNMCE76R	1633	1980
26	GNMCF66F	27879	28279
26	GNMCF66R	29423	30059
26	GNMCL21F	39439	39981
26	GNMCL21R	37698	38064
26	GNMCL69F	3546	4121
26	GNMCL69R	4207	4797
26	GNMCM34R	3940	4653
26	GNMCM89F	5891	6343
26	GNMCM89R	7010	7718
26	GNMCM92R	30750	31399
26	GNMCN54F	28683	29364
26	GNMCN54R	27207	27807
26	GNMCN79F	51540	52223
26	GNMCN79R	50402	50941
26	GNMCO14F	33740	34469
26	GNMCO14R	35347	36067
26	GNMCQ26F	47379	47982
26	GNMCQ26R	48736	49406
26	GNMCS81F	36588	37281
26	GNMCS88F	19142	19409
26	GNMCS89R	17251	18014
26	GNMCV32F	18068	18514
26	GNMCV33F	30470	30781
26	GNMCV33R	28683	29309

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
26	GNMCV70F	41545	42025
26	GNMCV70R	42579	43282
26	GNMCV76F	30234	30720
26	GNMCV76R	31359	32063
26	GNMCV86R	42591	43300
26	GNMCV87F	41330	41805
26	GNMCV87R	42509	43300
26	GNMCX26R	42058	42510
26	GNMCY31R	1275	1860
26	GNMCY86F	27767	28402
26	GNMCY86R	26306	26736
26	GNMCZ13F	23798	24317
26	GNMCZ13R	24994	25572
26	GNMCZ64F	26763	27169
26	GNMCZ64R	27996	28534
26	GNMCZ71F	47451	47955
26	GNMCZ71R	46061	46606
26	GNMCZ95R	8013	8499
26	GNMCZ96R	8005	8483
27	GNMAA41F	3036	3402
27	GNMAA41R	2156	2677
27	GNMAA65F	58776	59296
27	GNMAA65R	60307	60457
27	GNMAB83F	38177	38746
27	GNMAB83R	36806	37326
27	GNMAB86F	20818	21390
27	GNMAB86R	21914	22429
27	GNMAB92F	21743	22226
27	GNMBA25F	28880	29408
27	GNMBA25R	27506	28043
27	GNMBA49F	40184	40752
27	GNMCB28F	15988	16497
27	GNMCB28R	14642	15180
27	GNMCB30R	14648	14996
27	GNMCB35F	33768	34099
27	GNMCB35R	32048	32548
27	GNMCB37F	31837	32567
27	GNMCB37R	30832	31421
27	GNMCB58F	30329	31041
27	GNMCB58R	31809	32460
27	GNMCD63F	15824	16290
27	GNMCD79F	63644	64156
27	GNMCD79R	62110	62364
27	GNMCF64F	41517	41871
27	GNMCF84F	518	956
27	GNMCF84R	1834	2533

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
27	GNMCF85F	6358	6815
27	GNMCF85R	7660	8383
27	GNMCH76F	22610	22966
27	GNMCH77F	22613	22953
27	GNMCK01F	62394	62733
27	GNMCK01R	60888	61415
27	GNMCK18F	66502	66997
27	GNMCK18R	65282	65724
27	GNMCK25F	27644	28213
27	GNMCK61F	32761	33107
27	GNMCK61R	30995	31329
27	GNMCK76F	19006	19542
27	GNMCK76R	17573	18122
27	GNMCK81F	61093	61511
27	GNMCK81R	59863	60445
27	GNMCK87F	36665	36996
27	GNMCK87R	34928	35498
27	GNMCL44F	38519	39001
27	GNMCL44R	37283	37863
27	GNMCL76F	49805	50300
27	GNMCL76R	48285	48854
27	GNMCM23F	27097	27789
27	GNMCM23R	25771	26483
27	GNMCN12F	8559	9239
27	GNMCN12R	7161	7752
27	GNMCN13F	68144	68833
27	GNMCN13R	66871	67394
27	GNMCN17F	36140	36815
27	GNMCN17R	35179	35753
27	GNMCN18F	55803	56468
27	GNMCN18R	54618	55229
27	GNMCN34F	59534	60268
27	GNMCN34R	19457	20056
27	GNMCN38F	17990	18719
27	GNMCN61F	18037	18594
27	GNMCN61R	19452	20056
27	GNMCN70F	32750	33421
27	GNMCN80R	37432	38115
27	GNMCN81F	38597	39329
27	GNMCN81R	37434	38096
27	GNMCO02R	59813	60549
27	GNMCO38F	51253	51930
27	GNMCO52R	33701	34400
27	GNMCO57F	37843	38469
27	GNMCO57R	36757	37320
27	GNMCP50F	7088	7522

-30-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
27	GNMCP50R	5679	6058
27	GNMCQ93R	2933	3510
27	GNMCS49F	11768	12343
27	GNMCV50F	28795	29193
27	GNMCV50R	27644	28413
27	GNMCV85F	21568	22089
27	GNMCV85R	22559	23351
27	GNMCW02F	47088	47658
27	GNMCW24F	56091	56713
27	GNMCY27R	5455	5536
27	GNMCY33F	37884	38598
27	GNMCY33R	39134	39678
27	GNMCY62F	39794	40529
27	GNMCY62R	41156	41683
27	GNMCY63F	39843	40316
27	GNMCY72F	15711	16330
27	GNMCY72R	14681	15239
28	GNMAA45F	4450	4816
28	GNMAA54R	4273	4733
28	GNMCD82F	1790	2266
28	GNMCD82R	3389	3826
28	GNMCO78F	6645	7293
28	GNMCO86F	6688	7310
28	GNMCO86R	8039	8651
28	GNMCW05F	6711	7331
28	GNMCZ09F	13148	13623
28	GNMCZ09R	11925	12279
29	GNMAA47F	27107	27473
29	GNMAA47R	25852	26322
29	GNMAA71F	19984	20503
29	GNMAA71R	21408	21826
29	GNMAA80R	20918	21282
29	GNMAB31F	32769	33333
29	GNMAB31R	31525	31942
29	GNMAB77F	21439	22007
29	GNMAB77R	22335	22857
29	GNMCA22F	9411	10028
29	GNMCB74F	26713	27450
29	GNMCB74R	25839	26476
29	GNMCD08F	17015	17514
29	GNMCD31F	19776	20146
29	GNMCF43F	26320	26631
29	GNMCF43R	27361	28023
29	GNMCF87F	30819	31269
29	GNMCF87R	32125	32845
29	GNMCH41F	30939	31379

-31-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
29	GNMCK20F	2703	3104
29	GNMCK20R	4020	4346
29	GNMCL02F	32166	32619
29	GNMCL02R	33533	33884
29	GNMCL12F	360	831
29	GNMCL12R	1490	2039
29	GNMCL73R	32923	33504
29	GNMCL85R	10861	11425
29	GNMCM77F	17717	18313
29	GNMCM77R	16440	17172
29	GNMCN64F	6192	6750
29	GNMCN64R	7430	8018
29	GNMCN68F	30002	30712
29	GNMCN83F	34059	34776
29	GNMCN83R	32873	33458
29	GNMCO28F	7197	7872
29	GNMCO28R	8396	9089
29	GNMCO53F	20633	21342
29	GNMCO53R	22061	22663
29	GNMCO67F	1523	2102
29	GNMCO67R	2871	3524
29	GNMCP82F	30881	31419
29	GNMCP82R	29550	30117
29	GNMCS26F	30683	31168
29	GNMCS90F	16067	16703
29	GNMCS91R	16949	17757
29	GNMCW09F	3770	4381
29	GNMCY19F	14037	14742
29	GNMCY89F	7491	8173
30	GNMAA48R	1027	1347
30	GNMAB21R	3808	4233
30	GNMCC90F	7658	8102
30	GNMCL10F	2942	3470
30	GNMCL10R	4319	4883
30	GNMCM64R	7645	8319
30	GNMCO63F	12259	12933
30	GNMCO63R	11104	11789
30	GNMCP58F	8513	9047
30	GNMCP58R	10322	10707
30	GNMCV03F	10383	10724
30	GNMCV04R	8992	9749
30	GNMCX06F	11346	12072
30	GNMCX06R	12784	13418
30	GNMCX18F	11968	12726
30	GNMCX18R	13547	14189
30	GNMCX71F	9073	9653

-32-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
30	GNMCX71R	7669	8353
30	GNMCY15F	3214	3933
30	GNMCY15R	1508	2079
31	GNMAA49F	7079	7444
31	GNMAA49R	5736	6260
31	GNMBA38F	692	1262
31	GNMBA79F	7797	8367
31	GNMCL32F	3721	4184
31	GNMCL32R	2230	2815
31	GNMCN88F	1761	2482
31	GNMCN88R	3292	3892
31	GNMCQ51F	3265	3909
31	GNMCQ51R	4295	5012
31	GNMCX63R	7311	8010
31	GNMCY61R	4386	4868
31	GNMCY91F	2862	3456
32	GNMAA52F	1739	2107
32	GNMAA52R	2617	3138
32	GNMAA89F	13148	13666
32	GNMAB90F	5624	6192
32	GNMAB90R	6600	7118
32	GNMCF38F	3403	3878
32	GNMCF38R	4584	5237
32	GNMCK38F	6598	7143
32	GNMCK38R	5207	5792
32	GNMCP85F	6949	7473
32	GNMCP85R	5282	5869
32	GNMCQ07F	10995	11623
32	GNMCQ07R	12678	13358
32	GNMCV23F	5455	5912
32	GNMCV24R	4006	4751
32	GNMCX13F	9897	10671
32	GNMCX13R	8710	9345
32	GNMCX45F	3857	4557
32	GNMCX45R	2724	3424
32	GNMCX57F	6426	6642
32	GNMCX57R	6424	6642
32	GNMCY06F	10183	10812
32	GNMCY06R	9259	9808
33	GNMAA57F	2954	3324
33	GNMAA57R	1924	2445
33	GNMAB30F	5838	6402
33	GNMAB30R	4864	5193
33	GNMAB48F	8816	9381
33	GNMBA50F	7809	8374
33	GNMBA50R	6161	6686

-33-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
33	GNMCA25F	18305	18918
33	GNMCA80F	3189	3849
33	GNMCL88F	12941	13492
33	GNMCL88R	11494	12068
33	GNMCM57F	6934	7569
33	GNMCM57R	7814	8548
33	GNMCN49F	18067	18780
33	GNMCN49R	16729	17352
33	GNMCO54F	17815	18524
33	GNMCO54R	16974	17598
33	GNMCP59F	13173	13661
33	GNMCP59R	14688	15102
33	GNMCQ29F	13338	14036
33	GNMCQ29R	11998	12686
33	GNMCQ87F	5967	6647
33	GNMCQ87R	7354	7981
33	GNMCS47F	7736	8461
33	GNMCV30F	18040	18529
33	GNMCV31F	1808	2296
33	GNMCV31R	16473	17092
33	GNMCV32R	2897	3643
33	GNMCY12F	13632	14327
33	GNMCY12R	14891	15465
33	GNMCZ12F	14374	14860
33	GNMCZ12R	12879	13414
34	GNMAA59R	20271	20600
34	GNMAB63F	21594	22082
34	GNMAB87F	4234	4656
34	GNMAB93F	8137	8678
34	GNMAB93R	7021	7543
34	GNMBA26F	17728	18076
34	GNMBA31R	20426	20952
34	GNMBA60F	2998	3562
34	GNMBA60R	4887	5305
34	GNMBA89F	12688	13184
34	GNMBA89R	11336	11869
34	GNMBA90F	1963	2532
34	GNMBA90R	3410	3918
34	GNMBB10F	18931	19469
34	GNMBB10R	20494	20791
34	GNMCA73F	10776	11434
34	GNMCD09F	1576	2151
34	GNMCD09R	202	580
34	GNMCL40F	6504	7032
34	GNMCL40R	7906	8476
34	GNMCM41F	15257	15722

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
34	GNMCM41R	13646	14279
34	GNMCM84F	10143	10755
34	GNMCM84R	11418	12090
34	GNMCP65R	13124	13566
34	GNMCQ57F	1107	1637
34	GNMCQ57R	2550	3230
34	GNMCV15F	10810	11260
34	GNMCV16R	9522	10243
34	GNMCX35F	24683	25380
34	GNMCX35R	25964	26651
34	GNMCX48F	27078	27683
34	GNMCX48R	25636	26324
34	GNMCZ82R	4431	4970
35	GNMAA60R	9724	9928
35	GNMAA81R	42064	42495
35	GNMAB09F	29605	30171
35	GNMBA37F	1865	2426
35	GNMBA37R	755	1265
35	GNMCA66F	14095	14490
35	GNMCB95F	29548	30210
35	GNMCB95R	28364	28994
35	GNMCD41F	4298	4824
35	GNMCD41R	2960	3326
35	GNMCD49F	47011	47510
35	GNMCD49R	45671	46032
35	GNMCD52F	46968	47374
35	GNMCE13F	44763	45068
35	GNMCE13R	43656	44020
35	GNMCK86F	32959	33472
35	GNMCL94F	45671	46185
35	GNMCL94R	44388	44948
35	GNMCM08F	32206	32865
35	GNMCM08R	33769	34324
35	GNMCN16F	11716	12326
35	GNMCN16R	10117	10693
35	GNMCN33F	2863	3568
35	GNMCN33R	4337	4927
35	GNMCO11F	117	667
35	GNMCO11R	1479	2220
35	GNMCO20F	41254	41858
35	GNMCO20R	42840	43385
35	GNMCP03R	15135	15820
35	GNMCP33F	33871	34386
35	GNMCP33R	31902	32446
35	GNMCS31F	25024	25611
35	GNMCS80F	26013	26719

-35-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
35	GNMCV20F	11142	11598
35	GNMCV21R	9547	10242
35	GNMCV41F	1508	1764
35	GNMCV41R	2993	3375
35	GNMCV46F	19148	19638
35	GNMCX37F	10287	10978
35	GNMCX75F	16758	17496
35	GNMCX75R	17915	18615
35	GNMCY38F	35286	36002
35	GNMCY38R	36447	37009
35	GNMCZ63F	17628	18139
35	GNMCZ63R	16308	16866
36	GNMAA61F	17639	18003
36	GNMAA61R	19148	19669
36	GNMAB14F	9325	9894
36	GNMAB14R	10480	10900
36	GNMAB23F	5098	5510
36	GNMAB23R	5999	6420
36	GNMBA04F	7545	8114
36	GNMBA04R	8552	9087
36	GNMCB81F	1908	2616
36	GNMCB81R	1189	1739
36	GNMCD86F	266	753
36	GNMCD86R	1917	2276
36	GNMCL29F	19188	19732
36	GNMCL46F	5977	6459
36	GNMCL46R	6855	7431
36	GNMCL71R	2286	2862
36	GNMCN74F	8750	9460
36	GNMCN76R	7557	8138
36	GNMCP37R	5055	5645
36	GNMCS39F	3380	4120
36	GNMCV57F	6730	7217
36	GNMCV57R	7760	8463
36	GNMCX54F	7658	7977
36	GNMCX54R	6197	6884
36	GNMCY85R	6699	7077
36	GNMCZ06F	17782	18302
36	GNMCZ73F	15242	15755
37	GNMAA64F	11674	12041
37	GNMAA64R	10619	11088
37	GNMAB25F	25946	26508
37	GNMAB25R	27013	27437
37	GNMAB32R	446	844
37	GNMAB89F	2515	3085
37	GNMAB89R	3403	3923

-36-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
37	GNMAB91F	19524	19900
37	GNMAB91R	18389	18909
37	GNMCA84F	8986	9651
37	GNMCA92F	10174	10831
37	GNMCB13F	28388	28959
37	GNMCB44F	17203	17885
37	GNMCB44R	16050	16676
37	GNMCB72F	15012	15708
37	GNMCB72R	16365	16857
37	GNMCD32F	4633	5112
37	GNMCD32R	2775	3142
37	GNMCD34F	21613	22123
37	GNMCD34R	23152	23452
37	GNMCD43F	23745	24277
37	GNMCF03F	23267	23766
37	GNMCF03R	21815	22457
37	GNMCK16F	12575	13127
37	GNMCK69R	981	1281
37	GNMCL41F	4846	5357
37	GNMCL41R	6380	6932
37	GNMCM06R	17272	17986
37	GNMCM82F	14731	15358
37	GNMCM82R	15814	16507
37	GNMCQ08F	20211	20740
37	GNMCQ08R	18866	19521
37	GNMCQ59F	16099	16826
37	GNMCQ59R	15132	15853
37	GNMCS58F	16358	17054
37	GNMCV94F	21841	22327
37	GNMCV94R	20477	21267
37	GNMCX07F	25522	26245
37	GNMCX07R	26310	26960
37	GNMCX69F	10320	10866
37	GNMCX69R	11842	12449
37	GNMCX93F	7947	8360
37	GNMCX93R	6445	6970
37	GNMCY18F	10778	11193
37	GNMCY18R	9630	10203
37	GNMCY67F	26216	26689
37	GNMCY67R	24586	24992
37	GNMCZ87F	28035	28543
37	GNMCZ87R	26386	26930
38	GNMAA74F	185	702
38	GNMAB59F	370	710
38	GNMCM68F	512	991
39	GNMBA35F	3187	3756

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
39	GNMCL49F	518	1006
39	GNMCM19F	3839	4413
39	GNMCM19R	2735	3480
39	GNMCM68R	3717	4374
39	GNMCN15F	11	695
39	GNMCN15R	1589	2036
39	GNMCS14F	2485	3018
39	GNMCV29F	4010	4481
39	GNMCV30R	2621	3321
39	GNMCZ91F	4347	4839
39	GNMCZ91R	3070	3594
40	GNMAA75F	1493	2009
40	GNMBA84F	14749	15315
40	GNMBA84R	13039	13401
40	GNMBB27F	7061	7629
40	GNMBB27R	5877	6280
40	GNMCA65F	10805	11468
40	GNMCF01F	9566	10068
40	GNMCF01R	7689	8249
40	GNMCF52F	13446	13800
40	GNMCF52R	14807	15448
40	GNMCK41F	1322	1894
40	GNMCK41R	1	549
40	GNMCN01R	8094	8669
40	GNMCN02F	6573	7152
40	GNMCY39F	12214	12932
40	GNMCY39R	11377	11773
40	GNMCZ75F	4573	5040
40	GNMCZ75R	3272	3824
41	GNMAA82F	1944	2123
41	GNMAA82R	540	848
41	GNMCA09F	4155	4769
41	GNMCL45F	5831	6382
41	GNMCL45R	7014	7592
41	GNMCX84F	6407	7029
41	GNMCX84R	4937	5630
41	GNMCZ07F	753	1256
41	GNMCZ07R	2139	2681
42	GNMAA85F	33488	34005
42	GNMAA85R	34461	34906
42	GNMAB11F	27021	27587
42	GNMAB16F	16195	16762
42	GNMAB16R	17262	17683
42	GNMAB51F	32336	32901
42	GNMAB64F	9048	9478
42	GNMBA52F	25714	26279

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
42	GNMBA52R	26930	27429
42	GNMBA63F	25856	26418
42	GNMCA10F	9199	9803
42	GNMCA90F	12306	12957
42	GNMCD76F	43170	43607
42	GNMCD80F	25485	25983
42	GNMCD80R	24100	24472
42	GNMCD81F	25467	25981
42	GNMCF21F	42792	43250
42	GNMCF21R	43820	44488
42	GNMCF79F	19953	20412
42	GNMCF79R	18429	19107
42	GNMCH08F	10638	10983
42	GNMCH61F	35608	36017
42	GNMCK58F	11541	12006
42	GNMCK58R	13419	13981
42	GNMCM03R	37448	38182
42	GNMCM48F	1	622
42	GNMCM48R	1215	1878
42	GNMCO34F	11655	12379
42	GNMCO34R	10537	11201
42	GNMCO70R	39192	39848
42	GNMCO84F	24768	25509
42	GNMCO84R	24098	24770
42	GNMCP29F	40509	41019
42	GNMCP29R	38958	39359
42	GNMCQ60F	38032	38565
42	GNMCQ69F	8563	9122
42	GNMCQ69R	6981	7666
42	GNMCS69F	3213	3921
42	GNMCV25F	17625	18095
42	GNMCV26R	16021	16633
42	GNMCX46F	4775	5450
42	GNMCX46R	3438	4125
42	GNMCX88R	17104	17778
42	GNMCY37F	7223	7838
42	GNMCY37R	5827	6323
42	GNMCY69F	22213	22853
42	GNMCY69R	21279	21796
42	GNMCZ85F	19300	19813
43	GNMAA86F	5244	5760
43	GNMAA86R	4311	4783
43	GNMCS54F	3163	3797
43	GNMCV84F	1109	1600
43	GNMCV84R	2002	2781
44	GNMAA87F	26931	27447

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
44	GNMAA87R	27952	28361
44	GNMAA90F	6714	7230
44	GNMAA90R	8124	8276
44	GNMAB27F	4036	4606
44	GNMAB27R	4904	5327
44	GNMCD11F	4246	4813
44	GNMCD11R	5623	6146
44	GNMCQ17F	6327	7009
44	GNMCQ17R	7631	8317
44	GNMCQ67F	1410	2013
44	GNMCQ67R	2571	3261
44	GNMCS92F	21392	22037
44	GNMCS94R	22779	23479
44	GNMCS96F	22613	22986
44	GNMCX79F	14815	15344
44	GNMCX79R	16086	16760
44	GNMCZ44F	19312	19820
44	GNMCZ44R	20486	21049
45	GNMAA88F	3827	4313
45	GNMBA05F	7835	8403
45	GNMBA05R	6395	6824
45	GNMCZ39F	143	619
45	GNMCZ39R	1545	2114
46	GNMAA94F	5740	6254
46	GNMAA94R	6575	7044
46	GNMAB29F	659	1225
46	GNMAB29R	1871	2298
46	GNMAB78F	16523	16951
46	GNMAB78R	15145	15666
46	GNMCA05F	4467	5137
46	GNMCD25F	11261	11830
46	GNMCD25R	10056	10529
46	GNMCD45F	4725	5273
46	GNMCD45R	3455	3826
46	GNMCD72F	12772	13251
46	GNMCD72R	14201	14542
46	GNMCK45F	6690	7258
46	GNMCK45R	5280	5857
46	GNMCK53F	9263	9636
46	GNMCK53R	10581	11122
46	GNMCN62R	20059	20606
46	GNMCO72F	11911	12654
46	GNMCO72R	10592	11291
46	GNMCS38F	8266	8953
46	GNMCS50F	9604	10313
46	GNMCY09F	18777	19443

-40-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
46	GNMCY09R	20339	20885
46	GNMCY48F	13317	14054
46	GNMCY48R	12373	12900
47	GNMAB03F	39285	39849
47	GNMAB03R	40395	40825
47	GNMAB57F	8125	8631
47	GNMAB62F	5129	5697
47	GNMAB72F	25957	26522
47	GNMAB72R	26812	27332
47	GNMBA39F	10581	11112
47	GNMBA39R	9272	9805
47	GNMBA68F	33182	33747
47	GNMBA68R	32098	32634
47	GNMBB31F	46909	47485
47	GNMBB31R	45477	45996
47	GNMCB64F	8634	9225
47	GNMCB64R	9880	10466
47	GNMCD39F	26389	26882
47	GNMCF18F	42096	42592
47	GNMCF18R	40473	41111
47	GNMCF47F	46147	46634
47	GNMCF47R	44893	45560
47	GNMCK29F	14259	14820
47	GNMCK29R	12913	13476
47	GNMCK33F	11732	12246
47	GNMCK33R	10377	10759
47	GNMCK51F	19259	19619
47	GNMCK51R	17899	18248
47	GNMCL24F	21022	21491
47	GNMCL24R	19374	19922
47	GNMCL66F	34263	34768
47	GNMCL66R	35478	36049
47	GNMCM30R	35959	36642
47	GNMCM37R	18280	18787
47	GNMCN36F	28250	28958
47	GNMCN73F	29393	30074
47	GNMCN73R	28267	28921
47	GNMCN93F	1262	1971
47	GNMCN93R	2446	2878
47	GNMCO45F	14719	15397
47	GNMCO45R	15952	16635
47	GNMCO49F	38118	38828
47	GNMCO49R	39315	39845
47	GNMCO60F	21461	22152
47	GNMCO60R	19964	20648
47	GNMCO83R	16405	17063

Coordinates of Sequences Released in Contigs
Contig No.	Sequence Name	Coordinate	Coordinate
47	GNMCP08F	4600	5318
47	GNMCP08R	5704	6436
47	GNMCP12F	44482	45180
47	GNMCP12R	43247	43929
47	GNMCQ70F	28264	28919
47	GNMCQ70R	27232	27902
47	GNMCS79F	28111	28860
47	GNMCX52F	44094	44441
47	GNMCX52R	45425	46100
47	GNMCX73F	8582	9157
47	GNMCX73R	7456	8141
47	GNMCY08F	22073	22785
47	GNMCY08R	20965	21539
47	GNMCY17F	13457	14071
47	GNMCY17R	12199	12710
47	GNMCY60F	4726	5396
47	GNMCY60R	3394	3937
47	GNMCZ72F	26112	26584
47	GNMCZ72R	27111	27642
48	GNMAB10F	45864	46429
48	GNMAB10R	46823	47246
48	GNMAB26F	18205	18771
48	GNMAB26R	17068	17496
48	GNMAB46F	39600	40166
48	GNMAB71F	36266	36835
48	GNMAB71R	35583	35981
48	GNMBA10F	24081	24641
48	GNMBA10R	25627	26158
48	GNMCA01F	2669	3310
48	GNMCA69F	24907	25573
48	GNMCA77F	44240	44904
48	GNMCB68F	48529	49183
48	GNMCB68R	49751	50229
48	GNMCD05F	61093	61524
48	GNMCD05R	47029	47548
48	GNMCD24F	41436	41982
48	GNMCD24R	42664	43161
48	GNMCD70F	43366	43798
48	GNMCE06F	45703	46081
48	GNMCE07R	46605	47129
48	GNMCE90F	6380	6925
48	GNMCE90R	5283	5799
48	GNMCF24F	56963	57448
48	GNMCF24R	55581	56243
48	GNMCF70R	50946	51263
48	GNMCF93F	46705	47157

-42-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
48	GNMCF93R	48122	48692
48	GNMCH40F	24168	24458
48	GNMCH64F	60688	61022
48	GNMCK08F	12988	13530
48	GNMCK08R	11548	12144
48	GNMCK31F	48379	48939
48	GNMCK31R	47177	47731
48	GNMCK46F	13297	13814
48	GNMCK46R	12071	12654
48	GNMCK56F	29433	29963
48	GNMCK56R	27927	28487
48	GNMCK70F	41792	42156
48	GNMCK70R	43324	43888
48	GNMCL05F	22552	23041
48	GNMCL05R	21742	22293
48	GNMCL61F	15321	15724
48	GNMCL61R	14006	14449
48	GNMCL86F	23803	24358
48	GNMCL86R	22389	22965
48	GNMCM40F	60172	60784
48	GNMCM40R	43992	44623
48	GNMCM49R	63033	63741
48	GNMCM60F	28595	29249
48	GNMCM60R	27285	27929
48	GNMCN95F	21768	22424
48	GNMCN96F	52482	53159
48	GNMCO12F	49771	50550
48	GNMCO12R	49060	49698
48	GNMCO76F	26934	27624
48	GNMCO76R	25392	26062
48	GNMCO90F	10121	10652
48	GNMCO90R	8744	9318
48	GNMCP81F	26207	26575
48	GNMCP81R	27441	28017
48	GNMCQ16R	1	661
48	GNMCQ36R	13779	14476
48	GNMCQ48F	44157	44770
48	GNMCQ48R	43032	43754
48	GNMCQ64F	12475	13200
48	GNMCQ66F	12668	13370
48	GNMCQ66R	13747	14472
48	GNMCQ89F	16922	17619
48	GNMCV06F	48695	49152
48	GNMCV07R	47510	48231
48	GNMCV11F	26723	27238
48	GNMCV12R	27836	28452

-43-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
48	GNMCV18F	35744	36244
48	GNMCV19R	34456	35205
48	GNMCV82F	8278	8644
48	GNMCV82R	8280	8645
48	GNMCV96F	45990	46492
48	GNMCV96R	44480	45162
48	GNMCX28F	42946	43632
48	GNMCX28R	44129	44767
48	GNMCX29F	59233	59998
48	GNMCX29R	58344	58984
48	GNMCX42F	22170	22862
48	GNMCX42R	23577	24264
48	GNMCX50F	29838	30232
48	GNMCX50R	30956	31633
48	GNMCX80F	30061	30735
48	GNMCX80R	31536	32224
48	GNMCY70F	13009	13629
48	GNMCY70R	11725	12281
48	GNMCZ84R	4001	4533
49	GNMAB32F	401	684
50	GNMAB35F	17857	18274
50	GNMBA70F	14615	15180
50	GNMBA70R	15849	16383
50	GNMCB20R	20852	21453
50	GNMCB89F	12569	13223
50	GNMCB89R	14045	14508
50	GNMCF67F	4524	4879
50	GNMCF67R	3257	3858
50	GNMCH89F	19690	20140
50	GNMCH89R	18248	18535
50	GNMCK49F	20201	20665
50	GNMCK49R	18771	19297
50	GNMCM01F	2158	2770
50	GNMCM01R	708	1314
50	GNMCN41F	21893	22570
50	GNMCN41R	23128	23476
50	GNMCO04F	2174	2638
50	GNMCO04R	837	1541
50	GNMCO82F	16481	17139
50	GNMCO82R	17538	18219
50	GNMCP61F	13046	13330
50	GNMCP61R	14605	15154
50	GNMCS33F	27679	28393
50	GNMCV22F	21920	22410
50	GNMCV23R	20644	21369
50	GNMCV47F	17147	17659

-44-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
50	GNMCV47R	18206	18900
50	GNMCV58R	1132	1905
50	GNMCV59R	1242	1814
50	GNMCX41F	3977	4725
50	GNMCX41R	5212	5916
50	GNMCY22F	22454	23103
50	GNMCY29R	22461	23008
50	GNMCY71F	10076	10646
50	GNMCY71R	9041	9543
50	GNMCZ52F	20698	21140
50	GNMCZ52R	22156	22569
50	GNMCZ94F	3890	4317
50	GNMCZ94R	5230	5743
50	GNMCZ95F	3902	4346
50	GNMCZ96F	3902	4346
51	GNMAB39F	5946	6511
51	GNMBA51F	8613	9139
51	GNMBA51R	6844	7329
51	GNMCL84F	7136	7509
51	GNMCL84R	8501	9072
51	GNMCO08R	979	1711
51	GNMCY10F	1194	1921
51	GNMCY10R	50	610
51	GNMCZ33F	3405	3947
51	GNMCZ33R	4668	5244
52	GNMAB40F	15814	16385
52	GNMCB93F	7437	8109
52	GNMCB93R	8732	9304
52	GNMCF69F	9103	9470
52	GNMCF69R	7871	8573
52	GNMCF92F	2901	3235
52	GNMCF92R	1359	2018
52	GNMCL51F	16830	17360
52	GNMCL51R	18234	18580
52	GNMCM61R	12794	13378
52	GNMCN24F	1	676
52	GNMCN24R	1452	2016
52	GNMCO31F	17039	17664
52	GNMCO31R	18187	18861
52	GNMCS05F	11540	12169
52	GNMCX49F	10221	10402
52	GNMCX49R	8569	9260
52	GNMCX96R	4202	4835
52	GNMCZ83F	11839	12349
52	GNMCZ83R	13065	13609
53	GNMAB50F	81	306

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
54	GNMAB60F	4573	5141
54	GNMCD66F	258	750
55	GNMAB66F	1314	1623
55	GNMCB73F	3597	4316
55	GNMCB73R	5062	5644
55	GNMCM35F	3120	3883
55	GNMCM35R	2555	3288
55	GNMCX47F	5496	6201
55	GNMCX47R	4289	4982
55	GNMCY34F	5585	6305
56	GNMAB79R	1	246
57	GNMAB80F	19923	20432
57	GNMAB80R	21103	21624
57	GNMBA07F	14530.	15093
57	GNMBA07R	15847	16378
57	GNMCB11R	30694	31243
57	GNMCB47F	29518	30234
57	GNMCB47R	28242	28881
57	GNMCD55F	32780	33171
57	GNMCE88F	13260	13679
57	GNMCE88R	14546	15067
57	GNMCF06F	16859	17358
57	GNMCF06R	15242	15921
57	GNMCF40F	18554	19027
57	GNMCF40R	19698	20365
57	GNMCF50F	20435	20910
57	GNMCF50R	21576	22262
57	GNMCF63F	30402	30884
57	GNMCF63R	28818	29412
57	GNMCF86R	32361	33020
57	GNMCK71F	8763	9100
57	GNMCK71R	10055	10613
57	GNMCL95F	3811	4223
57	GNMCL95R	2299	2901
57	GNMCN67F	20529	21206
57	GNMCN67R	19529	20102
57	GNMCP09F	2860	3520
57	GNMCP09R	1894	2615
57	GNMCP70F	17618	18104
57	GNMCP70R	18924	19511
57	GNMCP79F	8875	9372
57	GNMCP79R	10275	10855
57	GNMCQ41F	20359	21104
57	GNMCQ41R	19619	20345
57	GNMCQ44F	10270	10898
57	GNMCQ44R	11575	12244

-46-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
57	GNMCS16F	20638	20868
57	GNMCS86F	30569	31246
57	GNMCV34F	21537	21988
57	GNMCY40F	20132	20855
57	GNMCY40R	19153	19716
57	GNMCY49R	26133	26607
57	GNMCY80F	8452	8787
57	GNMCY80R	6998	7416
57	GNMCY90F	19373	19946
57	GNMCZ43F	31206	31711
57	GNMCZ43R	32436	32921
58	GNMAB82F	9525	10095
58	GNMAB82R	8509	9029
58	GNMCO58R	15112	15768
58	GNMCY78R	3411	3857
58	GNMCY83F	11793	12472
58	GNMCY83R	10643	11053
59	GNMAB85F	2737	3302
59	GNMAB85R	1900	2305
59	GNMCO33F	2304	2941
59	GNMCO33R	1257	1881
59	GNMCX86F	2826	3461
59	GNMCX86R	1441	2128
59	GNMCZ32F	1619	2126
59	GNMCZ32R	2661	3195
60	GNMAB95F	13774	14279
60	GNMAB95R	15289	15810
60	GNMCA30F	937	1556
60	GNMCD44F	303	826
60	GNMCF04F	9775	10276
60	GNMCF04R	8305	8976
60	GNMCF90F	3862	4310
60	GNMCF90R	2510	3187
60	GNMCH28F	9435	9696
60	GNMCK30F	13554	14101
60	GNMCK30R	12158	12740
60	GNMCM05F	9295	9874
60	GNMCM05R	10879	11616
60	GNMCM55F	10074	10731
60	GNMCM55R	10796	11542
60	GNMCS87F	13103	13751
60	GNMCW39F	15206	15851
60	GNMCX55F	12701	12889
60	GNMCX55R	13822	14516
60	GNMCX62R	1554	2237
61	GNMBA06F	22890	23457

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
61	GNMBA06R	24229	24758
61	GNMCB04F	30158	30722
61	GNMCB04R	28612	29214
61	GNMCB21F	23862	24428
61	GNMCB21R	25186	25806
61	GNMCB63R	3796	4094
61	GNMCB86F	23284	23998
61	GNMCB86R	24021	24623
61	GNMCD18F	31187	31608
61	GNMCF95F	20692	21018
61	GNMCF95R	19232	19872
61	GNMCK40F	11307	11811
61	GNMCK65F	9007	9517
61	GNMCL04F	20077	20543
61	GNMCL04R	18687	19271
61	GNMCL20F	27968	28464
61	GNMCL20R	29257	29840
61	GNMCL22F	13417	13939
61	GNMCL22R	14872	15438
61	GNMCL29R	34192	34771
61	GNMCL53F	1518	2034
61	GNMCL53R	214	686
61	GNMCL90R	8315	8896
61	GNMCM65F	15441	16117
61	GNMCM65R	14289	14994
61	GNMCM71F	10516	11122
61	GNMCM71R	11703	12405
61	GNMCO61F	14512	15200
61	GNMCO61R	13255	13946
61	GNMCQ79F	15902	16644
61	GNMCQ79R	16726	17426
61	GNMCQ90F	2342	3073
61	GNMCQ90R	804	1426
61	GNMCQ95F	19198	19483
61	GNMCQ95R	20653	21277
61	GNMCS24F	19718	20379
61	GNMCS46F	18786	19366
61	GNMCV12F	30913	31415
61	GNMCV13R	31908	32632
61	GNMCY25F	25038	25729
61	GNMCY25R	26701	27270
62	GNMBA12F	7833	8334
62	GNMBA66F	8661	9232
62	GNMBA66R	9606	10138
62	GNMBB30F	3235	3799
62	GNMBB30R	4483	5016

-48-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
62	GNMCB05F	4772	5096
62	GNMCB05R	6111	6717
62	GNMCD67F	7723	8233
62	GNMCF78F	3478	3931
62	GNMCM43F	12550	13285
62	GNMCM43R	11540	12127
62	GNMCP28F	3321	3756
62	GNMCP28R	1814	2235
62	GNMCP67F	2320	2824
62	GNMCP67R	3943	4497
62	GNMCV62F	8092	8582
62	GNMCV62R	9694	10487
62	GNMCX39F	7125	7796
62	GNMCX39R	5729	6265
62	GNMCZ55F	5209	5724
62	GNMCZ55R	3782	4320
62	GNMCZ76F	4455	4947
62	GNMCZ76R	3027	3553
63	GNMBA13F	14825	15391
63	GNMBA13R	13165	13703
63	GNMBA14F	12491	13059
63	GNMBA14R	13757	14281
63	GNMBA80F	12477	12855
63	GNMCB32F	472	756
63	GNMCD42F	20565	21089
63	GNMCF07F	13708	14215
63	GNMCF07R	12522	13201
63	GNMCK47F	10432	10931
63	GNMCK47R	9275	9813
63	GNMCK91R	9054	9617
63	GNMCN32F	16696	17346
63	GNMCN32R	17927	18521
63	GNMCS55F	1461	2208
63	GNMCX85R	14727	15427
63	GNMCZ11R	17115	17610
63	GNMCZ18F	1990	2479
63	GNMCZ18R	3109	3667
63	GNMCZ34F	13696	14216
63	GNMCZ34R	12451	13003
64	GNMBA27F	2420	2987
64	GNMBA27R	649	1182
64	GNMCK68F	8858	9142
64	GNMCN47F	8600	9323
64	GNMCQ47F	5300	5761
64	GNMCQ47R	3904	4632
64	GNMCZ45F	6005	6471

-49-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
64	GNMCZ45R	7509	8073
64	GNMCZ89F	6722	7164
65	GNMBA40F	9256	9800
65	GNMBA40R	7884	8418
65	GNMCK42F	8125	8438
65	GNMCK42R	9146	9679
65	GNMCK43F	14839	15396
65	GNMCK43R	13196	13745
65	GNMCM11R	2515	3190
65	GNMCO03F	4056	4557
65	GNMCO03R	5332	6065
65	GNMCO32F	10209	10877
65	GNMCO32R	11348	11993
65	GNMCO78R	1107	1782
65	GNMCQ10F	9012	9752
65	GNMCQ10R	10149	10831
65	GNMCQ36F	19	522
65	GNMCZ17F	1839	2369
65	GNMCZ17R	3149	3711
65	GNMCZ24R	3485	4030
65	GNMCZ50R	2017	2356
65	GNMCZ51F	3684	4187
65	GNMCZ51R	5216	5657
66	GNMBA45F	5960	6527
66	GNMBA45R	4417	4948
66	GNMBB01F	3556	4094
66	GNMBB01R	2060	2598
66	GNMCA23F	4257	4873
66	GNMCN50F	6431	7098
66	GNMCN50R	5020	5625
66	GNMCO46F	1766	2443
66	GNMCO46R	706	1195
66	GNMCQ15F	1788	2506
66	GNMCQ15R	994	1686
66	GNMCZ67F	1099	1592
66	GNMCZ67R	2554	3093
66	GNMCZ68F	1130	1584
67	GNMBA56R	828	1363
67	GNMCZ01F	1176	1497
67	GNMCZ01R	2672	3147
68	GNMBA58F	11648	12214
68	GNMBA58R	10145	10680
68	GNMBB14F	7190	7758
68	GNMBB14R	8579	9037
68	GNMCD71F	502	959
68	GNMCL54F	10328	10882

-50-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
68	GNMCL54R	11852	12293
68	GNMCN39F	13282	13967
68	GNMCN39R	11911	12477
68	GNMCP34F	12249	12751
68	GNMCP34R	10521	11087
68	GNMCP74F	9533	10032
68	GNMCP74R	8395	8982
68	GNMCV35F	11085	11475
68	GNMCV35R	12496	12972
69	GNMBA67F	10755	11332
69	GNMBA67R	9691	10167
69	GNMCA68F	138	798
69	GNMCA95F	7720	8389
69	GNMCB19F	7635	8181
69	GNMCB62F	4968	5465
69	GNMCB62R	6482	7170
69	GNMCD88F	6048	6546
69	GNMCD94F	10463	10960
69	GNMCD94R	12298	12546
70	GNMBA87F	8256	8675
70	GNMBA87R	6890	7365
70	GNMCA76F	9130	9792
70	GNMCB96F	10306	11006
70	GNMCB96R	11786	12359
70	GNMCD20F	2427	2973
70	GNMCD20R	3980	4417
70	GNMCE77F	10510	10866
70	GNMCF49F	13718	14204
70	GNMCF49R	11782	12414
70	GNMCF57F	24615	25081
70	GNMCF57R	23522	24203
70	GNMCF81R	14890	15469
70	GNMCK10F	32790	33342
70	GNMCL64F	2279	2735
70	GNMCL64R	1098	1594
70	GNMCM94F	15929	16589
70	GNMCM94R	16990	17708
70	GNMCO70F	6253	6962
70	GNMCP46F	28269	28572
70	GNMCP46R	29399	29799
70	GNMCP69R	14839	15383
70	GNMCQ60R	4262	4932
70	GNMCV71F	1570	2085
70	GNMCV71R	316	1151
70	GNMCV72F	29887	30336
70	GNMCV72R	28290	29022

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
70	GNMCV79F	9283	9798
70	GNMCV79R	8344	9079
70	GNMCV90F	15009	15476
70	GNMCV90R	16482	17299
70	GNMCX43F	15135	15898
70	GNMCX43R	14040	14726
70	GNMCY28F	27547	28277
70	GNMCY28R	26646	27207
70	GNMCZ35F	32742	33250
71	GNMBB05F	1960	2525
71	GNMBB05R	3344	3515
71	GNMCQ43F	7860	8357
71	GNMCQ43R	8617	9224
71	GNMCV39F	3444	3908
71	GNMCV39R	1967	2637
71	GNMCV40R	1959	2698
71	GNMCX05F	7245	7867
71	GNMCX05R	9020	9558
71	GNMCY02F	11233	11831
71	GNMCY02R	10519	11074
71	GNMCZ22F	12199	12719
71	GNMCZ22R	10978	11535
71	GNMCZ62F	5934	6428
71	GNMCZ62R	7330	7740
72	GNMBB26F	8760	9327
72	GNMBB26R	7556	8099
72	GNMCA20F	13469	14085
72	GNMCA70F	3932	4596
72	GNMCA83F	16236	16703
72	GNMCD73F	16569	17077
72	GNMCD73R	15204	15432
72	GNMCF25F	16016	16451
72	GNMCF25R	14647	15269
72	GNMCM14R	10622	11346
72	GNMCS42F	5706	6424
72	GNMCS67F	9325	10026
72	GNMCS91F	3912	4620
72	GNMCY88F	1473	2157
73	GNMCA21F	82	736
73	GNMCA82F	3679	3975
73	GNMCL92F	4664	5205
73	GNMCL92R	5485	5880
73	GNMCM22R	708	1428
73	GNMCM29R	1947	2683
73	GNMCO16R	1657	2311
73	GNMCV93F	347	830

-52-

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
73	GNMCV93R	1879	2561
74	GNMCA78F	5557	6224
74	GNMCB76F	5584	6225
74	GNMCB76R	4398	4946
74	GNMCF14R	1573	2079
74	GNMCF30F	9638	10051
74	GNMCF30R	8180	8703
74	GNMCL96F	16170	16676
74	GNMCL96R	14728	15294
74	GNMCN51F	7918	8654
74	GNMCN51R	6999	7601
74	GNMCN65F	14177	14895
74	GNMCN65R	12918	13517
74	GNMCN66R	12940	13557
74	GNMCO71F	2786	3525
74	GNMCO71R	3980	4683
74	GNMCP02F	9531	10254
74	GNMCP02R	10574	11268
74	GNMCQ12F	1447	2032
74	GNMCQ12R	416	1065
74	GNMCV61F	12114	12501
74	GNMCV61R	10643	11335
74	GNMCX30F	18292	19013
74	GNMCX30R	20178	20810
74	GNMCX94F	21616	22251
74	GNMCX94R	20632	21246
74	GNMCY73R	13205	13774
74	GNMCZ16F	14762	15283
74	GNMCZ16R	13378	13933
74	GNMCZ19F	23465	23941
75	GNMCA94F	3978	4349
75	GNMCB55F	2185	2819
75	GNMCB55R	3259	3917
75	GNMCL13F	4716	5241
75	GNMCL13R	2852	3443
75	GNMCL80F	4341	4845
75	GNMCL80R	2903	3473
75	GNMCM78R	2146	2889
75	GNMCV07F	1	479
75	GNMCV08R	1221	1918
75	GNMCV10F	5011	5503
75	GNMCV11R	3483	4212
75	GNMCV36F	4495	4971
75	GNMCV36R	3285	3527
75	GNMCV52F	3868	4351
75	GNMCV52R	2491	3098

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
75	GNMCX78F	3135	3788
75	GNMCX78R	4397	5087
76	GNMCB02F	2416	2977
76	GNMCB02R	3352	3966
76	GNMCB07F	2416	2984
76	GNMCB07R	3352	3954
76	GNMCB12F	2416	2974
76	GNMCB12R	3314	3966
76	GNMCY54R	5129	5668
77	GNMCB54R	4435	4640
77	GNMCB85R	2747	3439
77	GNMCF72F	4490	4924
77	GNMCF72R	5936	6649
77	GNMCK68R	568	1128
77	GNMCM47F	3316	3922
77	GNMCM47R	4346	4995
77	GNMCX10F	6886	7627
77	GNMCX10R	5801	6436
77	GNMCZ08R	3508	3954
78	GNMCB60F	1387	2047
78	GNMCB60R	2757	3429
79	GNMCB65F	287	954
79	GNMCB65R	1598	2122
79	GNMCY11F	3301	4016
79	GNMCY11R	2339	2911
81	GNMCD15F	1	519
82	GNMCO75R	2040	2712
83	GNMCD53F	466	1013
84	GNMCF02F	1638	2132
85	GNMCF15F	3019	3523
85	GNMCF15R	1257	1932
85	GNMCY26F	1834	2612
85	GNMCY26R	555	1120
86	GNMCF34F	1890	2365
86	GNMCF34R	259	918
86	GNMCS21F	1678	2392
87	GNMCF36F	274	748
88	GNMCF71R	10636	11160
88	GNMCL78F	2657	3153
88	GNMCL78R	4106	4665
88	GNMCN10F	7355	8034
88	GNMCQ46F	10928	11579
88	GNMCQ46R	9882	10586
88	GNMCQ88F	574	1196
88	GNMCQ88R	2017	2549
89	GNMCF76F	1981	2406

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
89	GNMCF76R	1	500
89	GNMCF80F	920	1305
89	GNMCF80R	2032	2709
89	GNMCL16F	247	763
89	GNMCL16R	1226	1784
89	GNMCN80F	788	1493
89	GNMCQ82F	1969	2554
89	GNMCQ82R	401	1093
89	GNMCZ19R	2292	2850
123	GNMCH27F	119	501
145	GNMCP17R	991	1517
152	GNMCP17F	81	776
153	GNMCK10R	756	1346
153	GNMCS01F	823	1344
153	GNMCX08F	332	1001
153	GNMCX08R	1513	2144
153	GNMCZ35R	695	1204
154	GNMCK14R	1	352
155	GNMCK59R	1	445
156	GNMCK78F	8693	9133
156	GNMCM20F	2049	2694
156	GNMCM20R	632	1335
156	GNMCS15F	3468	4033
156	GNMCS66F	4788	5488
156	GNMCV01F	1890	2231
156	GNMCV02R	166	894
156	GNMCV68F	2538	3032
156	GNMCV68R	3475	4231
157	GNMCL11F	295	834
157	GNMCL11R	1294	1846
158	GNMCL30F	1756	2276
158	GNMCL30R	448	1028
158	GNMCV49R	4317	5164
159	GNMCL48F	5961	6264
159	GNMCL48R	4706	5280
159	GNMCQ61R	922	1535
159	GNMCS71F	314	1024
159	GNMCY32F	8722	9407
159	GNMCY32R	10063	10584
159	GNMCY51F	8917	9628
159	GNMCY51R	10406	10895
160	GNMCL58R	4560	5111
160	GNMCN05R	9955	10528
160	GNMCO37F	8602	9262
160	GNMCV04F	951	1370
160	GNMCV05R	1971	2742

Coordinates of Sequences Released in Contigs			
Contig No.	Sequence Name	Coordinate	Coordinate
161	GNMCN26F	4880	5549
161	GNMCN26R	3911	4533
161	GNMCQ77F	6238	6857
161	GNMCQ77R	5035	5760
161	GNMCZ58F	3859	4357
161	GNMCZ58R	2375	2916
162	GNMCN45F	1676	2346
162	GNMCN45R	400	977
163	GNMCN92F	507	1223
163	GNMCN92R	1454	2112
163	GNMCY42F	1142	1860
163	GNMCY42R	2736	3290
163	GNMCZ36F	4711	5225
163	GNMCZ36R	6070	6592
164	GNMCN94F	3000	3708
164	GNMCN94R	1705	2265
165	GNMCQ54F	51	677
165	GNMCQ54R	936	1639
166	GNMCS72F	19	432
166	GNMCS74R	1	181
167	GNMCV58F	314	808
167	GNMCZ38F	6858	7329
167	GNMCZ38R	5443	5996
168	GNMCX26F	1	660
169	GNMCX92F	341	587
170	GNMCY65R	195	567

-1-

APPENDIX B

MenB ORFs

Number 1 ORF

```
  1  ..TTCGGCGA CATCGGCGGT TTGAAGGTCA ATGCCCCCGT CAAATCCGCA
 51  GGCGTATTGG TCGGGCGCGT CGGCGCTATC GGACTTGACC CGAAATCCTA
101  TCAGGCGAGG GTGCGCCTCG ATTTGGACGG CAAGTATCAG TTCAGCAGCG
151  ACGTTTCCGC GCAAATCCTG ACTTCsGGAC TTTTGGGCGA GCAGTACATC
201  GGGCTGCAGC AGGGCGGCGA CACGGAAAAC CTTGCTGCCG GCGACACCAT
251  CTCCGTAACC AGTTCTGCAA TGGTTCTGGA AAACCTTATC GGCAAATTCA
301  TGACGAGTTT TGCCGAGAAA AATGCCGACG GCGGCAATGC GGAAAAAGCC
351  GCCGAATAA
```

Number 2 ORF

```
  1  ..ATTTTGATAT ACCTCATCCG CAAGAATCTA GGTTCGCCCG TCTTCTTCTT
 51  TCAGGAACGC CCCGGAAAGG ACGGAAAACC TTTTAAAATG GTCAAATTCC
101  GTTCCATGCG CGACGGCTTG TATTCAGACG GCATTCCGCT GCCCGACGGA
151  GAACGCCTGA CACCGTTCGG CAAAAAACTG CGTGCCGcCA GTwTGGACGA
201  ACTGCCTGAA TTATGGAATA TCTTAAAAGG CGAGATGAGC CTGGTCGGCC
251  CCCGCCCGCT GCTGATGCAA TATCTGCCGC TGTACGACAA CTTCCAAAAC
301  CGCCGCCACG AAATGAAACC CGGCATTACC GGCTGGGCGC AGGTCAACGG
351  GCGCAACGCg CTTTCGTGGG ACGAAAAATT CGCCTGCGAT GTTTGGTATA
401  TCGACCACTT CAGCCTGTGC CTCGACATCA AAATCCTACT GCTGACGGTT
451  AAAAAAGTAT TAATCAAGGA AGGGATTTCC GCACAGGGCG AACA.aCCAT
501  GCCCCCTTTC ACAGGAAAAC GCAAACTCGC CGTCGTCGGT GCGGGCGGAC
551  ACGGAAAAGT CGTTGCCGAC CTTGCCGCCG CACTCGGCCG GTACAGGGAA
601  ATCGTTTTTC TGGACGACCG CGCACAAGGC AGCGTCAACG GCTTTTCCGT
651  CATCGGCACG ACGCTGCTGC TTGAAAACAG TTTATCGCCC GAACAATACG
701  ACGTCGCCGT CGCCGTCGGC AACAACCGCA TCCGCCGCCA AATCGCCGAA
751  AAAGCCGCCG CGCTCGGCTT CGCCCTGCCC GTACTGGTTC ATCCGGACGC
801  GACCGTCTCG CCTTCTGCAA CAGTCGGACA AGGCAGCGTC GTTATGGCGA
851  AAGCGGTCG..
```

Number 3 ORF

```
  1  ..AACCATATGG CGATTGTCAT CGACGAATAC GGCGGCACAT CCGGCTTGGT
 51  CACCTTTGAA GACATCATCG AGCAAATCGT CGGCGAAATC GAAGACGAGT
101  TTGACGAAGA CGATAGCGCC GACAATATCC ATGCCGTTTC TTCAGACACG
151  TGGCGCATCC ATGCAGCTAC CGAAATCGAA GACATCAACA CCTTCTTCGG
201  CACGGAATAC AGCATCGAAG AAGCCGACAC CATT.GGCGG CCTGGTCATT
251  CAAGAGTTGG GACATCTGCC CGTGCGCGGC GAAAAAGTCC TTATCGGCGG
301  TTTGCAGTTC ACCGTCGCAC GCGCCGACAA CCGCCGCCTG CATACGCTGA
351  TGGCGACCCG CGTGAAGTAA GC........ .....ACCGC CGTTCTGCA
401  CAGTTTAG
```

Number 4 ORF

```
  1  ATGCGCGGCG GCAGGCCGGA TTCCGTTACC GTGCAGATTA TCGAAGGTTC
 51  GCGTTTTTCG CATATGAGGA AAGTCATCGA CGCAACGCCC GACATCGGAC
101  ACGACACCAA AGGCTGGAGC AATGAAAAAC TGATGGCGGA AGTTGCGCCC
151  GATGCCTTCA GCGGCAATCC TGAAgGGCAG TTTTTCCCCG ACAGCTACGA
201  AATCGATGCG GGCGGCAGTG ATTTGCAGAT TTACCAAACC GCCTACAAgG
251  GCGATGCAAC GCCGCCTGAA TGAgGGCATG GGAAAGCAGG CAGGACGGGC
301  TGCCTTATAA AAACCCTTAT GAAATGCTGA TTATGGCGAr CCTGGTCGAA
351  AAGGAAACAG GGCATGAAGC CGAsCsCGAC CATGTcGCTT CCGTCTTCGT
401  CAACCGCCTG AAAATCGGTA TGCGCCTGCA AACCgAssCG TCCGTGATTT
```

-2-

```
451   ACGGCATGGG TGCGGCATAC AAGGGCAAAA TCCGTAAAGC CGACCTGCGC
501   CGCGACACGC CGTACAACAC CTACACGCGC GGCGGTCTGC CGCCAACCCC
551   GATTGCGCTG CCC..
```

Number 5 ORF

```
  1   CGTTTCAAAA TGTTAACTGT GTTGACGGCA ACCTTGATTG CCGGACAGGT
 51   ATCTGCCGCC GGAGGCGGTG CGGGGGATAT GAAACAGCCG AAGGAAGTCG
101   GAAAGGTTTT CAGAAAGCAG CAGCGTTACA GCGAGGAAGA AATCAAAAAC
151   GAACGCGCAC GGCTTGCGGC AGTGGGCGAG CGGGTTAATC AGATATTTAC
201   GTTGCTGGGA GGGGAAACCG CCTTGCAAAA GGGGCAGGCG GGAACGGCTC
251   TGGCAACCTA TATGCTGATG TTGGAACGCA CAAAATCCCC CGAAGTCGCC
301   GAACGCGCCT TGGAAATGGC CGTGTCGCTG AACGCGTTTG AACAGGCGGA
351   AATGATTTAT CAGAAATGGC GGCAGATTGA GCCTATACCG GGTAAGGCGC
401   AAAAACGGGC GGGGTGGCTG CGGAACGTGC TGAGGGAAAG AGGAAATCAG
451   CATCTGGACG GACGGGAAGA AGTGCTGGCT CAGGCGGACG AAGGACAG
```

Number 6 ORF

```
  1   AACCTCTACG CCGGCCCGCA GACCACATCC GTCATCGCAA ACATCGCCGA
 51   CAACCTGCAA CTGGCCAAAG ACTACGGCAA AGTACACTGG TTCGCCTCCC
101   CGCTCTTCTG GCTCCTGAAC CAACTGCACA ACATCATCGG CAACTGGGGC
151   TGGGCGATTA TCGTTTTAAC CATCATCGTC AAAGCCGTAC TGTATCCATT
201   GACCAACGCC TCTTACCGCT CTATGGCGAA AATGCGTGCC GCCGCACCCA
251   AACTGCAAGC CATCAAAGAG AAATACGGCG ACGACCGTAT GGCGCAACAA
301   CAGGCGATGA TGCAGCTTTA CACAGACGAG AAAATCAACC CGaCTGGGCG
351   GCTGCCTGCC TATGCTGTTG CAAATCCCCG TCTTCATCGG ATTGTATTGG
401   GCATTGTTCG CCTCCGTAGA ATTGCGCCAG GCACCTTGGC TGGGTTGGAT
451   TACCGACCTC AGCCGCGCCG ACCCCTACTA CATCCTGCCC ATCATTATGG
501   CGGCAACGAT GTTCGCCCAA ACTTATCTGA ACCCGCCGCC GAcCGACCCG
551   ATGCagGCGA AAATGATGAA AATCATGCCG TTGGTTTTCT CsGwCrTGTT
601   CTTCTTCTTC CCTGCCGGks TGGTATTGTA CTGGGTAGTC AACAACCTCC
651   TGACCATCGC CCAGCAATGG CACATCAACC GCAGCATCGA AAAACAACGC
701   GCCCAAGGCG AAGTCGTTTC CTAA
```

Number 7 ORF

```
  1   ..GCCGTCTTAA TCATCGAATT ATTGACGGGA ACGGTTTATC TTTTGGTTGT
 51   NAGCGCGGCT TTGGCGGGTT CGGGCATTGC TTACGGGCTG ACCGGCAGTA
101   CGCCTGCCGC CGTCTTGACC GNCGCTCTGC TTTCCGCGCT GGGTATTTNG
151   TTCGTACACG CCAAAACCGC CGTTAGAAAA GTTGAAACGG ATTCATATCA
201   GGATTTGGAT GCCGGACAAT ATGTCGAAAT CCTCCGNCAC ACAGGCGGCA
251   ACCGTTACGA AGTT.TTTAT CGCGGTACG. ACTGGCAGGC TCAAAATACG
301   GGGCAAGAAG AGCTTGAACC AGGAACTCGC GCCCTCATTG TCCGCAAGGA
351   AGGCAACCTT CTTATTATCA CACACCCTTA A
```

Number 8 ORF

```
  1   ATGTwTGATT TCGGTTTrGG CGArCTGGTT TTTGTCGGCA TTATCGCCCT
 51   GATwGtCCTC GGCCCCGAAC GCsTGCCCGA GGCCGCCCGC AyCGCCGGAC
101   GGcTCATCGG CAGGCTGCAA CGCTTTGTCG GcAGCGTCAA ACAGGAATTT
151   GACACTCAAA TCGAACTGGA AGAACTGAGG AAGGCAAAGC AGGAATTTGA
201   AGCTGCCGcC GCTCAGGTTC GAGACAGCCT CAAAGAAACC GGTACGGATA
251   TGGAAGGCAA TCTGCACGAC ATTTCCGACG GTCTGAAGCC TTGGGAAAAA
301   CTGCCCGAAC AGCGGACACC TGCCGATTTC GGTGTCGATG AAAACGGCAA
351   TCCGCT.TCC CGATGCGGCA AACACCCTAT CAGACGGCAT TTCCGACGTT
401   ATGCCGTC..
```

Number 9 ORF

```
  1 ATGCAAGCAC GGCTGCTGAT ACCTATTCTT TTTTCAGTTT TTATTTTATC
 51 CGC.TGCGGG ACACTGACAG GTATTCCATC GCATGGCGgA GkTAAACgCT
101 TTgCGGTCGA ACAAGAACTT GTGGCCGCTT CTGCCAGAGC TGCCGTTAAA
151 GACATGGATT TACAGGCATT ACACGGACGA AAAGTTGCAT TGTACATTGC
201 CACTATGGGC GACCAAGGTT CAGGcAGTTT GACAGGGGGG TCGCTACTCC
251 ATTGATGCAC kGrTwCsTGG CGAATACATA AACAGCCCTG CCGTCCGTAC
301 CGATTACACC TATCCACGTT ACGAAACCAC CGCTGAAACA ACATCAGGCG
351 GTTTGACAGG TTTAACCACT TCTTTATCTA CACTTAATGC CCCTGCACTC
401 TCTCGCACCC AATCAGACGG TAGCGGAAGT AAAAGCAGTC TGGGCTTAAA
451 TATTGGCGGG ATGGGGGATT ATCGAAATGA AACCTTGACG ACTAACCCGC
501 GCGACACTGC CTTTCTTTCC CACTTGGTAC AGACCGTATT TTTCCTGCGC
551 GGCATAGACG TTGTTTCTCC TGCCAATGCC GATACAGATG TGTTTATTAA
601 CATCGACGTA TTCGGAACGA TACGCAACAG AACCGAAATG..
```

Number 10 ORF

```
  1 ..GG.CAGCACA AAAAACAGGC GGTTGAACGG AAAAACCGTA TTTACGATGA
 51 TGCCGGGTAT GATATTCGGC GTATTCACGG GCGCATTCTC CGCAAAATAT
101 ATCCCCGCGT TCGGGCTTCA AATTTTCTTC ATCCTGTTTT TAACCGCCGT
151 CGCATTCAAA ACACTGCATA CCGACCCTCA GACGGCATCC CGCCCGCTGC
201 CCGGACTGCC CrGACTGACT GCGGTTTCCA CACTGTTCGG CACAATGTCG
251 AGCTGGGTCG GCATAGGCGG CGGTTCACTT TCCGTCCCCT TCTTAATCCA
301 CTGCGGCTTC CCCGCCCATA AAGCCATCGG CACATCATCC GGCCTTGCCT
351 GGCCGATTGC ACTCTCCGGC GCAATATCGT ATCTGCTCAA CGGCCTGAAT
401 ATTGCAGGAT TGCCCGAAGG GTCACTGGGC TTCCTTTACC TGCCCGCCGT
451 CGCCGTCCTC AGCGCGGCAA CCATTGCCTT TGCCCCGCTC GGTGTCAAAA
501 CCGCCCACAA ACTTTCTTCT GCCAAACTCA AAAAATC.TT CGGCATTATG
551 TTGCTTTTGA TTGCCGGAAA AATGCTGTAC AACCTGCTTT AA
```

Number 11 ORF

```
  1 ..GGAAACGGAT GGCAGGCAGA CCCCGAACAT CCGCTGCTCG GGCTTTTTGC
 51 CGTCAGTAAT GTATCGATGA CGCTTGCTTT TGTCGGAATA TGTGCGTTGG
101 TGCATTATTG CTTTTCGGGA ACGGTTCAAG TGTTTGTGTT TGCGGCACTG
151 CTCAAACTTT ATGCGCTGAA GCCGGTTTAT TGGTTCGTGT TGCAGTTTGT
201 GCTGATGGCG GTTGCCTATG TCCACCGCTG CGGTATAGAC CGGCAGCCGC
251 CGTCAACGTT CGGCGGCTCG CAGCTGCGAC TCGGCGGGTT GACGGCAGCG
301 TTGATGCAGG TCTCGGTACT GGTGCTGCTG CTTTCAGAAA TTGGAAGATA
351 A
```

Number 12 ORF

```
  1 ATGAAAACCC CACTCCTCAA GCCTCTGCTN ATTACCTCGC TTCCCGTTTT
 51 CGCCAGTGTT TTTACCGCCG CCTCCATCGT CTGGCAGCTA GGCGAACCCA
101 AGCTCGCCAT GCCCTTCGTA CTCGGCATCA TCGCCGGCGG CCTTGTCGAT
151 TTGGACAACC NCNTGACCGG ACGGCTNAAA AACATCATCA CCACCGTCGC
201 CCTGTTCACC CTCTCCTCGC TCACGGCACA AAGCACCCTC GGCACAGGGC
251 TGCCCTTCAT CCTCGCCATG ACCCTGATGA CTT.CG.CTT CACCATTTTA
301 GGCGCGGNCG ...
```

Number 13 ORF

```
  1 ATGAATATGC TGGGAGCTTT GGCAAAAGTC GGCAGCCTGA CGATGGTGTC
 51 GCGCGTTTTG GGATTTGTGC GCGATACGGT CATTGCGCGG GCATTCGGCG
101 CGGGTATGGC GACGGATGCG TTTTTTGTCG CGTTCAAACT GCCCAACCTG
151 CTTCGCCGCG TGTTTGCGGA GGGGGCGTTT GCCCAAGCGT TTGTGCCGAT
201 TTTGGCGGAA TACAAGGAAA CGCGTTCAAA AGAGGCGG.C GAAGCCTTTA
251 TCCGCCATGT GGCGGGGATG CTGTCGTTTG TACTGGTTAT CGTTACCGCG
301 CTGGGCATAC TTGCCGCGCC TTGGGTGATT TATGTTTCCG CACCCGAGTT
```

-4-

```
 351  TTGCCCAAGA TGCCGACAAA TTTCAGCTCT CCATCGATTT GCTGCGGATT
 401  ACGTTTCCTT ATATATTATT GATTTCCCTG TCTTCATTTG TCGGCTCGGT
 451  ACTCAATTCT TATCATAAGT TCGGCATTCC GGCGTTTACG CCAC.GTTTC
 501  TGAACGTGTC GTTTATCGTA TTCGCGCTGT TTTTCGTGCC GTATTTCGAT
 551  CCGCCCGTTA CCGCGCyGGC GTGGGCGGTC TTTGTCGGCG GCATTTTGCA
 601  ACTCGrmTTC CAACTGCCCT GGCTGGCGAA ACTGGGCTTT TTGAAACTGC
 651  CCAAACtGAG TTTCAAAGAT GCGGCGGTCA ACCGCGTGAT GAAACAGATG
 701  GCGCCTGCgA TTTTgGGCGT GAgCGTGGCG CAGGTTTCTT TGGTGATCAA
 751  CACGATTTTc GCGTCTTATC TGCAATCGGG CAGCGTTTCA TGGATGTATT
 801  ACGCCGACCG CATGATGGAG CTGCCCAGCG GCGTGCTGGG GGCGGCACTC
 851  GGTACGATTT TGCTGCCGAC TTTGTCCAAA CACTCGGCAA ACCaAGATAC
 901  GGaACAGTTT TCCGCCCTGC TCGACTGGGG TTTGCGCCTG TGCATGCtgc
 951  TGACGCTGCC GGCGgcGGTC GGACTGGCGG TGTTGTCGTT cCCgCtGGTG
1001  GCGACGCTGT TTATGTACCG CGwATTTACG CTGTTTGACG CGCAGATGAC
1051  GCAACACGCG CTGATTGCCT ATTCTTTCGG TTTAATCGGC TTAATCATGA
1101  TTAAAGTGTT GGCACCCGGC TTCTATGCGC GGCAAAACAT CAAwAmGCCC
1151  GTCAAAATCG CCATCTTCAC GCTCATCTGC mCGCAGTTGA TGAACCTTGs
1201  CTTTAyCGGC CCCACTrrAAC rCaGTCGGAC TTTCGCTTGC CATCGGTCTG
1251  GGCGCGTGTA TCAATGCCGG ATTGTTGTTT TACCTGTTGC GCAGACACGG
1301  TATTTACCAA CCTGG.CAAG GGTTGGGCAG CGTTCTT.AG CAAAAATGCT
1351  GcTCTCGCTC GCCGTGA
```

Number 14 ORF

```
  1  atGATTAAAA TCAAAAAAGG TCTAAACCTG CCCATCGCGG GCAGACCGGA
 51  GCAAGCCGTT tACGACGGCC CGGCCaTTAC CGAAGtCGCG TTGCTTGGCG
101  AAGAATATGC CGGTATGCGC CCCTCGATGA AAGTCAAGGA AGGCGATGCC
151  GTCAAAAAAG GCCAAGTGCT GTTTGAAGAC AAAAAGAATC CGGGCGTGGT
201  GTTTACTGCG CCGGCTTCAG GcAAAATCGC CGCGATTCAC CGTGGCGAAA
251  AGCGCGTACT TCAGTCAGTC GTGATTGCCG TTGAArGCAA CGACGAAATC
301  GAGTTTGAAC GCTACGCACC TGAAGCGCTG GCAAACTTAA GCGGCGAAGA
351  AGTGCGCCGC AACCTGATCC AATCCGGTTT GTGGACTGCG CTGCGCACCC
401  GTCCGTTCAG CAAAATTCCT GCCGTCGATG CCGAGCCGTT CGCCATCTTC
451  GTCAATGCGA tGGACACCAA TCCG..
```

Number 15 ORF

```
  1  ..GCGnCGnAAA TCATCCATCC CC..nACGTC GTAGGCCCTG AAGCCAACTG
 51  GTTTTTTATG GTAGCCAGTA CGTTGTGAT TGCTTTGATT GGTTATTTTG
101  TTACTGAAAA AATCGTCGAA CCGCAATTGG GCCCTTATCA ATCAGATTTG
151  TCACAAGAAG AAAAAGACAT TCGGCATTCC AATGAAATCA CGCCTTTGGA
201  ATATAAAGGA TTAATTTGGG CTGGCGTGGT GTTTGTTGCC TTATCCGCCC
251  TATTGGCTTG GAGCATCGTC CCTGCCGACG GTATTTTGCG TCATCCTGAA
301  ACAGGATTGG TTTCCGGTTC GCCGTTTTTA AAATCGATTG TTGTTTTTAT
351  TTTCTTGTTG TTTGCACTGC CGGGCATTGT TTATGGCCGG GTAACCCGAA
401  GTTTGCGCGG CGAACAGGAA GTCGTTAATG CGmyGGCCGA ATCGATGAGT
451  ACTCTGGsGC TTTmTTTGsw CAkcATCTTT TTTGCCGCAC AGTTTGTCGC
501  ATTTTTTAAT TGGACGAATA TTGGGCAATA TATTGCCGTT AAAGGGGCGA
551  CGTTCTTAAA AGAAGTCGGC TTGGGCGGCA GCGTGTTGTT TATCGGTTTT
601  ATTTTAATTT GTGCTTTTAT CAATCTGATG ATAGGCTCCG CCTCCGCGCA
651  ATGGGCGGTA ACTGCGCCGA TTTTCGTCCC TATGCTGATG TTGGCCGGCT
701  ACGCGCCCGA AGTCATTCAA GCCGCTTACC GCATCGGTGA TTCCGTTACC
751  AATATTATTA CGCCGATGAT GAGTTATTTC GGGCTGATTA TGGCGACGGT
801  GrkCmmmTAC AAAAAAGATG CGGGCGTGGG TaCGcTGATT wCTATGATGT
851  TGCCGTATTC CGCTTTCTTC TTGATTGCgT GGATTGCCTT ATTCTGCATT
901  TGGGTATTTg TTTTGGGCCT GCCCGTCGGT CCCGGCGCGC CCACATTCTA
951  TCCCGCACCT TAA
```

Number 16 ORF

```
  1  ..ACAGCCGGCG CAGCAGGTTn CnCGGTCTTC GTTTTCGTAA CGGACAGTCA
 51     GGTGGAGGTG TTCGGGAACA TCCAGACCGC AGTGGAAACA GGTTTTTTTC
```

```
101    ATGGCATTTC GGTTTCGTCT GTGTTTGGTG CGGCGGCACA AGACTCGGCA
151    ATgGCTTCGC GCAGTGCGTC TATACCGGTA TTTTCAGCAA CGGAAATGCG
201    GACGGcGgCA ATTTTTCCCG CAGCGTCGCG CCATATGCCC GTGTTTTgTT
251    CTTCAGACGG CAGCAGGTCG GTTTTGTTGT ACACCTTgAT GCACGGAaTA
301    TCGCCGGCAT GGATTTCTTG CAGTACGTTT TCCACGTCTT CAATCTGCTG
351    TCCGCTGTTC GGAGCGGCGG CATCGACGAC GTGCAGCAGC ACATCgGcTT
401    gCGCGGTTTC TTCCAGCGTG GCgGAAAAGG CGGAAATCAG TTTgTGCGGC
451    agATyGCTnA CGAATCCGAC GGTATCGGTC AGGATAATGC TGCATTCGGG
501    ACT..
```

Number 17 ORF

```
1    ..GGCCATTACT CCGACCGCAC TTGGAAGCCG CGTTTGGNCG GCCGCCGTCT
51   GCCGTATCTG CTTTATGGCA CGCTGATTGC GGTTATTGTG ATGATTTTGA
101  TGCCGAACTC GGGCAGCTTC GGTTTCGGCT ATGCGTCGCT GGCGGCTTTG
151  TCGTTCGGCG CGCTGATGAT TGCGCTGTTA GACGTGTCGT CAAATATGGC
201  GATGCAGCCG TTTAAGATGA TGGTCGGCGA CATGGTCAAC GAGGAGCAGA
251  AAA.NTACGC CTACGGGATT CAAAGTTTCT TAGCAAATAC GGGCGCGGTC
301  GTGGCGGCGA TTCTGCCGTT TGTGTTTGCG TATATCGGTT TGGCGAACAC
351  CGCCGANAAA GGCGTTGTGC CGCAGACCGT GGTCGTGGCG TTTTATGTGG
401  GTGCGGCGTT GCTGGTGATT ACCAGCGCGT TCACGATTTT CAAAGTGAAG
451  GAATACGANC CGGAAACCTA CGCCCGTTAC CACGGCATCG ATGTCGCCGC
501  GAATCAGGAA AAAGCCAACT GGATCGCACT CTTAAAA.CC GCGC..
```

Number 18 ORF

```
1    ATGTTGTTCC GTAAAACGAC CGCCGCCGTT TTGGCGCATA CCTTGATGCT
51   GAACGGCTGT ACGTTGATGT TGTGGGGAAT GAACAACCCG GTCAGCGAAA
101  CAATCACCCG NAAACACGTT GNCAAAGACC AAATCCGNGN CTTCGGTGTG
151  GTTGCCGAAG ACAATGCCCA ATTGGAAAAG GGCAGCCTGG TGATGATGGG
201  CGGAAAATAC TGGTTCGTCG TCAATCCCGA AGATTCGGCG AA.NTGACGG
251  GNATTTTGAN GGCAGGGCTG GACAAACCCT TCCAAATAGT TNAGGATACC
301  CCGAGCTATG C.TGCCACCA AGCCCTGCCG GTCAAACTCG GATCGNCTGG
351  CAGCCAGAAT...
```

Number 19 ORF

```
1    ..GTCAGTCCTG TACTGCCTAT TACACACGAA CGGACAGGGT TTGAAGGTGT
51   TATCGGTTAT GAAACCCATT TTTCAGGGCA CGGACATGAA GTACACAGTC
101  CGTTCGATCA TCATGATTCA AAAAGCACTT CTGATTTCAG CGGCGGTGTA
151  GACGGCGGTT TTACTGTTTA CCAACTTCAT CGAACATGGT CGGAAATCCA
201  TCCGGAGGAT GAATATGACG GGCCGCAAGC AGCG.ATTAT CCGCCCCCCG
251  GAGGAGCAAG GGATATATAC AGCTATTATG TCAAAGGAAC TTCAACAAAA
301  ACAAAGACTA GTATTGTCCC TCAAGCCCCA TTTTCAGACC GTTGGCTAGA
351  AGAAAATGCC GGTGCCGCCT CTGGT..
```

Number 20 ORF

```
1    ATGAAAAAAC AAATCACCGC AGCCGTAATG ATGCTGTCTA TGATTGCCCC
51   CGCAATGGCA AACGGCTTGG ACAATCAGGC ATTTGAAGAC CAAATGTTCC
101  ACACGCGGGC AGATGCACCG ATGCAG...
```

Number 21 ORF

```
1    ATGAATAAAA CTCTCTATCG TGTAATTTTC AACCGCAAAC GTGGGGCTGT
51   GrTAGCCGTT GCTGAAACTA CCAAGCGCGA AGGTAAAAGC TGTGCCGATA
101  GTGATTCAGG CAGCGCTCAT GTGAAATCTG TTCCTTTTGG TACTACTCAT
151  GCACCTGTTT GTg.CGTTaC AAATATCTTT TCTTTTTCTT TATTGGGCTT
201  TTCTTTATGT TTGGCTGTAG GtacGGyCAA TATTGCTTTT GCTGATGGCA
```

-6-

```
251 TT..
```

Number 22 ORF

```
  1 ATGAATACTC CTCCTTTTGT CTGTTGGATT TTTTGCAAGG TCATCGACAA
 51 TTTCGGCGAC ATCGGCGTTT CGTGGCGGCT CGCCCGTGTT TTGCACCGCG
101 AACTCGGTTG GCAGGTGCAT TTGTGGACGG ACGATGTGTC CGCCTTGCGT
151 GCGCTTTGCC CTGATTTGCC CGATGTTCCC TGCGTTCATC AGGATATTCA
201 TGTCCGCACT TGGCATTCCG ATGCGGCAGA TATTGATACC GCG..
```

Number 23 ORF

```
  1 ..TTGTTCCTGC GTGTNAAAGT GGGGCGTTTT TTCAGCAGTC CGGCGACGTG
 51 GTTTCGGGNC AAAGACCCTG TAAATCAGGC GGTGTTGCGG CTGTATNCGG
101 ACGAGTGGCG GCA.ACTTCG GTACGTTGGA AAATAGNCGC AACGTCGCAC
151 AGCCTGTGGC TCTGCACGCT GCTCGGAATG CTGGTGTCGG TATTGTTGCT
201 GCTTTTGGTG CGGCAATATA CGTTCAACTG GGAAAGCACG CTGTTGAGCA
251 ATGCCGCTTC GGTACGCGCG GTGGAAATGT TGGCATGGCT GCCGTCGAAA
301 CTCGGTTTCC CTGTCCCCGA TGCGCGGTCG GTCATCGAAG GCCGTCTGAA
351 CGGCAATATT GCCGATGCGC GGGCTTGGTC GGGGCTGCTG GTCGNCAGTA
401 TCGCCTGCTA NGGCATCCTG CCGCGCCTG..
```

Number 24 ORF

```
  1 ..CAGAAGAGTT TGTCGAGAAT TTCTTTATGG GGTTTGGGCG GCGTGTTTTT
 51 CGGGGTGTCC GGTCTGGTAT GGTTTTCTTT GGGCGTTTCT TT.GAGTGCG
101 CCTGTTTTTC GGGTGTTTCT TTTCGGGGTT CGGGACGGGG GACGTTTGTG
151 GGCAGTACGG GGGTTTCTTT GAGTGTGTTT TCAGCTTGTG TTCC.GGCGT
201 CGTCCGGCTG CCTGTCGGTT TGAGCTGTGT CGGCAGGTTG CG..GTTTGA
251 CCCGGTTTTT CTTGGGTGCG GCAGGGGACG TCATTCTCCT GCCGCTTTCG
301 TCTGTGCCGT CCGGCTGTGC GGGTTCGGAT GAGGCGGCGT GGTGGTGTTC
351 GGGTTGGGCG GCATCTTGTT CCGACTACGC CGTTTGGCAG CCAGAATTCG
401 GTTTCGCGGG GGCTGTCGGT GTGTTGCGGT TCGGCTTGAA GGGTTTTGTC
451 GTCC..
```

Number 25 ORF

```
  1 ATGAAAACCT TCTTCAAAAC CCTTTCCGCC GCCGCACTCG CGCTCATCCT
 51 CGCCGCCTGC GGATT.CAAA AAGACAGCGC GCCCGCCGCA TCCGCTTCTG
101 CCGCCGCCGA CAACGGCGCG GCGTAAAAAA GAAATCGTCT TCGGCACGAC
151 CGTCGGCGAC TTCGGCGATA TGGTCAAAGA ACAAATCCAA GCCGAGCTGG
201 AGAAAAAAGG CTACACCGTC AAACTGGTCG AGTTTACCGA CTATGTACGC
251 CCGAATCTGG CATTGGCTGA GGGCGAGTTG
```

Number 26 ORF

```
  1 CCTCGTCGTC CTCGGCATGC TCCAGTTTCA AGGGGCGATT TACTCCAAGG
 51 CGGTGGAACG TATGCTCGGC ACGGTCATCG GGCTGGGCGC GGGTTTGGGC
101 GTTTTATGGC TGAACCAGCA TTATTTCCAC GGCAACCTCC TCTTCTACCT
151 CACCGTCGGC ACGGCAAGCG CACTGGCCGG CTGGGCGGCG GTCGGCAAAA
201 ACGGCTACGT CCCTmTGCTG GCAGGGCTGA CGATGTGTAT GCTCATCGGC
251 GACAACGGCA GCGAATGGCT CGACAGCGGA CTCATGCGCG CCATGAACGT
301 CCTCATCGGC GyGGCCATCG CCATCGCCGC CGCCAAACTG CTGCCGCTGA
351 AATCCACACT GATGTGGCGT TTCATGCTTG CCGACAACCT GGCCGACTGC
401 AGCAAAATGA TTGCCGAAAT CAGCAACGGC AGGCGCATGA CCCGCGAACG
451 CCTCGAGGAG AACATGGCGA AAATGCGCCA AATCAACGCA CGCATGGTCA
501 AAAGCCGCAG CCATCTCGCC GCCACATCGG GCGAAAGCTG CATCAGCCCC
551 GCCATGATGG AAGCCATGCA GCACGCCCAC CGTAAAATCG TCAACACCAC
601 CGAGCTGCTC CTGACCACCG CCGCCAAGCT GCAATCTCCC AAACTCAACG
```

```
651   GCAGCGAAAT CCGGCTGCTT GACCGCCACT TCACACTGCT CCAAAC....
701   .......................... GC AGACACGCCC GCCGCATCCG
751   CATCGACACC GCCATCAACC CCGAACTGGA AGCCCTCGCC GAACACCTCC
801   ACTACCAATG GCAGGGCTTC CTCTGGCTCA GCACCGATAT GCGTCAGGAA
851   ATTTCCGCCC TCGTCATCCT GCTGCAACGC ACCCGCCGCA AATGGCTGGA
901   TGCCCACGAA CGCCAACACC TGCGCCAAAG CCTGCTTGA
```

Number 27 ORF

```
  1   ..GAAATCAGCC TGCGGTCCGA CNACAGGCCG GTTTCCGTGN CGAAGCGGCG
 51   GGATTCGGAA CGTTTTCTGC TGTTGGACGG CGGCAACAGC CGGCTCAAGT
101   GGGCGTGGGT GGAAAACGGC ACGTTCGCAA CCGTCGGTAG CGCGCCGTAC
151   CGCGATTTGT CGCCTTTGGG CGCGGAGTGG GCGGAAAAGG CGGATGGAAA
201   TGTCCGCATC GTCGGTTGCG CTGTGTGCGG AGAATTCAAA AAGGCACAAG
251   TGCAGGAACA GCTCGCCCGA AAAATCGAGT GGCTGCCGTC TTCCGCACAG
301   GCTTT.GGCA TACGCAACCA CTACCGCCAC CCCGAAGAAC ACGGTTCCGA
351   CCGCTGGTTC AACGCCTTGG GCAGCCGCCG CTTCAGCCGC AACGCCTGCG
401   TCGTCGTCAG TTGCGGCACG GCGGTAACGG TTGACGCGCT CACCGATGAC
451   GGACATTATC TCGGAGA.GG AACCATCATG CCCGGTTTCC ACCTGATGAA
501   AGAATCGCTC GCCGTCCGAA CCGCCAACCT CAACCGGCAC GCCGGTAAGC
551   GTTATCCTTT CCCGACCGG..
```

Number 28 ORF

```
  1   ATGTTTTACC AAATCCTTGC CCTGATTATC TGGAGCAGCT CGTTTATTGC
 51   CGCCAAATAT GTCTATGGCG GCATCGATCC CGCATTGATG GTCGGCGTGC
101   GCCTGCTAAT TGCCGCGCTG CCTGCACTGC CCGCCTGCCG CCGTCATGTC
151   GGCAAGATTC CGCGTGAGGA ATGGAAGCCG TTGCTGATTG TGTCGTTCGT
201   CAACTATGTG CTGACCCTGC TGCTTCAGTT TGTCGGGTTG AAATACACTT
251   CCGCCGCCAG CGCATCGGTC ATTGTCGGAC TCGAGCCGCT GCTGATGGTG
301   TTTGTCGGAC ACTTTTTCTT CAACGACAAA GCGCGTGCCT ACCACTGGAT
351   ATGCGGCGCG GCGGCATTTG CCGGTGTCGC GCTGCTGATG GCGGGCGGTG
401   CGGaAGAGGG CGGCGaAGTC GGCTGGTTCG GCTGCCTGCT GGTGTTGTTG
451   GCGGGCGCGG GCTTTTGTGC CGCTATGCGT CCGACGCAAA GGCTGATTGC
501   ACGCATCGGC GCACCGGCAT TCACATCTGT TTCCATTGCC GCCGCATCGT
551   TGATGTGCCT GCCGTTTTCG CTTGCTTTGG CGCAAAGTTA TACCGTGGAC
601   TGGAGCGTCG GGATGGTATT GTCGCTGCTG TATTTGGGTT TGGGGTGC..
```

Number 29 ORF

```
   1   ATGCGCCGTT TTCTACCGAT CGCAGCCATA TGCGCmGwms TCCTGkkGTA
  51   sGGACTGACG GCGGCAACCG GCAGCACCAG TTCGCTGGCG GATTATTTCT
 101   GGTGGATTGT TGCGTTCAGC GCAATGCTGC TGCTGGTGTT GTCCGCCGTT
 151   TTGGCACGTT ATGTCATATT GCTGTTGAAA GACAGGCGCG ACGGCGTATT
 201   CGGTTCGCtA srTyGCCAAA gsGCCTgkks TGGG.ATGTT TACGCTGGTT
 251   GCCGkACTGC CCGGCGTGTT TCTGTTCGGC TTTCCCGCAC AGTTCATCAA
 301   CGGCACGATT AATTCGTGGT TCGGCAACGA TACCCACGAG GCGCTTGAAC
 351   GCAGCCTCAA TTTGAGCAAG TCCGCATTGA ATTTGGCGGC AGACAACGCC
 401   CTCGGCAACG CCGTCCCCGT GCAGATAGAC CTCATCGGCG CGGCTTCCCT
 451   GCCCGGGGAT ATGGGCAGGG TGCTGGAACA TTACGCCGGC AGCGGTTTTG
 501   CCCAGCTTGC CCTGTACAAy ksCGCAAGCG GCAAAATCGA AAAAAGCATC
 551   AACCCGCACA AGCTCGATCA GCCGTTTCCA GGTAAGGCGC GTTGGGAaAa
 601   AATCCaACGG GCGGGTTCGG TCAGGGATTT GGaAAGCATA GGCGGCGTAT
 651   TGTaCGCGCA GGGCTGGCTG TCGGCGGGTA CGCACwACGG GCGCGATTAC
 701   GCCTTGTTTT TCCGTCAGCC GGTTCCCAAA GGCGTGGCAG AGGATGCCGT
 751   yTTAATCGAA AAGGCAAGGG CGAAATATGC TGAGTTGAGT TACAGCAAAA
 801   AAGGTTTGCA GACCTTTTTC CTGGCAACCC TGCTGATTGC CTCGCTGCTG
 851   TCGATTTTTC TTGCACTGGT CATGGCACTG TATTTCGCCC GCCGTTTCGT
 901   CGAACCCGTC CTATCGCTTG CCGAGGGGGC GAAGGCGGTG GCGCAAGGCG
 951   ATTTCAGCCA GACGCGCCCC GTGTTGCGCA ACGACGAGTT CGGACGCTTG
1001   ACCArGTTGT TCAACCACAT GACCGAGCAG CTTTCCATCG CCAAAGATGC
1051   AGACGAGCGC AACCGCCGGC GCGAGGAAGC CGCCAGGCAT TATCTTGAAT
```

-8-

```
1101  GCGTGTTGGA GGGGCTGACC ACGGGCGTGG TGGTGTTTGA CGAACAAGGC
1151  TGTCTGAAAA CCTTCAACAA AGCGGCGGGT ACC..
```

Number 30 ORF

```
  1  ATGTACGCAT TTACCGCCGC ACAGCAACAG AAGGCACTCT TCCGGCTGGT
 51  GCTTTTTCAT ATCCTCATCA TCGCCGCCAG CAACTATCTG GTGCAGTTCC
101  CTTTCCAAAT TTTCGGCATC CACACCACTT GGGGCGCATT TTCCTTTCCC
151  TTCATCTTCC TTGCCACCGA CCTGACCGTC CGCATTTTCG GTTCTCACTT
201  GGCACGGCGG ATTATCTTTT GGGTGATGTT CCCCGCCCTT TTGCTTTCCT
251  ACGTCTTTTC CGTTTTGTTC CACAACGGCA GTTGGACAGG CTTGGGCGCG
301  CTGTCCGAAT TCAACACCTT TGTCGGACGC ATCGCCTTAG CCAGCTTTGC
351  CGCCTACGCG ATCGGACAAA TCCTTGATAT TTTTGTATTC AACAAATTAC
401  GCCGTCTGAA AGCGTGGTGG ATTGCACCGA ACGCATCAAC CGTCATCGGG
451  CACGCGTTGG ATACG...
```

Number 31 ORF

```
  1  ATGGTCATAA AATATACAAA TTTGAATTTT GCGAAATTGT CGATAATTGC
 51  AATTTTGATG ATGTATTCGT TTGAAGCGAA TGCAAAyGCA GTmwrAATAT
101  CTGAAACTGT TTCAGTTGAT ACCGGACAAG GTGCGAAAAT TCATAAGTTT
151  GTACCTAAAA ATAGTAAAAC TTATTCATCT GATTTAATAA AAACGGTAGA
201  TTTAACACAC AyyCCTACGG GCGCAAAAGC CCGAATCAAC GCCAAAATAA
251  CCGCCAGCGT ATCCCGCGCC GGCGTATTGG CGGGGGTCGG CAAACTTGCC
301  CGCTTAGgCG CGAAATTCAG CACAAGGGCG GTtCCCTATG TCGGAACAGC
351  CcTTTTAGCC CACGACGTAT ACGAAAcTTT CAAAGAAGAC ATACAGGCAC
401  GAGGCTACCA ATACGACCCC GAAACCGACA AATTTGTAAA AGGCTACGAA
451  TATAGTAATT GCCTTTGGTA CGAAGACAAA AGACGTATTA ATAGAACCTA
501  TGGCTGCTAC GGCGTTGAT..
```

Number 32 ORF

```
  1  ATGAGATTTT TCGGTATCGG TTTTTTGGTG CTGCTGTTTT TGGAGATTAT
 51  GTCGATTGTG TGGGTTGCCG ATTGGCTGGG CGGCGGCTGG ACGTTGTTTT
101  TGATGGCGGC AGGTTTTGCC GCCGGCGTGC TGATGCTCAG GCAAACCGGG
151  GCTGACCGGT CTTTTATTGG CGGGCGCGGC AATGAGAAGC GGCGGGAAGG
201  TATCCGTTTA TCAGATGTTG TGGCCTATC..
```

Number 33 ORF

```
  1  ATGTTTGTTT TTCAGACGGC ATTCTT.ATG TTTCAGAAAC ATTTGCAGAA
 51  AGCCTCCGAC AGCGTCGTCG GAGGGACATT ATACGTGGTT GCCACGCCCA
101  TCGGCAATTT GGCGGACATT ACCCTGCGCG CTTTGGCGGT ATTGCAAAAG
151  GCG....... .....GCCGA AGACACGCGC GTTACCGCAC AGCTTTTGAG
201  CGCGTACGGC ATTCAGGGCA AACTCGTCAG TGTGCGCGAA CACAACGAAC
251  GGCAGATGGC GGACAAGATT GTCGGCTATC TTTCAGACGG CATGGTTGTG
301  GCACAGGTTT CCGATGCGGG TACGCCGGCC GTGTGCGACC CGGGCGCGAA
351  ACTCGCCCGC CGCGTGCGTG AGGCCGGGTT TAAAGTCGTT CCCGTCGTGG
401  GCGCAAC.GC GGTGATGGCG GCTTTGAGCG TGGCCGGTGT GGAAGGATCC
451  GATTTTTATT TCAACGGTTT TGTACCGCCG AAATCGGGAG AACGCAGGAA
501  ACTGTTTGCC AAATGGGTGC GGGCGGCGTT TCCTATCGTC ATGTTTGAAA
551  CGCCGCACCG CATCGGTGCA GCGCTTGCCG ATATGGCGGA ACTGTTCCCC
601  GAACGCCGAT TAATGCTGGC GCGCGAAATT ACGAAAACGT TTGAAACGTT
651  CTTAAGCGGC ACGGTTGGGG AAATTCAGAC GGCATTGTCT GCCGACGGCG
701  ACCAATCGCG CGGCGAGATG GTGTTGGTGC TTTATCCGGC GCAGGATGAA
751  AAACACGAAG GCTTGTCCGA GTCCGCGCAA AACATCATGA AAATCCTCAC
801  AGCCGAGCTG CCGACCAAAC AGGCGGCGGA GCTTGCTGCC AAAAATCACGG
851  GCGAGGGAAA GAAAGCTTTG TACGAT..
```

-9-

Number 34 ORF

```
   1 ATGAAACAGA AAAAAACCGC TGCCGCAGTT ATTGCTGCAA TGTTGGCAGG
  51 TTTTGCGGCA GC.AAAGCAC CCGAAATCGA CCCGGCTTTG ..........
                                      //
 651 .......... ...GAGTTGG TCAGAAACCA GTTGGAGCAG GGTTTGAGAC
 701 AGGAAAAAGC CCGCTTGAAA ATCGATGCCC TTTTGGAAGA AAACGGTGTC
 751 AAACCGTAA
```

Number 35 ORF

```
   1 ATGAAAAAAT CTTTCCTTAC GCTTGTTCTG TATTCGTCTT TACTTACCGC
  51 CAGCGAAATT GCCTTACCCC TTGGAATTGG GGATTGAAAC CTTACCGGCG
 101 GCAAAAATTG CGGAAACGTT TGCGCTGACA TTTGTGATTG CTGCGCTGTA
 151 TCTGTTTGCG CGTAATAAGG TGACGCGTTT GTTGATTGCG GTGTTTTTTG
 201 CGTTCAGCAT TATTGCCAAC AATGTGCATT ACGCGGATTA TCAAAGCTGG
 251 ATGACG.... .......... .......... .......... ..........
                                      //
1201 .......... CAAACCGTAT TCGAGCAGCT GCAAAAGACT CCTGACGGCA
1251 ACTGGCTGTT TGCCTATACC TCCGATCATG GCCAGTATGT TCGCCAAGAT
1301 ATCTACAATC AAGGCACGGT GCAGCCCGAC AGCTATCTCG TGCCGCTAGT
1351 GTTGTACAGC CCGGATAAGG CCGTGCAACA GGCTGCCAAC CAGGCTTTTG
1401 CGCCTTGCGA GATTGCCTTC CATCAGCAGC TTTCAACGTT CCTGATTCAC
1451 ACGTTGGGCT ACGATATGCC GGTTTCAGGT TGTCGCGAAG GCTCGGTAAC
1501 GGGCAACCTG ATTACGGGTG ATGCAGGCAG CTTGAACATT CGCGACGGCA
1551 AGGCGGAATA TGTTTATCCG CAATGA
```

Number 36 ORF

```
   1 ...ACCCTGCTCC TCTTCATCCC CCTCGTCCTC ACAC.GTGCG GCACACTGAC
  51    CGGCATACTC GCCCaCGGCG GCGGCAAACG CTTTGCCGTC GAACAAGAAC
 101    TCGTCGCCGC ATCGTCCCGC GCCGCCGTCA AAGAAATGGA TTTGTCCGCC
 151    yTAAAAGGAC GCAAAGCCGC CyTTTACGTC TCCGTTATGG GCGACCAAGG
 201    TTCGGGCAAC ATAAGCGGCG GACGCTACTC TATCGACGCA CTGATACGCG
 251    GCGGCTACCA CAACAACCCC GAAAGTGCCA CCCAATACAG CTACCCCGCC
 301    TACGACACTA CCGCCACCAC CAAATCCGAC GCGCTCTCCA GCGTAACCAC
 351    TTCCACATCG CTTTTGAACG CCCCCGCCGC CGyCyTGACG AAAAACAGCG
 401    GACGCAAAGG CGAACGcTCC GCCGGACTGT CCGTCAACGG CACGGGCGAC
 451    TACCGCAACG AAACCCTGCT CGCCAACCCC CGCGACGTTT CCTTCCTGAC
 501    CAACCTCATC CAAACCGTCT TCTACCTGCG CGGCATCGAA GTCgTACCGC
 551    CCGrATACGC CGACACCGAC GTATTCGTAA CCGTCGACGT A...
```

Number 37 ORF

```
   1 ATGGCAGAGA TCTGTTTGAT AACCGGCACG CCCGGTTCAG GGAAAACATT
  51 AAAAATGGTT TCCATGATGG CGAATGATGA AATGTTTAAG CCTGATGAAA
 101 AAGCCATACG CCGTAAAGTA TTTACGAACA TAAAAGGCTT GAAAATACCG
 151 CACACCTACA TAGAAACGGA CGCAAAAAAG CTGCCGAAAT CGACAGATGA
 201 GCAGCTTTCG GCGCATGATA TGTACGAATG GATAAAGAAG CCCGAAAATA
 251 TCGGGTCTAT TGTCATTGTA GATGAAGCTC AAGACGTATG GCCGGCACGC
 301 TCGGCAGGTT CAAAAATCCC TGAAAATGTC CAATGGCTGA ATACGCACAG
 351 ACATCAGGGC ATTGATATAT TTGTTTTGAC TCAAGGTCCT AAGCTTCTAG
 401 ATCAAAATCT TAGAACGCTT GTACGGAAAC ATTACCACAT CGCTTCAAAC
 451 AAGATGGGTA TGCGTACGCT TTTAGAATGG AAAATATGCG CGGACGATCC
 501 CGTAAAAATG GCATCAAGCG CATTCTCCAG TATCTATACA CTGGATAAAA
 551 AAGTTTATGA CTTGTAysrr TmmGCGGAAG TTCATACCGT AAATAAGGTC
 601 AAGCGGTCAA AGTGGTTTTA CACTCTGCCa GTAATAGTAT TGCTGATTCC
 651 CGTGTTTGTC GGCCTGTCCT ATAAAATGTT GagCaGTTAC GGAAAAAAAC
 701 aGGAAGAACC CGCAGCACAA GAATCGGCGG CAACAGAACA GCAGGCAGTA
 751 CTTCCGGATA AAACAGAAGG CGAGCCGGTA AATAACGGCA ACCTTACCGC
 801 AGATATGTTT GTTCCGACAT TGTCCGAaAA ACCCGrAAGC AAGCcgaTTT
 851 ATAACGGTGT AAGGCAGGTA AGAACCTTTG AATATATAGC AGGCTGTATA
```

-10-

```
 901 GAAGGCGGAA GAACCGGATG CGCCTGCTAT TCGCaTCAAG GGACGGCATt
 951 gaAAGAAGTG ACGGaGTTGA TGTGccaAgG aCTATGTaAA AAacGGCTTG
1001 CCGTTTAACC CaTACAAAGA AGAAAGCCAA GGGCAGGAAG TTCAGCAAAG
1051 CGCGCAgCAA CATTCGGACA GGGCGcCAAG TTGCCACATT GGGCGGAAAA
1101 CCGTAGCAGA ACCTAATGTA CGATAATTGG GAAGAACGCG GGAAACCGTT
1151 TGAAGGAATC GGaCGGGGGC GTGGTCGGAT CGGCAAACTG A
```

Number 38 ORF

```
   1 GTGGTTTTCC TGAATGCCGA CAACGGGATA TTGGTTCAGG ACTTGCCTTT
  51 TGAAGTCAAA CTGAAAAAAT TCCATATCGA TTTTTACAAT ACGGGTATGC
 101 CGCGTGATTT CGCCAGCGAT ATTGAAGTGA CGGACAAGGC AACCGGTGAG
 151 AAACTCGAGC GCACCATCCG CGTGAACCAT CCTTTGACCT TGCACGGCAT
 201 CACGATTTAT CAGGCGAGTT TTGCCGACGG CGGTTCGGAT TTGACATTCA
 251 AGGCGTGGAA TTTGGGTGAT GCTTCGCGCG AGCCTGTCGT GTTGAAGGCA
 301 ACATCCATAC ACCAGTTTCC GTTGGAAATT GGCAAACACA AATATCGTCT
 351 TGAGTTCGAT CAGTTCACTT CTATGAATGT GGAGGACATG AGCGAGGGCG
 401 CGGAACGGGA AAAAGCCTG AAATCCACGC TGCCCGATGT CCGCGCCGTT
 451 ACTCAGGAAG GTCACAAATA CACCAAT... .......... .....TACCG
 501 TATCCGTGAT GCGCCAGGCC AGGCGGTCGA ATATAAAAAC TATATGCTGC
 551 CGGTTTTGCA GGAACAGGAT TATTTTTGGA TTACCGGCAC GCGCAGCGC.
 601 TTGCAGCAGC AATACCGCTG GCTGCGTATC CCCTTGGACA AGCAGTTGAA
 651 AGCGGACACC TTTATGGCAT TGCCGTGAGTT TTTGAAAGAT GGGGAAGGGC
 701 GCAAACGTCT .GTTGCCGAC GCAACCAAAG GCGCACCTGC CGAAATCCGC
 751 GAACAATTCA TGCTGGCTGC GGAAAACACG CTGAACATCT TTGCACAAAA
 801 AGGCTATTTG GGATTGGACG AATTTATTAC GTCCAATATC CCGAAAGAGC
 851 AGCAGGATAA GATGCAGGGC TATTTCTACG AAATGCTTTA CGGCGTGATG
 901 AACGCTGCTT TGGATGAAAC CAT.ACCCGG TACGGCTTGC CCGAATGGCA
 951 GCAGGATGAA GCGCGGAATC GTTTCCTGCT GCACAGTATG GATGCGTACA
1001 CGGGTTTCAC CGAATATCCC GCGCCTATGC TGCTGCAACT TGATGGGTTT
1051 TCCGAGGTGC GTTCGTCGGG TTTGCAGATG ACCCGTTCCC C.GGTCCGCT
1101 TTTGGTCTAT CTC...
```

Number 39 ORF

```
   1 ATGATGAGTA ATAmAATGGm ACAAAAAGGG TTTACATTGA TTGmGmTGAT
  51 GATAGTCGTC GCGATACTCG GCATTATCAG CGTCATTGCC ATACCTTCTT
 101 ATCmAAGTTA TATTGAAAAA GGCTATCAGT CCCAGCTTTA TACGGAGATG
 151 GyCGGTATCA ACAATATTTC CAAACAGTTT ATTTTGAAAA ATCCCCTGGA
 201 CGATAATCAG ACCATCGAGA ACAAACTGGA AATATTTGTC TCAGGCTATA
 251 AGATGAATCC GAAAATTGCC AAAAAaTATA GTGTTTCGGT AAAGTTTGTC
 301 GATAAGGAAA AATCAAGGGC ATACAGGTTG GTCGGCGTTC CGAAGGCGGG
 351 GACGGGTTAT ACTTTGTCGG TATGGATGAA CAGCGTGGGC GACGGATACA
 401 AATGCCGTGA TGCCGCTTCT GCCCAAGCCC ATTTGGAGAC CTTGTCCTCA
 451 GATGTCGGCT GTGAAGCCTT CTCTAATCGT AAAAAATAA
```

Number 40 ORF

```
   1 ATGAAAAAAT CCTCCCTCAT CAGCGCATTG GGCATCGGTA TTTTGAGCAT
  51 CGGCATGGCA TTTGCCGCCC CTGCCGACGC GGTAAGCCAA ATCCGTCAAA
 101 ACGCCACTCA AGTATTGAGC ATCTTAAAAA ACGGCGATGC CAACACCGCT
 151 CGCCAAAAAG CCGAAGCCTA TGCGATTCCC TATTTCGATT TCCAACGTAT
 201 GACCGCATTG GCGGTCGGCA ACCCTTGGsG CACCG.GTCC GACG.GCAAA
 251 AACAAGCGTT GGCCn.AGAA TTTCAACCC...
```

Number 41 ORF

```
   1 ATGAAACACA TACTCCCCCT GATTGCCGCA TCCGCACTCT GCATTTCAAC
  51 CGCTTCGGCA CATCCTGCCA GCGAACCGTC CACTCAAAAC GAAACCGCTA
 101 TGATCACGCA TACCCTCATC TCAAAATACA GTTTTGGnnn nnnnnnnnnn
 151 nnnnnnnnnn nnGCCATAAA AAGCAAAGGG ATGGACATTT TTGCCGTCAT
```

-11-

```
 201  CGACCATCAG GAAGCCGCAC GCCGAAACGG ITTAACGATG CAGCCGGCAA
 251  AAGTCATCGT CTTCGGCACG CCCAAAGCCG GCACGCCGCT GATGGTCAAA
 301  GACCCCGCCT TCGCCCTGCA ACTGCCCCTA CGCGTCCTCG TTACCGAAAC
 351  GGACGGCAAA GTACGCGCCG CCTATACCGA TACGCGCGCC CTCATCGCCG
 401  GCAGCCGCAT CGGTTTCGAC GAAGTGGCAA ACACTTTGGC AAACGCCGAA
 451  AAACTGATAC AAAAAACCGT AGGCGAATAA
```

Number 42 ORF

```
   1  ATGGCTTTTA TTACGCGCTT ATTCAAAAGC AGTAAATGGC TGATTGTGCC
  51  GCTGATGCTC CCCGCCTTTC AGAATGTGGC GGCGGAGGGG ATAGATGTGA
 101  GCCGTGCCGA AGCGAGGATA ACCGACGGCG GGCAGCTTTC CATCAGCAGC
 151  CGCTTCCAAA CCGAGCTGCC CGACCAGCTC CAACAGGCGT TGCGCCGGGg
 201  CGTGCCGCTC AACTTTACCT TAAGCTGGCA GCTTTCCGCC CCGATAATCG
 251  CTTCTTATCG GTTTAAATTG GGGCAACTGA TTGGCGATGA CGACaATATT
 301  GACTACAAAC TGAGTTTCCA TCCGCTGACc AaACGCTACC GCGTTACCgT
 351  CGgCGCGTTT TCGACAGACT ACGACACCTT GGATGCGGCA TTGCGCGCGA
 401  CCGGCGCGGT TGCCAACTGG AAAGTCCTGA ACAAAGGCGC GCTGTCCGGT
 451  GCGGAAGCAG GGGAAACCAA GGCGGAAATC CGCCTGACGC TGTCCACTTC
 501  AAAACTGCCC AAGCCTTTTC AAATCAATGC ATTGACTTCT CAAAACTGGC
 551  ATTTGGATTC GGGTTGGAAA CCTCTAAACA TCATCGGGAA CAAATAA
```

Number 43 ORF

```
    1  ATGGACACAA AAGAAATCCT CGG.TACGCG GcAGGcTCGA TCGGCAGCGC
   51  GGTTTTAGCC GTCATCATCc TGCCGCTGCT GTCGTGGTAT TTCCCCGCCG
  101  ACGACATCGG GCGCATCGTG CTGATGCAGA CGGCGGCGGG GCTgACGGTG
  151  TCGGTGTTGT GCCTCGGGCT GGATCAGGCA TACGTCCGCG AATACTATGC
  201  CACCGCCGAC AAAGACAcCT TGTTCAAAAC CCTGTTCCTG CCGCCGCTGC
  251  TGTCTGCCGC CGCGATAGCC GCCCTGCTGC TTTCCCGCCC GTCCCTGCCG
  301  TCTGAAATCC TGTTTTCACT CGACGATGCC gCCGCCGGCa TCGGGCTGGT
  351  GCTGTTTGAA CtGAGCTTCC TGCCCATCCG CTTTCTCTTA CTGGTTTTGC
  401  GTATGGAAGG ACGCGCCcTT GCCTTTTCGT CCGCGCAACT CGTGCcCAAG
  451  CTCGCCATCC TGCTGCTG.T GCCGCTGACG GTCGGGCTGC TGCACTTTCC
  501  AGCGAACACC GCCGTCCTGA CCGCCGTTTA CGCGCTGGCA AACCTTGCCG
  551  CCGCCGCCTT TTTGCTGTTT CAAAACCGAT GCCGTCTGAA GGCCGTCCGG
  601  CACGCACCGT TTTCGCCCGC CGTCCTGCAC CGGGG.TGC GCTACGGCAT
  651  ACCGATCGCA CTGAGCAGCA TCGCCTATTG GGGCTGGCA TCCGCCGACC
  701  GTTTGTTCCT GAAAAAATAT GCCGGCCTGG AACAGCTCGG CGTTTATTCG
  751  ATGGGTATTT CGTTCGGCGG GGCGGCATTA TTGTTCCAAA GCATCTTTTC
  801  AACGGTCTGG ACACCGTATA TTTTCCGCGC AATCGAAGAA AACGCCCCGC
  851  CCGCTCGCCT CTCGGCAACG GCAGAATCCG CCGCCGCCCT GCTTGCCTCC
  901  GCCCTCTGC. TGACCGGCAT TTTCTCGCCC CTTGCCTCCC TCCTGCTGCC
  951  GGAAAACTAC GCCGCCGTCC GGTTTATCGT CGTATCGTGT ATG.TGCCGC
 1001  CGCTGTTTTG CACGCTGGCG GAAATCAGCG GCATCGGTTT GAACGTCGTT
 1051  CGCAAAACGC GCCCGATCGC GCTCGCCACC TTGGGCGCGC TGGCGGCAAA
 1101  CCTGCTGCTG CTGGGGCTTG ACCGTGCCGT ACCGGCGAGG CCGCC.GGCG
 1151  CGGCGGTTGC CTGTGCCGCC TCATTCTGGC TGTTTTTGC CTTCAAGACC
 1201  GAAAGCTCyT GCCGCCTGTG GCAGCCGCTC AACGCCTGC CGCTTTATCT
 1251  GCACACATTG TTCTGCCTGA CCTCCTCGGC GGCCTACACC TGCTTCGGCA
 1301  CGCCGGCAAA CTATCCCCTG TTTGCCGGCG TATGGGCGGC ATATCTGGCA
 1351  GGCTGCATCC TGCGCCACCG GAAAGATTTG CACAAACTGT TTCATTATTT
 1401  GAAAAAACAA GGTTTCCCAT TATGA
```

Number 44 ORF

```
   1..ATCCTGAAAC CGCATAACCA GCTTAAGGAA GACATCCAAC CTGATCCGGC
  51  CGATCAAAAC GCCTTGTCCG AACCGGATGC TGCGACAGAG GCAGAGCAGT
 101  CGGATGCGGA AAATGCTGCC GACAAGCAGC CCGTTGCCGA TAAAGCCGAC
 151  GAGGTTGAAG AAAAGGCGGG CGAGCCGGAA CGGGAAGAGC CGGACGGACA
 201  GGCAGTGCGT AAGAAAGCGC TGACGGAAGA GCGTGAACAA ACCGTCAGGG
 251  AAAAAGCGCA GAAGAAAGAT GCCGAAACGG TTAAAATACA AGCGGTAAAA
```

-12-

```
301  CCGTCTAAAG AAACAGAGAA AAAAGCTTCA AAAGAAGAGA AAAAGGCGGC
351  GAAGGAAAAA GTTGCACCCA AACCAACCCC GGAACAAATC CTCAACAGCG
401  GCAgCATCGA AAAmGCGCGC AgTGCCGCCG CCAAAGAAGT GCAGAAAATG
451  AA.AACGTCC GACAAGGCGG AAGC.AACGC ATTATCTGCA AATGGGCGCG
501  TATGCCGACC GTCAGAGCGC GGAAGGGCAG CGTGCCAAAC TGGCAATCTT
551  GGGCATATCT TCCAAGGTGG TCGGTTATCA GGCGGGACAT AAAACGCTTT
601  ACCGGGTGCA AAGCGGCAAT ATGTCTGCCG ATGCGGTGA
```

Number 45 ORF

```
  1  ATGAACCACG ACATCACTTT CCTCACCCTG TTCCTACTCG GTkTCTTCGG
 51  CGGAAcGCAC TGCATCGGTA TGTGCGGCGG ATTAAGCAGC GcGTTTGs.s
101  TCCAACTCCC CCCGCATATC AACCGCTTTT GGCTGATCCT GCTGCTTAAC
151  ACAGGACGGG TAAGCAGCTA TACGGCAAtC GGCCTGATAC TCGGATTAAT
201  CGGACAGGTC GGCGTTTCAC TCGAcCAaAC CCGCGTCCTG CAGAATATTT
251  TATACACGGC CGCCAACCTC CTGCTGCTCT TTTTAGGCTT ATACTTGAGC
301  GGTATTTCTT CCTTGGCGGC AAAAATCGAG AAaATCGGCA AACCGATATG
351  GCGGAACCTG AACCCGATAC TCAACCGGCT GTTACCCATA AAATCCATAC
401  CCGCCTGCCT tGCGgTCGGA ATATTATGGG GCTGGCTGCC GTGCGGACTG
451  GTTTACAGCG CGTCGCTTTA CGCGCTGGGA AgCGGTAGTG CGGCAACGGG
501  CGGGTTATAT ATGCTTGCCT TTGCACTGGG TACGCTGCCC AATCTTtTAG
551  CAATCGGCAT TTTtTCCCTG CAACTGAAwA AAATCATGCA AAACCGATAT
601  ATCCGCCTGT GTACGGGATT ATCCGTATCA TTATGGGCAT TATGGAAACT
651  TGCCGTCCTG TGGCTGTAA
```

Number 46 ORF

```
  1  ATGGAAAACC AAAGGCCGCT CCTAGGCTTT CGCTTGGCAC TTTTGGCGGC
 51  GATGACGTGG GGAACGCTGC CGAT.TCCGT GCGGCAGGTA TTGAAGTTTG
101  TCGATGCGCC GACGCTGGTG TGGGTGCGTT TTACCGTGGC GGCGGCGGTA
151  TTGTTTGTTT TGCTGGCACT GGGCGGGCGG CTGCCgAAGC GGCGaGGATT
201  TTTCTTGGTG CTCATTCAGG CTGCTGCTGC TCGGCGTGGC GGGCATTTCG
251  GCAAACTTTG TGCTGATTGC CCAAGGGCTG CATTATATTT CGCCGACCAC
301  GACGCAGGTT TTGTGGCAGA TTTCGCCGTT TACGATGATT GTwGTCGGTG
351  TGTTGGTGTT TAAAGACCGG ATGACTGCCG CTCAGAAAAT CGGCTTGGTT
401  TTGCTGCTTG CCGGTTTGCT TATGTATTTT AACGATAAAT TCGGCGAGTT
451  GTCGGGTTTG GGCGCGTATG C.AAGGGCGT GTTGCTGTGT GCGGCAGGCA
501  GTATGGCATG GGTGTGTAAT GCCGTGGCGC AAAAGCTGCT GTCGGCGCAA
551  TTCGGGCCGC AACAGATTCT GCTGTTGATT TATGCGGCAA GTGCCGCCGT
601  GTTCCTGCCG TTTGCCGAAC CGGCACACAT CGGAAGTATG GACGGTACGT
651  TGGCGTGGGT ATGTATTGCG TATTGCTGCT TGAATACGTT AATCGGTTAC
701  GGCTCGTTCG GCGAGGCGTT GAAACATTGG GAGGCTTCCA AAGTCAGCGC
751  GGTAACAACC TTGCTCCCCG TGTTTACCGT AATAAATACT TTGCTCGGGC
801  ATTATGTGAT GCCTGAAACT TTTGCCGCGC CGGA..
```

Number 47 ORF

```
  1  ATGGTAGCTC GTCGGGCTCA TAACCCGAAG GTCGTAGGTT CGAATCCTGT
 51  .CCCGCAACC TAATTTCAAA CCCCTCGGTT CAATGCCGAG GG.GTTTTGT
101  T.TTGCCTGT TTCCTGTTTC CTGTTTCCTG CCGCCTCCGT TTTTTGCCGG
151  ATTTTCCTTC CGGCCGCAAT ATCGGAACGG CAGACCGCCG TCTGTTTGCG
201  GTTGCAAATT CAGGCAGTTT GGCTACAATC TTCCGCATTG TCTTCAAGAA
251  AGCCAACCAT GCCGACCGTC CGTTTTACCG AATCCGTCAG CAAACAAGAC
301  CTTGATGCTC TGTTCGAGTG GGCAAAAGCA AGTTACGGTG CAGAAAGTTG
351  CTGGAAAACG CTGTATCTGA ACGGTCysCC TTTGGGCAAC CTGTCGCCGG
401  AATGGGTGGA ACGCGTsmmA AAAGACTGGG AGGCAGGCTG CyCGGAGTCT
451  TCAGACGGCA TTTTTCTGAA TgCGGACGGc TGgCctGATA TGGGgCGGACg
501  cTTACAGCAC CTCGCCCTCG GTTGGCACTG TGCGGGGCTG TTGGACGgsT
551  GGCGCAACGA GTGTTTCGAC CTGACCGACG GCGGCGGCAA CCCCTTGTTC
601  ACGCTCGaAc GCGCCGyTTT mCGTCCTkTC GGACTGCTCA GCCGCGCCGT
651  CCATCTCAAC GGTCTGACCG AATCGGACGG CCGATGGCAT TTCTGGATAG
701  GCAGGCGCAG TCCGCACAAA GCAGTCGATC CCAACAAACT CGACAATACT
```

-13-

```
751  rCCGCCGGCG GTGTTTCCGG CGGCGAAATG CCGTCTGAAG CCGTGTGTCG
801  CGAAAGCAGC GAAGAAGCCG GTTTGGATAA AACGCTGcTT CCGCTCATCC
851  GCCCGGTATC GCAGCTGCAC AGCCTGCGCT CCGTCAGCCG GGGTGTACAC
901  AATGAAATCC TGTATGTATT CGATGCCGTC CTGCCG...
```

Number 48 ORF

```
  1  ATGAATAGAC CCAAGCAACC CTTCTTCCGT CCCGAAGTCG CCGTTGCCCG
 51  CCAAACCAGC CTGACGGGTA AAGTGATTCT GACACGACCG TTGTCATTTT
101  CCCTATGGAC GACATTTGCA TCGATATCTG CGTTATTGAT TATCCTGTTT
151  TTGATATTTG GTAACTATAC GCGAAAGACA ACAGTGGAGG GACAAATTTT
201  ACCTGCATCG GGCGTAATCA GGGTGTATGC ACCGgATACG rGkACAATTA
251  CAGCGAAATT CGTGGAAGAT GGmsAAAAGG TTAAGGCTGG CGACAAGCTA
301  TTTGCGCTTT CGACCTCACG TTTCGGCGCA GGAGGTAGCG TGCAGCAGCA
351  GTTGAAAACG GAGGCAGTTT TGAAGAAAAC GTTGGCAGAA CAGGAACTGG
401  GTCGTCTGAA GCTGATACAC GGGAATGAAA CGCGCAgCcT TAAAGCAACT
451  GTCGAACGTT TGGAAAACCA GGAACTCCAT ATTTCGCAAC AGATAGACGG
501  TCAGAAAAGG CGCATTAGAC TTGCGGAAGA AATGTTGCAG AAATATCGTT
551  TCCTATCCGC .CAATGA
```

Number 49 ORF

```
  1  ATGCTGAATA CTTTTTTTGC CGTATTGGGC GGCTGCCTGC TGCT.TTGCC
 51  GTGCGGCAAA TCCGTAAATA CGGCGGTACA GCCGCAAAAC GCGGTACAAA
101  GCGCGCCGAA ACCGGTTTTC AAAGTCATAT ATATCGACAA TACGGCGATT
151  GCCGGTTTGG ATTTGGGACA AAGCAGCGAA GGCAAAACCA ACGACGGCAA
201  AAAACAAATC AGTTATCCGA TTAAAGGCTT GCCGGAACAA AATGTTATCC
251  GACTGATCGG CAAGCATCCC GGCGACTTGG AAGCCGTCAG CGGCAAATGT
301  ATGGAAACCG ATGATAAGGA CAGTCCGGCA GGTTGGGCAG AAAACGGCGT
351  GTGCCATACC TTGTTTGCCA AACTGGTGGG CAATATCGCC GAAGACGGCG
401  GCAAACTGAC GGATTACCTA GTTTCGCATG CCGCCCTGCA ACCCTATCAG
451  GCAGGCAAAA GCGGCTATGC CGCCGTGCAG AACGGACGCT ATGTGCTGGA
501  AATCGACAGC GAAGGGGCGT TTTATTTCCG CCGCCGCCAT TATTGA
```

Number 50 ORF

```
  1  ATGGAAGATT TATATATAAT ACTCGCTTTG GGTTTGGTTG CGATGATTGC
 51  CGgATTTATC GATgcgatTg cGggCGGGGG TGGTTTGATT ACGCTGCCCG
101  CACTCTTGTT GGCAGGTATT CCTCCCGTGT CGGCAATTGC CACCAACAAG
151  CTGCAAgCAG CCGCTGCTAC GTTTTCAGCT ACGGTTTCTT TTGCACGCAA
201  AGGTTTGATT GATTGGAAGA AAGGTCTCCC GATTGCCGCA GCATCGTTTG
251  TAGGCGGCGT GGcCGGTGCA TTATCGGTCA GCTTGGTTTC CAAAGATATT
301  CTgCTgGCGG TCGTGCCGGT TTTGTTGATA TTTGTCGCAC TGTATTTTGT
351  GTTTTCGCCC AAGCTCGACG GCAGTAAGGA AGGCAAAGCC AGAATGTCTT
401  TTTTTCTGTT cGGGCTGACG GTCGC.ACCG CTTTTGGGTT TTTACGACGG
451  TGTGTTCGGA CCGGGTGTCG GCTCGTTTTT TCTGATTGCC TTTATTGTTT
501  TGCTCGGCTG CAAgCTGTTG AACGCGATGT CTTACACCAA ATTGGCGAAC
551  GTTGCCTGCA ATCTTGGTTC GCTATCGGTA TTCCTGCTGC ACGGTTCGAT
601  TATTTTCCCG ATTGCGGCAA CGaTGGCGGT CGGTGCGTTT GTCGGtGCGA
651  ATTTAgGTGC GAGATTTGCC GTaCgctTCG GTTCGAAGCT GATTAA
```

Number 51 ORF

```
  1  ..CTGCTAGGGT ATTGCATCGG TTATCGGTAC GGCTGTTGCA GCAAAACCAG
 51  CCGCAGACGG ATTATTTGGT CAAATTCGGA TCGTTTTGGG CGAG.ATTTT
101  TGGTTTTCTG GGACTGTATG ACGTCTATGC TTCGGCATGG TTTGTCGTTA
151  TCATGATGTT TTTGGTGGTT TCTACCAGTT TGTGCCTGAT TCGCAATGTG
201  CCGCCGTTCT GGCGCGAAAT GAAGTCTTTT CGGGAAAAGG TTAAAGAAAA
251  ATCTCTGGCG GCGATGCGCC ATTCTTCGCT GTTGGATGTA AAAATTGCGC
301  CCGAGGTTGC CAAACGTTAT CTGGAAGTAC AAGGTTTTCA GGGGAAAACC
351  ATTAACCGTG AAGACGGGTC GGTTCTGATT GCCGCCAAAA AAGGCACAAT
```

-14-

```
401    GAACAAATGG GGCTATATCT TTGCCCATGT TGCTTTGATT GTCATTTGCC
451    TGGGCGGGTT GATAGACAGT AACCTGCTGT TGAAACTGGG TATGCTGACC
501    GGTCGGATTG̲ TTCCGGACAA TCAGGCGGTT TATGCCAAGG ATTTC.AAGC
551    CCGAAAGTAT .TTTGGGTGC gTCCAATCTC TCATTTAGGG GCAACGTCAA
601    TATTTCCG.A GGGGCAGAgT GCGGATGTGG TTTTCCTGA
```

Number 52 ORF

```
   1    ATGCCGTCTG AAACACGCCT GCCGAACTTT ATCCGCGTCT TGATATTTGC
  51    CCTGGGTTTC ATCTTCCTGA ACGCCTGTTC GGAACAAACC GCGCAAACCG
 101    TTACCCTGCA AGGCGAAACG ATGGGCACGA CCTATACCGT CAAATACCTT
 151    TCAAATAATC GGGACAAACT CCCCTCACCT GCCGAAATAC AAAAACGCAT
 201    CGATGACGCG CTTAAAGAAG TCAACCGGCA GATGTCCACC TATCAGCCCG
 251    ACTCCGAAAT CAGCCGGTTC AACCAACACA CAGCCGGCAA GCCCCTCCGC
 301    ATTTCAAGCG ACTTCGCACA CGTTACTGCC GAAGCCGTCC GCCTGAACCG
 351    CCTGACACAC GGCGCGCTGG ACGTAACCGT CGGCCCCTTG GTCAACCTTT
 401    GGGGATTCGG CCCCGACAAA TCCGTTACCC GTGAACCGTC GCCGGAACAA
 451    ATCAAACAGG CGGCATCTTA TACGGGCATA GACAAAATCA TTTTGAAACA
 501    AGGCAAAGAT TACGCTTCCT TGAGCAAAAC CCACCCCAAG GCCTATTTGG
 551    ATTTATCTTC GATTGCCAAA GGCTTCGGCG TTGATAAAGT TGCGGGCGAA
 601    CTGGAAAAAT ACGGCATTCA AAATTATCTG GTCGAAATCG GCGGCGAGTT
 651    GCACGGCAAA GGCAAAAACG CGCGCGGCGA ACCGTGGCGC ATCGGTATCG
 701    AGCAGCCCAA TATCGTCCAA GGCGGCAATA CGCAGATTAT CGTCCCGCTG
 751    AACAACCGTT CGCTTGCCAC TTCCGGCGAT TACCGTATTT TCCACGTCGA
 801    TAAAAACGGC AAACGCCTCT CCCATATCAT CAACCCGAAC AACAAACGAC
 851    CCATCAGCCA CAACCTCGCC TCCATCAGCG TGGTCGCAGA CAGTGCGATG
 901    ACGGCGGACG GCTTGTCCAC AGGATTATTC GTATTGGGCG AAACCGAAGC
 951    CTTAAAGCTG GCAGAGCGCG AAAAACTCGC TGTTTTCCTG ATTGTCAGGG
1001    ATAAAGGCGG CTACCGCACC GCCATGTCTT CCGAATTTGA AAAACTGCTC
1051    CGCTAA
```

Number 53 ORF

```
   1    ..CCGTGCCGCC GACAGGGCGA CGACGTGTAT GCGGCGCACG CGTCCCGTCA
  51    AAAATTGTGG CTGCGCTTCA TCGGCGGCCG GTCGCATCAA AATATACGGG
 101    GCGGCGCGGC TGCGGACGGG TGGCGCAAAG GCGTGCAAAT CGGCGGCGAG
 151    GTGTTTGTAC GGCAAAATGA AGGCAGCCkA yTGGCAATCG GCGTGATGGG
 201    CGGCAGGGCC GGCCAGCACG CwTCAGTCAA CGGCAAAGGC GGTGCGGCAG
 251    gCAGTGATTT GTATGGTTAT GgCGGGGgTG TTTATGCTgC GTGGCATCAG
 301    TTGCGCGATA AACAAACGGG TgCGTATTTG GACGGCTGGT TGCAATACCA
 351    ACGTTTCAAA CACCGCATCA ATGATGAAAA CCGTGCGGAA CgCTACAAAA
 401    CCAAAGGTTG GACGGCTTCT GTCGAAGGCG GCTACAACGC GCTTGTGGCG
 451    GAAGGCATTG TCGGAAAAGG CAATAATGTG CGGTTTTACC TACAACCGCA
 501    GgCGCAGTTT ACCTACTTGG GCGTAAACGG CGGCTTTACC GACAGCGAGG
 551    GGACGGCGGT CGGACTGCTC GGCAGCGGTC AGTGGCAAAG CCGCGCCGGC
 601    AtTCGGGCAA AAACCCGTTT TGCTTTGCGT AACGGTGTCA ATCTTCAGCC
 651    TTTTGCCGCT TTTAATGTtt TGCACAGGTC AAAATCTTTC GGCGTGGAAA
 701    TGGACGGCGA AAAACAGACG CTGGCAGGCA GGACGGCACT CGAAGGGCGG
 751    TTCGGTATTG AAGCCGGTTG GAAAGGCCAT ATGTCCGCA..
```

Number 54 ORF

```
   1    ..GCGGAATATG TTCAGTTCTC TATAGATTTG TTCAGTGTGG GTAAATCGGG
  51    GGGCGGTATA CCTAAGGCTA AGCCTGTGTT TGATGCGAAA CCGAGATGGG
 101    AGGTTGATAG GAAGCTTAAT AAATTGACAA CTCGTGAGCA GGTGGAGAAA
 151    AATGTTCAGG AAACGAGAAG AAGGAGTCAG AGTAGTCAGT TTAAAGCCCA
 201    TGCGCAACGA GAATGGGAAA ATAAAACAGG GTTAGATTTT AATCATTTTA
 251    TAGGTGGTGA TATCAATAAA AAAGGCACAG TAACAGGAGG GCATAGTCTA
 301    ACCCGTGGTG ATGTACGGGT GATACAACAA ACCTCGGCAC CTGATAAACA
 351    TGGGGT.TTA TCAAGCGACA GTGGAAATTN A
```

Number 55 ORF

```
   1  ATGAATATTC ACACCCTGCT CTCCAAACAA TGGACGCTGC CGCCATTCCT
  51  GCCGAAACGG CTGCTGCTGT CCCTGCTGAT ACTGCTTGCC CCCAATGCGG
 101  TGTTTTGGGT TTTGGCACTG CTGACCGCCA CCGCCCGCCC GATTGTCAAT
 151  TTGGACTATC TTCCCGCCGC GCTGCTGATC GCCCTGCCTT GGCGTTTCGT
 201  CAAAATTGCC GGCGTATTGG CGTTTTGGCT GGCGGTTTTG TTTGACGGGC
 251  TGATGATGGT GATCCAACTC TTCCCTTTTA TGGATCTCAT CGGCGCCATC
 301  AACCTCGTCC CCTTCATCCT GACCGCCCCC GCCCCTTATC AGATAATGAC
 351  CGGGCTG...
```

Number 56 ORF

```
   1  ..GTGAGCGGAC GTTACCGCGC TTTGGATCGC GTTTCCAAAA TCATCATCGT
  51  TACTTTGAGT ATCGCCACGC TTGCCGCCGC CGGCATCGCT ATGTCGCGCG
 101  GTATGCAGAT GCAGTCCGAT TTTATCGAGC CGACACCGTG GACGCTTGCC
 151  GGTTTGGGCT TCCTGATCGC GCTGATGGGC TGGATGCCCG CGCCGATTGA
 201  AATTTCCGCC ATCAATTCTT TGTGGGTAAC CGAAAAACAA CGCATCAATC
 251  CTTCCGAATA CCGCGACGGG ATTTTTGAAT TCAACGTCGG TTATATCGCC
 301  AGTGCGGTTT TGGCTTTGGT TTTCCTTGCA CTGGGCGC.G TAGCGCCGAA
 351  CGGCAACGGC GA.ACAGTGC AGATGGCGGG CGGCAAATAT AACGGGCAAT
 401  TGATCAATAT GTACGCC..
```

Number 57 ORF

```
   1  ..TTGCGGGAAA CGGCATATGT TTTGGATAGT TTTGATCGTT ATTTTGTTGT
  51  TGCGCTTGCC GGCTTGTTTT TTGTCCGCGC ACAATCCGAA CGCGAGTGGA
 101  TGCGCGAGGT TTCTGCGTGG CAGGAAAAGA AAGGGGAAAA ACAGGCGGAG
 151  CTGCCTGAAA TCAAAGACGG TATGCCCGAT TTTCCCGAAC TTGCCCTGAT
 201  GCTTTTCCAC GCCGTCAAAA CGGCAGTGTA TTGGCTGTTT GTCGGTGTCG
 251  TCCGTTTCTG CCGAAACTAT CTGGCGCACG AATCCGAACC GGACAGGCCC
 301  GTTCCGCCT..
```

Number 58 ORF

```
   1  ATGATTTATC AAAGAAACCT CATCAAAGAA CTCTCTTTTA CCGCCGTCGG
  51  CATTTTCGTC GTCCTCTTGG CGGTATTGGT CTCCACGCAG GCAATCAACC
 101  TGCTCGGCCG TGCCGCCGAC GGGC..GTGA TCGCCATCGA TGCCGTGTTG
 151  GCATTGGTCG GCTTCTGGGT C........ .......... ..........
                          //
 901  .........A TTGCCATCGG TTTGTTTTTA ATTTACCAAA ACGGGCTGAC
 951  CCTGCTTTTT GAAGCCGTGG AAGACGGCAA AATCCATTTT TGGCTCGGAC
1001  TGCTGCCTAT GCACATTATC ATGTTTGTCC TTGCACTCAT CCTGTTGCGC
1051  GTCCGCAGTA TGCCCAGCCA GCCCTTCTGG CAGGCGGTTG GCAAAAGTCT
1101  GACATTGAAA GGCGGAAAAT GA
```

Number 59 ORF

```
   1  ..GGTGGTGGTT TTATCAATGC TTCCTGTGCC ACTTTGACGA CAGCCAAACC
  51  GCAATATCAA GCAGGAGACC TTAGCGCTTT TAAGATAAGG CAAGGCAATG
 101  TTGTAATCGC CGGACACGGT TTGGATGCAC GTGATACCGA TTACACACGT
 151  ATTCTCAGTT ATCATTCCAA AATCGATGCA CCCGTATGGG GACAAGATGT
 201  TCGTGTCGTC GCGGGACAAA·ACGATGTGGC CGCAACAGGT GATGCACATT
 251  CGCCTATTCT CAATAATGCT GCTGCCAATA CGTCAAACAA TACAGCCAAC
 301  AACGGCACAC ATATCCCTTT ATTTGCGATT GATACAGGCA AATTAGGAGG
 351  TAT.GTATGC CAACAAAATC ACCTTGATCA GTACGGTCGA GCAAGCAGGC
 401  ATTCGTAA
```

-16-

Number 60 ORF

```
  1  ..TCAACGGGAC ATAGCGAACA AAATTACACT TTGCCGCGAG AAATCACACG
 51    CAACATTTCA CTGGGTTCAT TTGCCTATGA ATCGCATCGC AAAGCATTAA
101    GCCATCATGC GCCCAGCCAA GGCACTGAGT TGCCGCAAAG CAACGGTATT
151    TCGCTACCCT ATACGTCCAA TTCTTTTACC CCATTACCCA GCAGCAGCTT
201    ATACATTATC AATCCTGTCA ATAAAGGCTA TCTTGTTGAA ACCGATCCAC
251    GCTTTGCCAA CTACCGTCAA TGGTTGGGTA GTGACTATAT GCtGGACAGC
301    CTCAAACTAG ACCCAAACAA TTTACATAAA CGTTTGGGTG ATGGTTATTA
351    CGAGCAACGT TTAATCAATG AACAAATCGC AGAGCTGACA GGGCATCGTC
401    GTTTAGAcGG TTATCAAAAC GACGAAGAAC AATTTAAAGC CTTAATGGAT
451    AATGGCGCGA CTGCGGCACG TTcGATGAAT CTCAGCGTTG GCATTGCATT
501    AAGTGCCGAG CAAGTAGCGC AACTGACCAG CGATATTGTT TGGTTGGTAC
551    AAAAAGAAGT TAAGCTTCCT GATGGCGGCA CACAAACCGT ATTGGTGCCA
601    CAGGTTTATG TACGCGTTAA AAATGGCGAC ATAGACGGTA AAGGTGCATT
651    GTTGTCAGGC AGCAATACAC AAATCAATGT TTCAGGCAGC CTGAAAAACT
701    CAGGCACGAT TGCAGGgCGC AATGCGCTTA TTATCAATAC CGATACGCTA
751    GACAATATCG GTGGGCGTAT TCATGCGCAA AAATCAGCGG TTACGGCCAC
801    ACAAGACATC AATAATATTG GCGGCATGCT TTCTGCCGAA CAGACATTAT
851    TGCTCAACGC AGGCAACAAC ATCAACAGCC AAAGCACCAC CGCCAGCAGT
901    CAAAATACAC AAGGCAGCAG CACCTACCTA GACCGAATGG CAGGTATTTA
951    TATCACAGGC AAAGAAAAAG GTGTTT..
```

Number 61 ORF

```
  1  ..TCAGGGAATA ACCTCAATGC CAAAGCTGCC GAAGTCAGCA GCGCAAACGG
 51    TACACTCGCT GTGTCTGCCA ATAATGACAT CAACATCAGC GCAGGCATCA
101    ACACGACCCA TGTTGATGAT GCGTCCAAAC ACACAGGCAG AAGCGGTGGT
151    GGCAATAAAT TAGTCATTAC CGATAAAGCC CAAAGTCATC ACGAAACCGC
201    CCAAAGCAGC ACCTTTGAAG GCAAGCAAGT TGTATTGCAG GCAGGAAACG
251    ATGCCAACAT CCTTGGCAGC AATGTTATTT CCGATAATGG CACCCAGATT
301    CAAGCAGGCA ATCATGTTCG CATTGGTACA ACCCAAACTC AAAGCCAAAG
351    CGAAACCTAT CATCAAACCC AGAAATCAGG ATTGATGAGT GCAGGTATCG
401    GCTTCACTAT TGGCAGCAAG ACAAACACAC AAGAAAACCA ATCCCAAAGC
451    AACGAACATA CAGGCAGTAC CGTAGGCAGC TTGAAAGGCG ATACCACCAT
501    TGTTGCAGGC AAACACTACG AACAAATCGG CAGTACCGTT TCCAGCCCGG
551    AAGGCAACAA TACCATCTAT GCCCAAAGCA TAGACATTCA AGCGGCACAC
601    AACAAATTAA ACAGTAATAC CACCCAAACC TATGAACAAA AAGG.CTAAC
651    GGTGGCATTC AGTTCGCCCG TTACCGATTT GGCACAACAA ...
```

Number 62 ORF

```
  1    ATGATTTACA TCGTACTGTT TCTAGCTGTC GTCCTCGCCG TTGTCGCCTA
 51    CAACATGTAT CAGGAAAACC AATACCGCAA AAAAGTGCGC GACCAGTTCG
101    GACACTCCGA CAAAGATGCC CTGCTCAACA GCAwAACCAG CCATGTCCGC
151    GACGGCAAAC CGTCCGGCGG GTCAGTCATG ATGCCGAAAC CCCAACCGGC
201    GGTCAAAAAA ACGGCAAAAC CCCAAGACCC CGyCATGCGC AACCTGCAAG
251    AACAGGATGC CGTCTACATC GCCAAGCAGA AACAGGCAAA AGCCTCCCCG
301    TTCAAAACCG AAATCGAAAC CGCCTTGGAA GAAAGCGGCA TTATCGGCAA
351    CTCCGCCCAC ACCGTTTCCG AACCCCAAAC CGGACATTCC GCAACGAAAC
401    CTGCCGACGC GTCGGCAAAA CCTGCACCCG TTCCGCAAAC ACCTGCAAAA
451    CCGCTGATTA CGCTCAAAGA ACTGTCAAAA GTCGAATTAT CCTGGTTTGA
501    CGTGCGCATC GACTTCATCT CCTAT...
```

Number 63 ORF

```
  1  ..GCGCGGCACG GCACGGAAGA TTTCTTCATG AACAACAGCG ACAC.ATCAG
 51    GCAGATAGTC GAAAGCACCA CCGGTACGAT GAAGCTGCTG ATTTCCTCCA
101    TCGCCCTGAT TTCATTGGTA GTCGGCGGCA TCGGCGTGAT GAACATCATG
151    CTGGTGTCCG TTACCGAGCG CACCAAAGAA ATCGGCATAC GGATGGCAAT
201    CGGCGCGCGG CGCGGCAATA TTTyGCAGCA GTTTTTGATT GAGGCGGTGT
251    TAATCTGCGT CATCGGCGGT TTGGTCGGCG TGGGTTTGTC CGCCGCCGTC
```

```
301    AGCCTCGTGT TCAATCATTT TGTAACCGAC TTCCCGATGG ACATTTCCGC
351    CATGTCCGTC ATCGGCGCGG TCGCCTGTTC GACCGGAATC GGCATCGCGT
401    TCGGCTTTAT GCCTGCCAAT AAAGCAGCCA AACTCAATCC GATAGACGCA
451    TTGGCACAGG ATTGA
```

Number 64 ORF

```
  1    ..GGGACGGGAG CGATGCTGCT GCTGTTTTAC GCGGTAACGA T.CTGCCTTT
 51    GGCCACTGGC GTTACCCTGA GTTACACCTC GTCGATTTTT TTGGCGGTAT
101    TTTCCTTCCT GATTTTGAAA GAACGGATTT CCGTTTACAC GCAGGCGGTG
151    CTGCTCCTTG GTTTTGCCGG CGTGGTATTG CTGCTTAATC CCTCGTTCCG
201    CAGCGGTCAG GAAACGGCGG CACTCGCCGG GCTGGCGGGC GGCGCGATGT
251    CCGGCTGGGC GTATTTGAAA GTGCGCGAAC TGTCTTTGGC GGGCGAACCC
301    GGCTGGCGCG TCGTGTTTTA CCTTTCCGTG ACAGGTGTGG CGATGTCGTC
351    GGTTTGGGCG ACGCTGACCG GCTGGCACAC CCTGTCCTTT CCATCGGCAG
401    TTTATCTGTC GTGCATCGGC GTGTCCGCGC TGATTGCCCA ACTGTCGATG
451    ACGCGCGCCT ACAAAGTCGG CGACAAATTC ACGGTTGCCT CGCTTTCCTA
501    TATGACCGTC GTTTTTTCCG CTCTGTCTGC CGCATTTTTT CTGGGCGAAG
551    AGCTTTTCTG GCAGGAAATA CTCGGTATGT GCATCATCAT CCTCAGCGGT
601    ATTTTGA
```

Number 65 ORF

```
  1    ATGAAGCGGC GTATAGCCGT CTTCGTCCTG TTCCCGCAGA TAATCCGAGT
 51    TTTGGGACAA CTGTTGCCGA AAATCGTCAA TACAGTTCCG GCACATCGGA
101    TGCTCTTCCA GATTTTCGGG ATGTTCTTTT TCTTCATACA CCAGCAATAT
151    CTGCCCGGGA TCGCCGAAAT CGATTCCCCA TGCGGCATCG TGTTCGGTGC
201    GCTCCTCTTC CGTCATCTGC CCGCGCATTG CCTGTATGGT AAAGCCGCCG
251    TAGGGGATGC CgTTGCACAC GAACATCCAG TCGCTGATGT CGTCAACCGG
301    AACGCAAACG cTTTCGCCTT GTTCGACATT GGTCAGTTCG CCsGGTTCAT
351    TGTTCAGCAC ACCGTAAATA TAAAGACCGT CAAAATAAAT ATCGTCGATC
401    CACATATGTT CGCAAATTTC GCCGTCTTCG CCGTCTTGGA AAAAAGGGAC
451    TTTGACCATG GCAAAATCCA AGGCGGAAAT AATGCGGCGG CGTTCCCAAA
501    AAAGcTCGCG CCAAAAATAT TTGAATGTTT TACGGGCGCG TTCGTCGGCA
551    CGGTTTACCG GTTCGTCTGC CTGTTCTACA TAATAAATGA CGGAATCGCC
601    CATCATAtCT GCTCCTCAAC GTGTACGGTA TCTGTTTGCA CCTTACTGCG
651    GCTTTCTgcC kTCGGCATCC GATTCGGATT TGAAAAGTTC mmrwyATTCG
701    GAATAG
```

Number 66 ORF

```
  1    ATGGAAAATA TGGTAACGTT TTCAAAAATC AGACCGCTTT TGGCAATCGC
 51    CGCCGCCGCG TTGCTTGCCG CC.TGCGGAC GGCGGGAAAT AATGCTGTCC
101    GCAAGCCGGT GCAAACCGCC AAACCCGCCG CAGTGGTCGG TTTGGCACTC
151    GGTGGCGGCG CATCTAAAGG ATTTGCCCAT GTAGGTATTA TTAAGGTTTT
201    GAAAGAAAAC GGTATTCCTG TGAAGGTGGT TACCGGCACC TCCGCAGGTT
251    CGATTGTCGG CAACCTTTTT GCATCGGGTA TGTCGCCCGA CCGCCTCGAA
301    TTGGAAGCCG AAATTTTAGG CAAAACCGAT TTGGTCGATT TAACCTTGTC
351    CACCAATGGG TTTATCAAAG CGCAAAAGCT GCAAAATTAC ATCAACCGAA
401    AACTCCGCGG CATGCAGATT CAGCAGTTTC CCATCAAATT TGCCGCC..
```

Number 67 ORF

```
  1    ATGTTTCGTT TACAATTCAG GCTGTTTCCC CCTTTGCGAA CCGCCATGCA
 51    CATCCTGTTG ACCGCCCTGC TCAAATGCCT CTCCCTGcTG CCGCTTTCCT
101    GTCTGCACAC GCTGGGAAAC CGGCTCGGAC ATCTGGCGTT TTACCTTTTA
151    AAGGAAGACC GCGCGCGCAT CGTCGCCmAT ATGCGGCAGG CGGGTTTGAA
201    CCCCGACCCC AAAACGGTCA AAGCCGTTTT TGCGGAAACG GCAAAAGGCG
251    GTTTGGAACT TGCCCCCGCG TTTTTCAGAA AACCGGAAGA CATAGAAACA
301    ATGTTCAAAG CGGTACACGG CTGGGAACAT GTGCAGCAGG CTTTGGACAA
351    ACACGAAGGG CTGCTATTC..
```

-18-

Number 68 ORF

```
  1  ..GCGTGGTCGG CCGGCGAATC GTGGCGTGTG TTAATGGAAA GTGAAACGTG
 51    GCATGCGGTG TGGAATACTT TGCGCTTCTC GGCGGCGGCG GTGTATGCGG
101    CAGCGGTTTT GGGTGTGGTG TATGCGGCGC CGGCGCGGCG GTCGGCGTGG
151    ATGCGCGGGC TGATGTTTTA GCCGTTTATG GTGTCGCCGG TTTGTGTTTC
201    GGCGGGCGTG CTGCTGCTTT ATCCGCAGTG GACGGCTTCG TTGCCGTTGC
251    TGCTGGCGAT GTATGCGCTG CTGGCGTATC CGTTTGTGGC AAAAGATGTT
301    TTATCAGCCT GGGATGCACT GCCGCCGGAT TACGGCAGGG CGGCGGCGGG
351    TTTGGGTGCA AACGGCTTTC AGACGGCATG CCGCATCACG TTCCCCCTCT
401    TGAAACCGGC GTTGCGGCGC GGTCTGACTT TGGCGGCGGC AACCTGCGTG
451    GGCGAATTTG CGGCGACATT GTTTCTGTCG CGTCCGGAAT GGCAGACGCT
501    GACGACTTTG ATTTATGCCT ATTTGGGACG CGCGGGTGAG GATAATTACG
551    CGCGGGCGAT GGTGCTG..
```

Number 69 ORF

```
  1  ATGGACGGCT GGACACAGAC GCTGTCCGCG CAAACCCTGT TGGGCATTTC
 51  GGCGGCGGCA ATCATCCTCA TTCTGATTTT AATCGTCAGA TTCCGCATCC
101  ACGCGCTGCT GACACTGGTC ATCGTCAGCC TGCTGACGGC TTTGGCAACC
151  GGTTTGCCCA CAGGCAGCAT TGTCAAAGAC ATACTGGTCA AAAACTTCGG
201  CGGCACGCTC GGCGGCGTGG CGCTTCTGGT CGGCCTGGGC GCGATGCTCG
251  AACGTTTGGT C...
```

Number 70 ORF

```
  1  ..GATTTCGGCA TATCGCCCGT GTATCTTTGG GTTGCCGCCG CGTTCAAACA
 51    TTTGCTGTCG CCGTGGGCTG CCGACTCATA CGATGTCGCA CGCTTTGCAG
101    GCGTATTTTT TGCCGTTATC GGACTGACTT CCTGCGGCTT TGCCGGTTTC
151    AACTTTTTGG GCAGACACCA CGGGGCGCAC. GTCGTCCTGA TTCTCATCGG
201    CTGTATCGGG CTGATTCCAG TTGCCCATTT CCTCAACCCC GCTGCCGCCG
251    CCTTTGCCGC CGCCGGACTG GTGCTGCACG GTTATTCTTT GGCTCGCCGG
301    CGCGTGATTG CCGCCTCTTT TCTGCTCGGT ACGGGCTGGA CGCTGATGTC
351    GTTGGCAGCA GCTTATCCGG CAGCATTTGC CCTGATGCTG CCCTTGCCCG
401    TACTGATGTT TTTCCGTCCG ..
```

Number 71 ORF

```
  1  ..CAATCCGCCA AATGGTTATC GGGCCAAACT CTAGTCGGCA CAGCAATTGG
 51    GATACGCGGG CAGATAAAGC TTGGCGGCAA CCTGCATTAC GATATATTTA
101    CCGGCCGCGC ATTGAAAAAG CCCGAATTTT TCCAATCAAG GAAATGGGCA
151    AGCGGTTTTC AGGTAGGCTA TACGTTTTAA
```

Number 72 ORF

```
  1  ATGCGGACGA AATGGTCAGC AGTGAGAAGC TGCTTACTTG GgCGGACACC
 51  GCCGACATCG ATACCGCTTT GAACCTGTTG TACCGTTTGC AAAAACTCGA
101  ATTCCTCTAT GGCGATGAAA ACGGTCATTC AGACGGCATC AATTTGwCGG
151  ACGAGCAATT GCCGTTGCTG ATGGAACAAT TGTCCGGCAG CGGTAAGGCG
201  TTATTGGTCG ATCGGAACGG TCTGTATCTT GCCAACGCCA ATTTCCATCA
251  TGAGGCGGCG GAAGAGTTGG GGTTGTTGGC GGCAGAAGTC GCACAGATGG
301  AAAAGAAATA CCGGCTGCTG ATTAAGAACA AC..
```

Number 73 ORF

```
  1  ATGACCTTTT TACAACGTTT GCAAGGTTTG GCAGACAATA AAATCTGTGC
 51  GTTTGCATGG TTCGTCGTCC GCCGCTTTGA TGAAGAACGC GTACCGCAGr
```

-19-

```
 101  CGGCGGCAAG CATGACGTTT ACGACGCTGC TGGCACTCGT CCCCGTGCTG
 151  ACCGTGATGG TGGCGGTCGC TTCGATTTTC CCCGTGTTCG ACCGCTGGTC
 201  GGATTCGTTC GTCTCCTTCG TCAACCAAAC CATTGTGCCG CA.GGCGCGG
 251  ACATGGTGTT CGACTATATC AATGCGTTCC GCGAGCAGGC GAACCGGCTG
 301  ACGGCAATCG GCAGCGTGAT GCTGGTCGTT ACCTCGCTGA TGCTGATTCG
 351  GACGATAGAC AATACGTTCA ACCGCATCTG GaCGGGTCAA wTyCCAGCGT
 401  CCGTGGATG..
```

Number 74 ORF

```
   1  ..AGACACGCCC GCCGCATCCG CATCGACACC GCCATCAACC CCGAACTGGA
  51  AGCCCTCGCC GAACACCTCC ACTACCAATG GCAGGGCTTC CTCTGGCTCA
 101  GCACCGATAT GCGTCAGGAA ATTTCCGCCC TCGTCATCCT GCTGCAACGC
 151  ACCCGCCGCA AATGGCTGGA TGCCCACGAA CGCCAACACC TGCGCCAAAG
 201  CCTGCTTGAA ACACGGGAAC ACGGCTGA
```

Number 75 ORF

```
   1  ..GCCGAAGACA CGCGCGTTAC CGCACAGCTT TTGAGCGCGT ACGGCATTCA
  51  GGGCAAACTC GTCAGTGTGC GCGAACACAA CGAACGGCAG ATGGCGGACA
 101  AGATTGTCGG CTATCTTTCA GACGGCATGG TTGTGGCACA GGTTTCCGAT
 151  GCGGGTACGC CGGCCGTGTG CGACCCGGGC GCGAAACTCG CCCGCCGCGT
 201  GCGTGAGGCC GGGTTTAAAG TCGTTCCCGT CGTGGGCGCA AC.GCGGTGA
 251  TGGCGGCTTT GAGCGTGGCC GGTGTGGAAG GATCCGATTT TTATTTCAAC
 301  GGTTTTGTAC CGCCGAAATC GGGAGAACGC AGGAAACTGT TTGCCAAATG
 351  GGTGCGGGCG GCGTTTCCTA TCGTCATGTT TGAAACGCCG CACCGCATCG
 401  GTGCAGCGCT TGCCGATATG GCGGAACTGT TCCCCGAACG CCGATTAATG
 451  CTGGCGCGCG AAATTACGAA AACGTTTGAA ACGTTCTTAA GCGGCACGGT
 501  TGGGGAAATT CAGACGGCAT TGTCTGCCGA CGGCGACCAA TCGCGCGGCG
 551  AGATGGTGTT GGTGCTTTAT CCGGCGCAGG ATGAAAAACA CGAAGGCTTG
 601  TCCGAGTCCG CGCAAAACAT CATGAAAATC CTCACAGCCG AGCTGCCGAC
 651  CAAACAGGCG GCGGAGCTTG CTGCCAAAAT CACGGGCGAG GGAAAGAAAG
 701  CTTTGTACGA T..
```

Number 76 ORF

```
   1  ATGAAAACAA CCGACAAACG GACAACCGAA ACACACCGCA AAGCCCCGAA
  51  AACCGGTCGC ATCCGCTTCT C.GCTGCTTA CTTAGCCATA TGCCTGTCGT
 101  TCGGCATTCT TCCCCAAGCC TGGGCGGGAC ACACTTATTT CGGCATCAAC
 151  TACCAATACT ATCGCGACTT TGCCGAAAAT AAAGGCAAGT TTGCAGTCGG
 201  GGCGAAAGAT ATTGAGGTTT ACAACAAAAA AGGGGAGTTG GTCGGCAAAT
 251  CAATGACAAA AGCCCCGATG ATTGATTTTT CTGTGGTGTC GCGTAACGGC
 301  GTGGCGGcAT TGGTGGGCGt AtCAATATAT TGTGAGCGTG GCACATAACG
 351  GCGGCTATAA CAACGTTGAT TTTGGTGCGG AAGGAAk.AA tATCCC.GAT
 401  CAACAwCGww TTACTTATAA AATTGTGAAA CGGAATAATT ATAAAGCAGG
 451  GACTAAAGGC CATCCTTATG GCGGCGATTA TCATATGCCG CGTTTGCATA
 501  AATwTGTCAC AGATGCAGAA CCTGTTGAAA TGACCAGTTA TATGGATGGG
 551  CGGAAATATA TCGATCAAAA TAATTACCCT GACCGTGTTC GTATTGGGGC
 601  AGGCAGGCAA TATTGGCGAT CTGATGAAGA TGAGCCCAAT AACCGCGAAA
 651  GTTCATATCA TATTGCAAGT .......... .......... ..........
 701  .......... .....GGCTC ACCAATGTTT ATCTATGATG CCCAAAAGCA
 751  AAAGTGGTTA ATTAATGGGG TATTGCAAAC GGGCAACCCC TATATAGGAA
 801  AAAGCAATGG CTTCCAGCTG GTTCGTAAAG ATTGGTTCTA TGATGAAATC
 851  TTTGCTGGAG ATACCCATTC AGTATTCTAC GAACCACGTC AAAATGGGAA
 901  ATACTCTTTT AACGACGATA ATAATGGCAC AGGAAAAATC AATGCCAAAC
 951  ATGAACACAA TTCTCTGCCT AATAGATTAA AAACACGAAC CGTTCAATTG
1001  TTTAATGTTT CTTTATCCGA GACAGCAAGA GAACCTGTTT ATCATGCTGC
1051  AGGTGGTGTC AACAGTTATC GACCCAGACT GAATAATGGA GAAAATATTT
1101  CCTTTATTGA CGAAGGAAAA GGCGAATTGA TACTTACCAG CAACATCAAT
1151  CAAGGTGCTG GAGGATTATA TTTCCAAGGA GATTTTACGG TCTCGCCTGA
1201  AAATAACGAA ACTTGGCAAG GCGCGGGCGT TCATATCAGT GAAGACAGTA
1251  CCGTTACTTG GAAAGTAAAC GGCGTGGCAA ACGACCGCCT GTCCAAAATC
```

-20-

```
1301   GGCAAAGGCA CGCTG..... .......... .......... ..........
                                   //
2101   .......... .......... .......... .......... ...GATAAAG
2151   TGACTGCTTC ATTGACTAAG ACCGACATCA GCGGCAATGT CGATCTTGCC
2201   GATCACGCTC ATTTAAATCT CACAGGGCTT GCCACACTCA ACGGCAATCT
2251   TAGTGCAAAT GGCGATACAC GTTATACAGT CAGCCACAAC GCCACCCAAA
2301   ACGGCAACCk TAgCCtCGtG G.sAATGcCC AAGCAACATT TAATCAAGCC
2351   ACATTAAACG GCAACACATC GGCTTCgGGC AATGCTTCAT TTAATCTAAG
2401   CGACCACGCC GTACAAACG GCAGTCTGAC GCTTTCCGGC AACGCTAAGG
2451   CAAACGTAAG CCATTCCGCA CTCAACGGTA ATGTCTCCCT AGCCGATAAG
2501   GCAGTATTCC ATTTTGAAAG CAGCCGCTTT ACCGGACAAA TCAGCGGCGG
2551   CAagGATACG GCATTACACT TAAAAGACAG CGAATGGACG CTGCCGTCAg
2601   GarCGGAATT AGGCAATTTA AACCTTGACA ACGCCACCAT TACaCTCAAT
2651   TCCGCCTATC GCCACGATGC GGCAGGGGCG CAAACCGGCA GTGCGACAGA
2701   TGCGCCGCGC CGCCGTTCGC GCCGTTCGCG CCGTTCCCTA TTATmCGTTA
2751   CACCGCCAAC TTCGGTAGAA TCCCGTTTCA ACACGCTGAC GGTAAACGGC
2801   AAATTGAACG GTCAGGGAAC ATTCCGCTTT ATGTCGGAAC TCTTCGGCTA
2851   CCGCAGCGAC AAATTGAAGC TGGCGGAAAG TTCCGAAGGC ACTTACACCT
2901   TGGCGGTCAA CAATACCGGC AACGAACCTG CAAGCCTCGA ACAATTGACG
2951   GTAGTGGAAG GAAAAGACAA CAAACCGCTG TCCGAAAACC TTAATTTCAC
3001   CCTGCAAAAC GAACACGTCG ATGCAGGCGC GTGG...... ..........
                                   //
3551   .......... .......... ....TTAGAC CGCGTATTTG CCGAAGACCG
3601   CCGCAACGCC GTTTGGACAA GCGGCATCCG GGACACCAAA CACTACCGTT
3651   CGCAAGATTT CCGCGCCTAC CGCCAACAAA CCGACCTGCG CCAAATCGGT
3701   ATGCAGAAAA ACCTCGGCAG CGGGCGCGTC GGCATCCTGT TTTCGCACAA
3751   CCGGACCGAA AACACCTTCG ACGACGGCAT CGGCAACTCG GCACGGCTTG
3801   CCCACGGCGC CGTTTTCGGG CAATACGGCA TCGACAGGTT CTACATCGGC
3851   ATCAGnCGCG GGCGCGGGTT TTAGCAGCGG CAGCCTTTcA GACGGCATCG
3901   GAGsmAAAwT CCGCCGCCGC GTGCtGCATT ACGGCATTCA GGCACGAtAC
3951   CGCGCCGgtt tCggCGgATt CGGCATCGAA CCGCACATCG GCGCAACGCg
4001   ctATTTCGTC CAAAAAGCGG ATTACCGCTA CGAAAACGTC AATATCGCCA
4051   CCCCCGGCCT TGCATTCAAC CGcTACCGCG CGGGCATTAa GGCAGATTAT
4101   TCATTCAAAC CGGCGCAACA CATTTCCATC ACGCCTTATT TGAGCCTGTC
4151   CTATACCGAT GCCGCTTCGG GCAAAGTCCG AACACGCGTC AATACCGCCG
4201   TATTGGCTCA GGATTTCGGC AAAACCCGCA GTGCGGAATG GGgCGTAAAC
4251   GCCGAAATCA AAGGTTTCAC GCTGTCCCTC CACGCTGCCG CCGCCAAAGG
4301   CCCGCAACTG GAAGCGCAAC ACAGCGCGGG CATCAAATTA GGCTACCGCT
4351   GGTAA...
```

Number 77 ORF

```
  1   ..AAGGTGTGGC AATTTGTCGA AGA.CCGCTG CGTGCCGTCG TGCCTGCCGA
 51   CAGTTTTGAA CCGACCGCGC AAAAATTGAA CCTGTTTAAG GCGGGTGCGG
101   CAACCATTTT GTTTTATGAA GATCAAAATG TCGTCAAAGG TTTGCAGGAG
151   CAGTTCCCTG CTTATGCCGC TAACTTCCCC GTTTGGGCGg ATCAGGCAAA
201   CGCGATGGTG CAGTATGCCG TTTGGACGAC ACTTGCCGCG GTCGGCGTAG
251   GTGCAAACCT GCAACATTAC AATCCCTTGC CCGATGCGGC GATTGCCAAA
301   GCGTGGAATA TCCCCGAAAA CTGGTTGTTG CGCGCACAAA TGGTTATCGG
351   CGGTATTGAA GGGGCGGCAG GTGAAAAGAC CTTTGAACCC GTTGCAGAAC
401   GTTTGAAAGT GTTCGGCGCA TAA
```

Number 78 ORF

```
  1   ..GGCTACAACT ACCTGTTCGC GCGCGGCAGC CGCATCGCCA ACTACCAAAT
 51   CAACGGCATC CCCGTTGCCG ACGCGCTGGC CGATACGGGt CAATGCCAAC
101   ACCGCCGCCT ATGAGCGCGT AGAAGTCGTG CGCGGCGTGG CGGGGCTGCT
151   GGACGGCACG GGCGAGCCTT CCGCCACCGT CAATCTGGTG CGCAAACGCC
201   TGACCCGCAA GCCATTGTTT GAAGTCCGCG CCGAAGCgGG CAACCGcAAA
251   CATTTCGGGC TGGACGCGGA CGTATCGGGC AGCCTGAACA CCGAAG.crC
301   rCTGCGCgGC CGCCTGGTTT CCAcCTTCGG ACGCGGCGAC TCGTGGCGGC
351   GGCGCGAACG CAGCCGGskAT GCCGAACTCT ACGGCATTTT GGAATACGAC
401   ATCGCACCGC AAACCCGCGT CCACGCArGC ATGGACTACC AGCAGGCGAA
```

```
451    AGAAACCGCC GACGCGCCGC TCAGcTACGC CGTGTACGAC AGCCAAGGTT
501    ATGCCACCGC CTTCGGCCCG AAAGACAACC CCGCCACAAA TTGGGCGAAC
551    AGCCACCACC GTGCGCTCAA CCTGTTCGCC GGCATCGAAC ACCGCTTCAA
601    CCAAGACTGG AAACTCAAAG CCGAATACGA CTAC..
```

Number 79 ORF

```
  1    ATGCGCACGG CAGTGGTTTT GCTGTTGATC ATGCCGATGG CGGCTTCGTC
 51    GGCAATGATG CCGGAAATGG TGTGCGCGGG CGTGTCGCCG GGAACGGCAA
101    TCATATCCAA GCCGACCGAA CAAACGGCGG TCATGGCTTC GAGTTTGTCC
151    AGCGTCAgcA CGCCTGCTTC GGCGgcGgCa ATCATACCTT CGTCTTCGGA
201    AACGGGGATA AACGcGCCAC TCAAACCCCC GACCGCGCTG GAAGCCATCA
251    TGCCGCCTTT TTTCACGGCA TCGTTCAGCA ATGCCAAAGC TGCTGTTGTG
301    CCGTGCGTAC CGCAGACGCT CAAGCCCATT TATTCAAGAA TGCGTGCCAC
351    TnAGTCGCCG ACGGGG..
```

Number 80 ORF

```
  1    ..ACCGACGTGC AAAAAGAGTT GGTCGGCGAA CAACGCAAGT GGGCGCAGGA
 51    AAAAATCAGC AACTGCCGAC AAGCCGCCGC GCAGGCAGAC CGGCAGGAAT
101    ACGCCGAATA CCTCAAGCTG CAATGCGACA CGCGGATGAC GCGCGAACGG
151    ATACAGTATC TTCGCGGCTA TTCCATCGAT TAG
```

Number 81 ORF

```
  1    ATGCAGCTGA TCGACTATTC ACATTCATTT TTCTCGGTTG TGCCACCCTT
 51    TTTGGCACTG GCACTTGCCG TCATTACCCG CCGCGTACTG CTGTCTTTAG
101    GCATCGGTAT TCTGGwysGC GTTGCCTTTT TGGTCGGCGG CAACCCCGTC
151    GACGGTCTGA CACACCTGAA AGACATGGTC GTCGGCTTGG CTTGGTCAGA
201    CGsyGATTGG TCGCTGGGCA AACCAAAAAT CTTGGTTTTC CkGATACTTT
251    TGGGTATTTT TACTTCCCTG CTGACCTACT CCGGCAGCAA T.........
        //
851    .......... .......... .......... ........AC TTCGCTGGTA
901    TTCGGCGGCA CTTGCGGCGT CTTTGCCGTC GTTCTCTGCA CGCTCGGCAC
951    GATTAAAACC GCCGACTATC CCAAAGCCGT TTGGCAGGGT GCGAAATCTA
1001   TGTTCGGCGC AATCGCCATT TTAATCCTCG CTTGGCTCAT CAGTACGGTT
1051   GTCGGCGAAA TGCACACCGG CGATTACCTC TCCACACTGG TTGCGGGCAA
1101   CATCCATCCC GGCTTCCTGC CCGTCATCCT CTTCCTGCTC GCCAGCGTGA
1151   TGGCGTTTGC CACAGGCACA AGCTGGGGGA CGTTCGGCAT TATGCTGCCG
1201   ATTGCCGCCG CCATGGCGGT CAAAGTCGAA CCCGCGCTGA TTATCCCGTG
1251   TATGTCCGCA GTAATGGCGG GGGCGGTATG CGGCGACCAC TGCTCGCCCA
1301   TTTCCGACAC GACCATCCTG TCGTCCACCG GCGCGCGCTG CAACCACATC
1351   GACCACGTTA CCTCGCAACT GCCTTACGCC TTAACCGTTG CCGCCGCCGC
1401   CGCATCGGGC TACCTCGCAT GGGTCTGAC AAAATCCGCG CTGTTGGGCT
1451   TTGGCACGAC AGGCATTGTA TTGGCGGTGC TGATTTTTCT GTTGAAAGAT
1501   AAAAAA..
```

Number 82 ORF

```
  1    ..AAGCAATGGT ATGCCGACGN .AGTATCAAG ACGGAAATGG TTATGGTCAA
 51    CGATGAGCCT GCCAAAATTC TGACTTGGGA TGAAAGCGGC CGATTACTCT
101    CGGAACTGTC TATCCGCCAC CATCAACGCA ACGGGGTGGT TTTGGAGTGG
151    TATGAAGATG GTTCTAAAAA GAGCGAAGT. GTTTATCAGG ATGACAAGTT
201    GGTCAGGAAA ACCCAGTGGG ATAAGGATGG TTATTTAATC GAACCCTGA
```

Number 83 ORF

```
  1    ATGAAACAGA CAGTCAA.AT GCTTGCCGCC GCCCTGATTG CCTTGGGCTT
 51    GAACCGACCG GTGTGGNCGG ATGACGTATC GGATTTTCGG GAAAACTTGC
```

-22-

```
101 A.GCGGCAGC ACAGGGAAAT GCAGCAGCCC AATACAATTT GGGCGCAATG
151 TAT.TACAAA GGACGCGCGT GCGCCGGGAT GATGCTGAAG CGGTCAGATG
201 GTATCGGCAG CCGGCGGAAC AGGGGTTAGC CCAAGCCCAA TACAATTTGG
251 GCTGGATGTA TGCCAACGGG CGCGC.GTGC GCCAAGATGA TACCGAAGCG
301 GTCAGATGGT ATCGGCAGGC GGCAGCGCAG GGGGTTGTCC AAGCCCAATA
351 CAATTTGGGC GTGATATATG CCGAAGGACG TGAGTGCGCC CAAGACGATG
401 TCGAAGCGGT CAGATGGTTT CGGCAGGCGG CAGCGCAGGG GGTAGCCCAA
451 GCCCAAAACA ATTTGGGCGT GATGTATGCC GAAGANCGC GCGTGCGCCA
501 AGACCG...
```

Number 84 ORF

```
  1 ATGAAATTTA CCAAGCACCC CGTCTGGGCA ATGGCGTTCC GCCCATTTTA
 51 TTCGCTGGCG GCTCTGTACG GCGCATTGTC CGTATTGCTG TGGGGTTTCG
101 GCTACACGGG AACGCACkAG CTGTCCGGTT TCTATTGGCA CGCGCATGAg
151 ATGATTTGGG GTTATGCCGG ACTGGTCGTC ATCGCCTTCC TGCTGACCGC
201 CGTCGCCACT TGGACGGGGC AGCCGCCCAC GCGGGGCGGC GTaTCTGGTC
251 GGCTTGACTA TCTTTTGGCT GGCTGCGCGG ATTGCCGCCT TTATCCCGGG
301 TTGGGGTGCG TCGGCAAGCG GCATACTCGG TACGCTGTTT TTCTGGTACG
351 GCGCGGTGTG CATGGCTTTG CCCGTTATCC GTTCGCAGAA TCAACGCAAC
401 TATGTTgCCG TGTTCGCGCT GTTCGTCTTG GGCGGCACGC ATGCGGCGTT
451 CCACGTCCAG CTGCACAACG GCAACCTAGG CGGACTCTTG AGCGGATTGC
501 AGTCGGGCTT GGTGATG
```

Number 85 ORF

```
  1 ..ATGCCGTCTG AAGGTTCAGA CGGCmTCGGT GyCGGGGAAy CAGAAGyGGT
 51 AGCGCATGCC CAATGAGACT TCGTGGGTTT TGAAGCGGGT GTTTTCCAAG
101 CGTCCCCAGT TGTGGTAACG GTATCCGGTG TCyAArGTCA GCTTGGGyGT
151 GATGTCGAAa CCGACACCGG CGATGACACC AAGACCyAmG CTGCTGATrC
201 TGTkGCTTTC GTGATAGGsA GGTTTGyTGG kmksAsyTTG TAyrATwkkG
251 CCTssCwsTG kAGmGCCkTk CkyTGGTkkA swGrwArTAG TCGTGGTTTy
301 TkTTyyCACC GAATGAACyT GATGTTTAAC GTGTCCGTAG GCGACGCGCG
351 CGCCGATATA GGGTTTGAAT TTATCGTTGA GTTTGAAATC GTAAATGGCG
401 GACAAGCCGA GAGAAGAAAC GGCGTGGAAG CTGCCGTTTC CCTGATGTTT
451 TGTTTGGGTT TCTTTGTAGT TGTTGTTTAT CTCTTCAGTA ACTTTTTTAG
501 TAGAAGAATT ACTTTCTTTC CATTTTCTGT AACTGGCATA ATCTGCCGCT
551 ATTCTCCAGC CGCCGAAATC ..
```

Number 86 ORF

```
  1 ATGTTTGCTT TTTTAGAAGC CTTTTTTGTC GAATACGGTT ATGCGGCTGT
 51 TTTTTTTGTA TTGGTCATCT GCGGTTTCGG CGTGCCGATT CCCGAGGATT
101 TGACCTTGGT AACAGGCGGC GTGATTTCGG GTATGGGTTA TACCAATCCG
151 CATATTATGT TTGCAGTCGG TATGCTCGGC GTATTGGTCG GGGACGGCAT
201 CATGTTCGCC GCCGGACGAA TTTGGGGGCA GArArTCCTA rGGTTCArAC
251 CTATTGCGsG CATCATGACG CCGrAACGTT ATGAGCAGGT TCAGGAAAAA
301 TTCGACAAAT ACGGTAACTG GGTCTTATTT GTCGCCCGTT TCCTGCCCGG
351 TTTGAGAACG GCCGTATTTG TTACAGCCGG TATCAGCCGC AAGGTTTCAT
401 ACTTGCGTTT TATCATTATG GATGGACTGG CCGCA...
```

Number 87 ORF

```
  1 ATGAAAAAAT TATTGGCGGC CGTGATGATG GCAGGTTTGG CAGGCGCGGT
 51 TTCCGCCGCC GGAGTCCACG TTGAGGACGG CTGGGCGCGC ACCACCGTCG
101 AAGGTATGAA AATAGGCGGC GCGTTCATGA AAATCCACAA CGACGAAGCC
151 AAACAAGACT TTTTGCTCGG CGGAAGCAGC CCCGTTGCCG ACCGCGTCGA
201 AGTGCATACC CACATCAACG ACAACGGCGT GATGCGGATG CGCGAAGTCG
251 AAGGCGGCGT GCCTTTGGAA GCGAAATCCG TTACCGAACT CAAACCCGGC
301 AGCTATCATG TGATGTTTAT GGGTTTGAAA AAACAATTAA AAGAGGGCGA
351 TAAAATTCCC GTTACCCTGA AATTTAAAAA CGCCAAAGCG CAAACCGTCC
```

-1-

-23-

```
401   AACTGGAAGT CAAAATCGCG CCGATGCCGG CAATGAACCA C...
```

Number 88 ORF

```
    1   ATGACGGTAA CTGCGGCCGA AGGCGGCAAA GCTGCCAAGG CGTTAAAAAA
   51   ATATCTGATT ACGGGCATTT TGGTCTGGCT GCCGATTGCG GTAACGGTTT
  101   GGGTGGTTTC CTATATCGTT TCCGCGTCCG ATCAGCTCGT CAACCTGCTG
  151   CCGAAGCAAT GGCGGCCGCA ATATGTTTTG GGGTTTAATA TCCCGGGGCT
  201   GGGCGTTATC GTTGCCATTG CCGTATTGTT TGTAACCGGA TTGTTTGCCG
  251   CCAACGTATT GGGTCGGCAG ATCCTCGCCG CGTGGGACAG CCTGTTGGGG
  301   CGGATTCCGG TTGTGAAAtC CATCTATTCG AGTGTGAAAA AAGTATCCGA
  351   ATacgTGCTG TCCGACAGCA GCCGTTCGTT TAAAACGCCG GTACTCGTGC
  401   CGTTTCCCCA GCCCGGTATT TGGACGATyG CTTTCGTGTC AGGGCAGGTG
  451   TCGAATGCGG TTAAGGCCGC ATTGCCGAAs GACGGCGATT ATCTTTCCGT
  501   GTATGTTCCG ACCACGCCGA ATCCGACCGG CGGTTACTAT ATTATGGTAA
  551   AGAAAAGCGA TGTGCGCGAA CTCGATATGA GCGTGGACGA AsCATTGAAA
  601   TATGTGATTT CGCTGGGTAT GGTCATCCCT GACGACCTGC CCGTCAAAAC
  651   ATTGGCAsGA CCTATGCCGT CTGAAAAGGC GGATTTGCCC GAACAACAAT
  701   AA
```

Number 89 ORF

```
    1   ATgAAAACGG TAGTCTGGAT TGTCGTCCTG TTTGCCGCCG CCGTCGGACT
   51   GGCGCTGGCT TCGGGCATTT ACACCGGCGA CGTGTATATC GTACTCGGAC
  101   AGACCATGCT CAGAATCAAC CTGCACGCCT TTGTGTTAGG TTCGCTGATT
  151   GCCGTCGTGG TGTGGTATTT CTTGTTTAAA TTCATTATCG GsGgTACTCA
  201   ATATCCCCGA AAAGATGCAG CGTTTCGGTT CGGCnCGTAA AGGCCkCAAG
  251   ssCGsGCTTG CCTTGAACAA GGCGGGTTTG GCGTATTTTG AAGGGCGTTT
  301   TGAAAAGGCG GAACTAGAAG CCTCACGCGT GTTGGTCAAC AAAGtAGGCC
  351   GaGAGACAAC CGGACTTTGG CATTGATGCT GrGCGCGCAC GCCGCCGGAC
  401   AGATGGAAAA CATCGAssTG CGCGACCGTT ATCTTGCGGA AATCGCCAAA
  451   CTGCCGGAAA AACAGCAGCT TTCCCGTTAT CTTTTGTTGG CGGAATCGGC
  501   GTTGAACCGG CGCGATTACG AAGCGGCGGA AGCCAATCTT CATGCGGCGG
  551   CGAAGATGAA TGCCAACCTT ACGCGCCTCG TGCGTCTGCA .ATTCGTTAC
  601   GCTTTCGACA GGGGCGACGC GTTGCAGGTT CTGGCAAAAA CCGAAAAACT
  651   TTCCAAGGCG GGCGCGTTGG GCAAATCGGA AATGGAACGG TATCAAAATT
  701   GGGCATATCC GTCGCCAGCT GGCGGATGCT GCCGATGCCG CCGCTTTGAA
  751   AACCTGCCTG AAGCGGATTC CCGACAGCCT CAAAAACGGG GAATTGAGCG
  801   TATCGGTTGC GGAAAAGTAC GAACGTTTGG GACTGTATGC CGATGCGGTC
  851   AAATGGGTCA AACAGCATTA TCCGCAsAAC CGCCGCCCCG AGCTTTTGGA
  901   AGCCTTTGTC GAAAGCGTGC GCTTTTTGGG CGAGCGCGAA CAGCAGAAAG
  951   CCATCGATTT TGCCGATGCT TGGCTGAAAG AACAGCCCGA TAACGCGCTT
 1001   CTGCTGATGT ATCTCGGTCG GCTCGCCTTC GGCCGCAAAC TTTGGGGCAA
 1051   GGCAAAAGGC TACCTTGAAG CGAGCATTGC ATTAAAGCCG AGTATTTCCG
 1101   CGCGTTTGGT TCTAACAAAG GTTTTCGACG AAATCGGAGA ACCGCAGAAG
 1151   GCGGAGGCGC AC...
```

Number 90 ORF

```
    1   ATGATGTTTT CTTGGTTCAA GCTGTTTCAC TTGTTTTTTG TCATTTCGTG
   51   GTTTGCAGGG CTGTTTTACC TGCCGAGGAT TTTCGTCAAT ATGGCGATGA
  101   TTGATGTGCC GCGCGGCAAT CCCGAGTATG TGCGTCTGTC GGGCATGGCG
  151   GTGCGGCTGT ACCGTTTTAT GTCGCCGTTG GGCTTCGGCG CGGTCGTGTT
  201   CGGCGCGGCG ATACCGTTTG CCGCCGGCTG GTGGGGCAGC GGCTGGGTAC
  251   ACGTCAAACT GTGTTTGGGC TTGATGCTCT TGGCTTACCA GTTGTATTGC
  301   GGCGTGCTGC TGCGCCGTTT TCAGGATTAC AGCAATGCTT TTTCACACCG
  351   CTGGTACCGC GTGTTCAACG AAATCCCCGT GCTGCTGATG GTTGCCGCGC
  401   TGTATsTGGT CGTGTTCAAA CCGTTTTGA
```

-24-

Number 91 ORF

```
  1  ATGGCAAAAA TGATGAAATG GGCGGCTGTT GCGGCGGTCG CGGCGGCAGC
 51  GGTTTGGGGC GGATGGTCTT AACTGAAGCC CGAGCCGCAC GTGCTTGATA
101  TTACGGAAAC GGTCAGGCGC GGC // .....
//.. ATTTCGTTTA CGATTTTGTC CGAACCGGAT ACGCCGATTA AGGCGAAGCT
 51  CGACAGCGTC GACCCCGGGC TGACCACGAT GTCGTCGGGC GGTTACAACA
101  GCAGTACGGA TACGGCTTCC AATGCGGTCT ACTATTATGC CCGTTCGTTT
151  GTGCCGAATC CGGACGGCAA ACTCGCCACG GGGATGACGA CGCAGAATAC
201  GGTTGAAATC GACGGCGTGA AAAATGTGCT GATTATTCCG TCGCTGACCG
251  TGAAAAATCG CGGCGGCAAG GCGTTTGTGC CCGTGTTGGG TGCGGACGGC
301  AAGGCGGCGG AACGCGAAAT CCGGACCGGT ATGAGAGACA GTATGAATAC
351  CGAAGTAAAA AGCGGGTTGA AGAGGGGGA CAAAGTGGTC ATCTCCGAAA
401  TAACCGCCGC CGAGCAACAG GAAAGCGGCG AACGCGCCCT AGGCGGCCCG
451  CCGCGCCGAT AA
```

Number 92 ORF

```
  1  ..ATTCCCGCCA CGATGACATT TGAACGCAGC GGCAATGCTT ACAAAATCGT
 51  TTCGACGATT AAAGTGCCGC TATACAATAT CCGTTTCGAG TCCGGCGGTA
101  CGGTTGTCGG CAATACCCTG CACCCTACCT ACTATAGAGA CATACGCAGG
151  GGCAAACTGT ATGCGGAAgc CAAATTCGCC GACgGcAGCG TAACTTACGG
201  CAAAGCGGGC GAGAGCAAAA CCGAGCAAAG CCCCAAGGCT ATGGATTTGT
251  TCACGCTTGC CTGGCAGTTG GCGGCAAATG ACGCGAAACT CCCCCCGGGG
301  CTGAAAATCA CCAACGGCAA AAAACTTTAT TCCGTCGGCG GTTTGAATAA
351  GGCGGGTACA GGAAAATACA GCATAGGCGG CGTGGAAACC GAAGTCGTCA
401  AATATCGGGT GCGGCGCGGC GACGATGCGG TAATGTATTT cTTCGCACCG
451  TCCCTGAACA ATATTCCGGC ACAAATCGGC TATACCGACG ACGGCAAAAC
501  CTATACGCTG AAACTCAAAT CGGTGCAGAT CAACGGCCAG GCAGCCAAAC
551  CGTAA
```

Number 93 ORF

```
  1  ATGTATCGGA GGAAAGGGCG GGGCATCAAG CCGTGGATGG GTGCCGGTGC
 51  .GCGTTTGCC GCCTTGGTCT GGCTGGTTTT CGCGCTCGGC GATACTTTGA
101  CTCCGTTTGC GGTTGCGGCG GTGCTGGCGT ATGTATTGGA CCCTTTGGTC
151  GAATGGTTGC AGAAAAAGGG TTTGAACCGT GCATCCGCTT CGATGTCTGT
201  GATGGTGTTT TCCTTGATTT TGTTGTTGGC ATTATTGTTG ATTATCGTCC
251  CTATGCTGGT CGGGCAGTTC AACAATTTGG CATCGCGCCT GCCCCAATTA
301  ATCGGTTTTA TGCAGAACAC GCTGCTGCCG TGGTTGAAAA ATACAATCGG
351  CGGATATGTG GAAATCGATC AGGCATCTAT TATTGCGTGG CTTCAGGCGC
401  ATACGGGAGA GTTGAGCAAC GCGCTTAAGG CGTGGTTTCC CGTTTTGATG
451  AGGCAGGGCG GCAATATT..
```

Number 94 ORF

```
  1  ..ACTGCTTTTT CGGCGGCGCT GCGCTTGAGT CCATCATGAC TCGTCATATT
 51  TTTGTCCTTT GGGAAACCGT ATCAACAAAC AGCCGCCATC TTAACATTTT
101  TTTGCACGTC CTGCCCGCCG CGTTCAAATG CGTACCAGCA ATACCGCCGC
151  CTGCGCCTCT ATGCCTTCCA TCCGCCCGAG ATAGCCGAGT TTTTCGTTGG
201  TTTTGCCTTT GATGTTGACG CACGAAATGT CTATGCCCAA ATCGGCGGCG
251  ATGTTGGCAC GCATTGCGCG AATGTGCGGC GCGAGTGTGG GTTTCTGTGC
301  AATCACGGTC GTATCGACAT TGACCGCCTG CCAACCCTGC GCCTGAACGC
351  TTTGATACGC CGCACGCAAA AGGACGCGGC TGTCCGCATC TTTGAACTCT
401  GCGGCGGTGT CGGGGAAATG GCTGCCGATA TCGCCCAAAC CTGCCGCACC
451  GAGCAGCGCG TCGGTAACGG CGTGCAGCAG CGCATCGGCA TCGGAGTGTC
501  CGAGCAGCCC TTTTTCAAAT GGGATTTCAA CTCCGCCAAG TATCAG..
```

Number 95 ORF

```
  1  ..GCCGGCGCGA GTGCGAACAA CATTTCCGCG CGTTTTGCGG AAACACCCGT
```

-25-

```
     51   CGCTGTCAGC GTTACCCTGA TCGGCACGGT ACTTGCCGTC ATGCTGCCCG
    101   TTACCGAATA TGAAAACTTC CTGCTGCTTA TCGGCTCGGT ATTTGCGCCG
    151   ATGGGGCGGA TTTTGATTGC CGACTTTTTC GTCTTGAAAC GGCGTGA
```

Number 96 ORF

```
      1   ATGACCCGTA TCGCCATCCT CGGCGGCGGC CTCTCGGGAA GGCTGACCGC
     51   GTTGCAGCTT GCAGAACAAG GTTATCAGAT TGCACTTTTC GATAAAAGCT
    101   GCCGCCGGGG CGAACACGCC GCCGCCTATG TAGCCGCCGC CATGCTCGCG
    151   CCTGCAGCGG A.ACGGTCGA AGCCACGCCC GAAGTGGTCA GGCTGGGCAG
    201   GCAGAGCATC CCGCTTTGGC GCGGCATCCG ATGCCGTCTG AACACGCACA
    251   CGATGATGCA GGAAAACGGC AGCCTGATTG TATGGCACGG GCAGGACAAG
    301   CCATTATCCA GCGAGTTCGT CCGCCATCTC AAACGCGGCG GCGT.ACGGA
    351   TGACGAAATC GTCCGTTGGC GCGCCGACGA CATCGCCGAA CGCGAACCGC
    401   AACTCGGCGG ACGTTTTTAA GACGGCATCT ACCTGCCGAC CGAAGC.CAG
    451   CTCGACGGGC GGCAATTATA GTCTGCACTT GCCGACGCTT TGGACGAACT
    501   GAACGTCCCC TGCCATTGGG AACACGAATG CGTCCCCGAA GCCTGCAAG..
```

Number 97 ORF

```
      1   ATGACTGATA ATCGGGGGTT TACGCTGGTT GAATTAATAT CAGTGGTCTT
     51   GATATTGTCT GTACTTGCTT TAATTGTTTA TCCGAGCTAT CGCAATTATG
    101   TTGAGAAAGC AAAGATAAAT GCAGTGCGGG CAGCCTTGTT AGAAAATGCA
    151   CATTTTATGG AAAAGTTTTA TCTGCAGAAT GGGAGGTTTA AACAAACATC
    201   TACCAAGTGG CCAAGTTTGC CGATTAAAGA GGCAGAAGGC TTTTGTATCC
    251   GTTTGAATGG AATCGtCGCG CGGG..GCTT TAGACAGTAA ATTCATGTTG
    301   AAGGCGGTAG CCATAGATAA AGATAAAAAT CCTTTTATTA TTAAGATGAA
    351   TGAAAATCTA GTAACCTTTA aTTTGCAAGA AGTCCGCCAG TTCGTGTAGT
    401   GACGGGCTGG ATTATTTTAA AGGAAATGAT AAGGACTGCA AGTTACTTAA
    451   GTAG
```

Number 98 ORF

```
      1   ..GTGTCGCTGG CTTCGGTGAT TGCCTCTCAA ATCTTCCTTT ACGAAGATTT
     51   CAACCAAATG CGGAAAACCC GTGGAGCTAT CTGCGGTTTT CTTGTCCAAT
    101   ATTTATCTGG GGTTTCAGCA GGGGTATTTC GATTTGAGTG CCGACGAGAA
    151   CCCCGTACTG CATATCTGGT CTTTGGCAGT AGAGGAACAG TATTACCTCC
    201   TGTATCCCCT TTTGCTGATA TTTTGCTGCA AAAAAACCAA ATCGCTACGG
    251   GTGCTGCGTA ACATCAGCAT CATCCTGTTT TTGATTTTGA CTGCCTCATC
    301   GTTTTTGCCA AGCGGGTTTT ATACCGACAT CCTCAACCAA CCCAATACTT
    351   ATTACCTTTC GACACTGAGG TTTCCCGAGC TGTTGGCAGG TTCGCTGCTG
    401   GCGGTTTACG GGCAAACGCA AAACGGCAGA CGGCAAACAG CAAATGGAAA
    451   ACGGCAGTTG CTTTCATCAC TCTGCTTCGG CGCATTGCTT GCCTGCCTGT
    501   TCGTGATTGA CAAACACAAT CCGTTTATCC CGGGAATGAC CCTGCTCCTT
    551   CCCTGCCTGC TGACGGCACT GCTTATCCGG AGTATGCAAT ACGGGACACT
    601   TCCGACCCGC ATCCTGTCGG CAAGCCCCAT CGTATTTGTC GGCAAAATCT
    651   CTTATTCCCT ATACCTGTAC CATTGGATTT TTATTGCTTT CGCTCCGCTC
    701   ATTAGAGGCG GGAAACAGCT CGGACTGCCT GCCG..
```

Number 99 ORF

```
      1   ..ATTATTTACG AATACCGCTG GATGTTTCTT TACGGCGCAC TGACGACCTT
     51   GGGGCTGACG GTCGTGGCAA C.GCGGGCGG TTCGGTATTG GGTCTGTTGT
    101   TGGCGTTGGC GCGCCTGATT CACTTGGAAA AAGCCGGTGC GCCGATGCGC
    151   GTGCTGGCGT GGGCGTTGCG TAAAGTTTCG CTGCTGTATG TTACGCTGTT
    201   CCGGGGTACG CCGCTGTTTG TGCAGATTGT GATTTGGGCG TATGTGTGGT
    251   TTCCGTTTTT CGTC..
```

-26-

Number 100 ORF

```
  1  ..CTGAAAGAAT GCCGTCTGAA AGACCCTGTT TTTATTCCAA ATATCGTTTA
 51  TAAGAACATC GCCATTACTT TCCTGCTCTT GCACGCCGCC GCCGAACTTT
101  GGCTGCCCGC GCAAACCGCC GGTTTTACCG CGCTCGCCGT CGGCTTCATC
151  CTGCTCGCCA AGCTGCGTGA gCTTCACCAT CACGAACTCT TACGTAAACA
201  cTACGTCCGC ACTTATTACy TGCTCCAACT CTTTGCCGCC GCAGgcTAgT
251  TTGTGGACAG GCGCGGCGwA ATTACAAAAC CTGCCCGCyT CCGCGCCCCT
301  GCACCTGATT ACCCTCGGCG GCATGATGGG CGGCGTGATG ATGGTGTGGc
351  TGACCGCCGG ACTGTGGCAC AGCGGCTTTA CCAAACTCGA CTACCCCAAA
401  CTCTGCCGCA TTGCCGTCCC CATCCTTTTC GCCGCCGCCG TCTCGCGCGC
451  TTTCTTGrTG AACGTGAACC CGrTATTTTT CATTACCGTT CCTGCGATTC
501  TGACCGCCGC CGTATTCGTA CTGTATCTTT TCrCGTTTAT ACCGATATTT
551  CGGGCGAATG CGTTTACAGA CGATCCGGAr TAr
```

Number 101 ORF

```
  1  ATGGAAATTC GGGCAATAAA ATATACGGCA ATGGCTGCGT TGCTTGCATT
 51  TACGGTTGCA GGCTGCCGGC TGGCGGGGTG GTATGAGTGT TCGTCCCTCA
101  CCGGCTGGTG TAAGCCGAGA AAACCGGCTG CCATCGATTT TTGGGATATT
151  GGCGGCGAGA GTCCGCCGTC TTTAGGGGAC TACGAGATAC CGCTTTCAGA
201  CGGCAATAGT TCCGTCAGGG CAAACGAATA TGAATCCGCA CAACAATCTT
251  ACTTTTACAG GAAAATAGGG AAGTTTGAAG C.TGCGGGCT GGATTGGCGT
301  ACGCGTGACG GCAAACCTTT GATTGAGACG TTCAAACAGG GAGGATTTGA
351  CTGCTTGGAA AAG..
```

Number 102 ORF

```
  1  ATGAAACACA TCCATATTAT CGGTATCGGC GGCACGTTTA TGGGCGGGCT
 51  TGCCGCCATT GCCAAAGAAG CGGGGTTTGA AGTCAGCGGT TGCGACGCGA
101  AGATGTATCC GCCGATGAGC ACCCAGCTCG AAGCCTTGGG TATAGACGTG
151  TATGAAGGCT TCGATGCCGC TCAGTTGGAC GAATTTAAAG CCGACGTTTA
201  CGTTATCGGC AATGTCGCCA AGCGCGGGAT GGATGTGGTT GAAGCGATTT
251  TGAACCTCGG CCTGCCtTAT ATtTcCGGCC CGCAATGGCT GTCGGAAAAC
301  GTGCTGCACC ATCATTGGGT ACTCGGTGTG GCGGGGACgC ACGGCAAAAC
351  GACCACCGCC TCCATGCTCG CATGGGTCTT GGAATATgGC GGCCTCGCGC
401  CGGGCTTCCT TATtGGCGGC GTACC.GGAA AATttCGGCG TTTCCGCCCG
451  CCTGCCGCAA ACGCCGCGCC AAGACCCGAA CAGCCAATCG CCGTTTTTcG
501  TCATCGAAGC CGACGAATAC GACACCGCCT TTtTCGACAA ACGTTCTAAA
551  TtCGTGCATT ACCGTCCGCG TACCGCCGTG TTGAACAATC TGGAATTCGA
601  CCACGCCGAC ATCTTTGCCG ACTTGGGCGC GATACAGACc CAGTTCCACT
651  ACCTCGTGCG TACCGTGCCG TCTGAAGGCT TAATCGTCTG CAACGGACGG
701  CAGCAAAGCC TGCAAGATAC TTTGGACAAA GGCTGCTGGA CGCCGGTGGA
751  AAAATTCGGC ACGGAACACG GCTGGCA..
```

Number 103 ORF

```
  1  ..CCGGGCTATT ACGGCTCGGA TGACGAATTT AAGCGGGCAT TCGGAGAAAA
 51  CTCGCCGACA TmCAAGAAAC ATTGCAACCG GAGCTGCGGG ATTTATGAAC
101  CCGTATTGAA AAAATACGGC AAAAAGCGCG CCAACAACCA TTCGGTCAGC
151  ATTAGTGCGG ACTTCGGCGA TTATTTCATG CCGTTCGCCA GCTATTCGCG
201  CACACACCGT ATGCCCAACA TCCAAGAAAT GTATTTTCC CAAATCGGCG
251  ACTCCGGCGT TCACACCGCC TTAAAACCAG AGCGCGCAAA CACTTGGCAA
301  TTTGGCTTCr ATACCTATAA AAAAGGATTG TTAAAACAAG ATGATACATT
351  AGGATTAAAA CTGGTCGGCT ACCGCAGCCG CATCGACAAC TACATCCACA
401  ACGTTTACGG GAAATGGTGG GATTGAACG GGGATATTCC GAGCTGGGTC
451  AGCAGCACCG GGCTTGCCTA CACCATCCAA CATCGCrATT TCAwAGACAA
501  AGTGCATCAA nnnnnnnnnn nnnnnnnnnn nnnnTACGAT TATGGGCGTT
551  TTTTCACCAA CCTTTCTTAC GCCTATCAAA AAAGCACGCA ACCGACCAAC
601  TTCAGCGATG CGAGCGAATC GCCCAACAAT GCGTCCAAAG AAGACCAACT
651  CAAACAAGGT TATGGGTTGA GCAGGGTTTC CGCCCTGCCG CGAGATTACG
701  GACGTTTGGA AGTCGGTACG CGCTGGTTGG GCAACAAACT GACTTTGGGC
```

-27-

```
    751   GGCGCGATGC GCTATTTCGG CAAGAGCATC CGCGCGACGG CTGAAGAACG
    801   CTATATCGAC GGCACCAACG GGGGAAATAC CAGCAATTTC CGGCAACTGG
    851   GCAAGCGTTC CATCAAACAA ACCGAAACTC TTGCCCGCCA GCCTTTGATT
    901   TTwGATTTTa ACGCCGCTTA CGAGCCGAAG AAAAACCTTA TTTTCCGCGC
    951   CGAAGTCAAA AATCTGTTCG ACAGGCGTTA TATCGATCCG CTCGATGCGG
   1001   GCAATGATGC GGCAAC.GAG CGTTATTACA GCTCGTTCGA CCCGAAAGAC
   1051   AAGGACrrAG ACGTAACGTG TAATGCTGAT AAAACGTTGT GCaACGGCAA
   1101   ATACGGCGGC ACAAGCAAAA GCGTATTGAC CAATTTTGCA CGCGGACGCA
   1151   CCTTTTTgAT GACGATGAGC TACAAGTTTT AA
```

Number 104 ORF

```
      1   ATGAACCTGA TTTCACGTTA CATCATCCGT CAAATGGCGG TTATGGCGGT
     51   TTACGCGCTC CTTGCCTTCC TCGCTTTGTA CAGCTTTTTT GAAATCCTGT
    101   ACGAAACCGG CAACCTCGGC AAAGGCAGTT ACGGCATATG GGAAATGCTG
    151   GGCTACACCG CCCTCAAAAT GCCCGCCCGC GCCTACGAAC TGATTCCCCT
    201   CGCCGTCCTT ATCGGCGGAC TGGTCTCCCT CAGCCAGCTT GCCGCCGGCA
    251   GCGAACTGAC CGTCATCAAA GCCAGCGGCA TGAGCACCAA AAAGCTGCTG
    301   TTGATTCTGT CGCAGTTCGG TTTTATTTTT GCTATTGCCA CCGTCGCGCT
    351   CGGCGAATGG GTTGCGCCCA CACTGAGCCA AAAAGCCGAA AACATCAAAG
    401   CCGCCGCCAT CAACGGCAAA ATCAGCACCG GCAATACCGG CCTTTGGCTG
    451   AAAGAAAAAA ACAGCGTGAT CAATGTGCGC GAAATGTTGC CCGACCAT..
```

Number 105 ORF

```
      1   ATGAAACTTC TGACCACCGC AATCCTGTCT TCCGCAATCG CGCTCAGCAG
     51   TATGGCTGCC GCCGCTGGCA CGGACAACCC CACTGTTGCA AAAAAAACCG
    101   TCAGCTACGT CTGCCAGCAA GGTAAAAAAG TCAAAGTAAC CTACGGCTTC
    151   AACAAACAGG GTCTGACCAC ATACGCTTCC GCCGTCATCA ACGGCAAACG
    201   CGTGCAAATG CCTGTCAATT TGGACAAATC CGACAATGTG GAAACATTCT
    251   ACGGCAAAGA AGGCGGTTAT GTTTTGGGTA CCGGCGTGAT GGATGGCAAA
    301   TCCTACCGCA AACAGCCCAT TATGATTACC GCACCTGACA ACCAAATCGT
    351   CTTCAAAGAC TGTTCCCCAC GTTAA
```

Number 106 ORF

```
      1   ..ACACTGTTGT TTGCAACGGT TCAGGCAAGT GCTAACCAAT GAAGAGCAAG
     51   AAGAAGATTT ATATTTAGAC CCCGTACAAC GCACTGTTGC CGTGTTGATA
    101   GTCAATTCCG ATAAAGAAGG CACGGGAGAA AAAGAAAAAG TAGAAGAAAA
    151   TTCAGATTGG GCAGTATATT TCAACGAGAA AGGAGTACTA ACAGCCAGAG
    201   AAATCACCyT CAAAGCCGGC GACAACCTGA AAATCAAACA AAACGGCACA
    251   AACTTCACCT ACTCGCTGAA AAAAGACCTC AcAGATCTGA CCAGTGTTGG
    301   AACTGAAAAA TTATCGTTTA GCGCAAACGG CAATAAAGTC AACATcACAA
    351   GCGACACCAA AGGCTTGAAT TTTGCGAAAG AAACGGCTGG sACGAACGgC
    401   GACACCACGG TTCATCTGAA CGGTATTGGT TCGACTTTGA CCGATACGCT
    451   GCTGAATACC GGAGCGACCA CAAACGTAAC CAACGACAAC GTTACCGATG
    501   ACGAGAAAAA ACGTGCGGCA AGCGTTAAAG ACGTATTAAA CGCTGGCTGG
    551   AACATTAAAG GCGTTAAACC CGGTACAACA GCTTCCGATA ACGTTGATTT
    601   CGTCCGCACT TACGACACAG TCGAGTTCTT GAGCGCAGAT ACGAAAACAA
    651   CGACTGTTAA TGTGGAAAGC AAAGACAACG GCAAGAAAAC CGAAGTTAAA
    701   ATCGGTGCGA AGACTTCTGT TATTAAAGAA AAAGAC...
```

Number 107 ORF

```
      1   ..GGCACCGAAT TCAAAACCAC CCTTTCCGGA GCCGACATAC AGGCAGGGGT
     51   GGGTGAAAAA GCCCGAGCCG ATGCGAAAAT TATCCTAAAA GGCATCGTTA
    101   ACCGCATCCA AACCGAAGAA AAGCTGGAAT CCAACTCGAC CGTATGGCAA
    151   AAGCAGGCCG GAAGCGGCAG CACGGTTGAA ACGCTGAAGC TACCGAGCTT
    201   TGAAGGGCCG GCACTGCCTA AGCTGACCGC TCCCGGCGGC TATATCGCCG
    251   ACATCCCCAA AGGCAACCTC AAAACCGAAA TCGAAAAGCT GGCCAAACAG
    301   CCCGAATATG CCTATCTGAA ACAGCTTCAG ACGGTCAAGG ACGTGAACTG
```

-28-

```
351  GAACCAAGTA CAGCTCGCTT ACGACAAATG GGACTATAAA CAGGAAGGCC
401  TAACCGGAGC CGGAGCCGCA ATTANCGCAC TGGCCGTTAC CGTGGTCACC
451  TCAGGCGCAG GAACCGGAGC CGTATTGGGA TTAANACGNG TGGCCGCCGC
501  CGCAACCGAT GCAGCATTT...
```

Number 108 ORF

```
  1  ..CGGATCGTTG TAGGTTTGCG GATTTCTTGC GCCGTAGTCA CCGTAGTCCC
 51  AAGTATAACC CAAGGCTTTG TCTTCGCCTT TCATTCCGAT AAGGGATATG
101  ACGCTTTGGT CGGTATAGCC GTCTTGGGAA CCTTTGTCCA CCCAACGCAT
151  ATCTGCCTGC GGATTCTCAT TGCCGCTTCT TGGCTGCTGA TTTTTCTGCC
201  TTCGCGTTTT TCAACTTCGC GCTTGAGGGC TTCGGCATAT TTGTCGGCCA
251  ACGCCATTTC TTTCGGATGC AGCTGCCTAT TGTTCCAATC TACATTCGCA
301  CCCACCACAG CACCACCACT ACCACCAGTT GCATAG
```

Number 109 ORF

```
  1  ..AAGTTTGACT TTACCTGGTT TATTCCGGCG GTAATCAAAT ACCGCCGGTT
 51  GTTTTTTGAA GTATTGGTGG TGTCGGTGGT GTTGCAGCTG TTTGCGCTGA
101  TTACGCCTCT GTTTTTCCAA GTGGTGATGG ACAAGGTGCT GGTACATCGG
151  GGATTCTCTA CTTTGGATGT GGTGTCGGTG GCTTTGTTGG TGGTGTCGCT
201  GTTTGAGATT GTGTTGGGCG GTTTGCGGAC GTATCTGTTT GCACATACGA
251  CTTCACGTAT TGATGTGGAA TTGGGCGCGC GTTTGTTCCG GCATCTGCTT
301  TCCCTGCCTT TATCCTATTT CGAGCACAGA CGAGTGGGTG ATACGGTGGC
351  TCGGGTGCGG GAATTGGAGC AGATTCGCAA TTTCTTGACC GGTCAGGCGC
401  TGACTTCGGT GTTGGATTTG GCGTTTTCGT TTATCTTTCT GGCGGTGATG
451  TGGTATTACA GCTCCACTCT GACTTGGGTG GTATTGGCTT CGTTG.....
                                  //
1451  .......... .......... .......... .......... ..........
1501  .......... .......... .......... .......... ..ATTTGCGC
1551  CAACCGGACG GTGCTGATTA TCGCCCACCG TCTGTCCACT GTTAAAACGG
1601  CACACCGGAT CATTGCCATG GATAAAGGCA GGATTGTGGA AGCGGGAACA
1651  CAGCAGGAAT TGCTGGCGAA CG..AACGGA TATTACCGCT ATCTGTATGA
1701  TTTACAGAAC GGGTAG
```

Number 110 ORF

```
  1  ATGAAATACT TGATCCGCAC CGCCTTACTC GCAGTCGCAG CCGCCGGCAT
 51  CTACGCCTGC CAACCGCAAT CCGAAGCCGC AGTGCAAGTC AAGGCTGAAA
101  ACAGCCTGAC CGCTATGCGC TTAGCCGTCG CCGACAAACA GGCAGAGATT
151  GACGGGTTGA ACGCCCAAAk sGACGCCGAA ATCAGA...
```

Number 111 ORF

```
  1  ATGGTTATCG GAATATTACT CGCATCAAGC AAGCATGCTC TTGTCATTAC
 51  TCTATTGTTA AATCCCGTCT TCCATGCATC CAGTTGCGTA TCGCGTTsGG
101  CAATACGGAA TAAAAtCTGC TGTTCTGCTT TGGCTAAATT TGCCAAATTG
151  TTTATTGTTT CTTTAGGaGC AGCTTGCTTA GCCGCCTTCG CTTTCGACAA
201  CGCCCCCACA GGCGCTTCCC AAGCgTTGCC TACCGTTACC GCACCCGTGG
251  CGATTCCCGC GCCCGCTTCG GCAGCCTGA
```

Number 112 ORF

```
  1  ATGTTCAGTA TTTTAAATGT GTTTCTTCAT TGTATTCTGG CTTGTGTAGT
 51  CTCTGGTGAG ACGCCTACTA TATTTGGTAT CCTTGCTCTT TTTTACTTAT
101  TGTATCTTTC TTATCTTGCT GTTTTTAAGA TTTTCTTTTC TTTTTTCTTA
151  GACAGAGTTT CACTCCGGTC TCCCAGGCTG GAGTGCAAAT GGCATGACCC
201  TTTGGCTCAC TGGCTCACGG CCACTTCTGC TATTCTGCCG CCTCAGCCTC
251  CAGGG...
```

-29-

Number 113 ORF

```
  1  ..GTGCGGACGT GGTTGGTTTT TTGGTTGCAG CGTTTGAAAT ACCCGTTGTT
 51  GCTTTGGATT GCGGATATGT TGCTGTACCG GTTGTTGGGC GGCGCGGAAA
101  TCGAATGCGG CCGTTGCCCT GTGCCGCCGA TGACGGATTG GCAGCATTTT
151  TTGCCGGCGA TGGGAACGGT GTCGGCTTGG GTGGCGGTGA TTTGGGCATA
201  CCTGATGATT GAAAGTGAAA AAAACGGAAG ATATTGA
```

Number 114 ORF

```
  1  ATGTTTCAAA ATTTTGATTT GGGCGTGTTC CTGCTTGCCG TCCTCCCCGT
 51  GCTGCCCTCC ATTACCGTCT CGCACGTGGC GCGCGGCTAT ACGGCGCGCT
101  ACTGGGGAGA CAACACTGCC GAACAATACG GCAGGCTGAC ACTGAACCCC
151  CTGCCCCATA TCGATTTGGT CGGCACAATC ATCgTACCGC TGCTTACTTT
201  GATGTTCACG CCCTTCCTGT TCGGCTGGGC GCGTCCGATT CCTATCGATT
251  CGCGCAACTT CCGCAACCCG cGCCTTGCCT GGCGTTGCGT TGCCGCGTCC
301  GGCCCGCTGT CGAATCTAGC GATGGCTGTw CTGTGGGGCG TGGTTTTGGT
351  GCTGACTCCG TATGTCGGCG GGGCGTATCA GATGCCGTTG GCTCAAATGG
401  CAAACTACGG TATTCTGATC AATGCGATTC TGTTCGCGCT CAACATCATC
451  CCCATCCTGC CTTGGGACGG CGGCATTTTC ATCGACACCT TCCTGTCGGC
501  GAAATATTCG CAAGCGTTCC GCAAAATCGA ACCTTATGGG ACGTGGATTA
551  TCCTACTGCT GATGCTGACC sGGGTTTTGG GTGCGTTTAT wGCACCGATT
601  sTGCGGGmTGc GTGATTGCrT TTGTGCAGAT GTwCGTCTGA CTGGCTTTCA
651  GACGGCATAA
```

Number 115 ORF

```
  1  ATGAACCTGA TTTCACGTTA CATCATCCGT CAAATGGCGG TTATGGCGGT
 51  TTACGCGCTC CTTGCCTTCC TCGCTTTGTA CAGCTTTTTT GAAATCCTGT
101  ACGAAACCGG CAACCTCGGC AAAGGCAGTT ACGGCATATG GGAAATGCTG
151  GGCTACACCG CCCTCAAAAT GCCCGCCCGC GCCTACGAAC TGATTCCCCT
201  CGCCGTCCTT ATCGGCGGAC TGGTCTCCCT CAGCCAGCTT GCCGCCGGCA
251  GCGAACTGAC CGTCATCAAA GCCAGCGGCA TGAGCACCAA AAAGCTGCTG
301  TTGATTCTGT CGCAGTTCGG TTTTATTTTT GCTATTGCCA CCGTCGCGCT
351  CGGCGAATGG GTTGCGCCCA CACTGAGCCA AAAGCCGAA AACATCAAAG
401  CCGCCGCCAT CAACGGCAAA ATCAGCACCG GCAATACCGG CCTTTGGCTG
451  AAAGAAAAAA ACAGCGTGAT CAATGTGCGC GAATGTTGC CCGACCAT..
```

Number 116 ORF

```
  1  ..GCAGTAGCCG AAACTGCCAA CAGCCAGGGC AAAGGTAAAC AGGCAGGCAG
 51  TTCGGTTTCT GTTTCACTGA AAACTTCAGG CGACCTTTGC GGCAAACTCA
101  AAACCACCCT TAAAACTTTG GTCTGCTCTT TGGTTTCCCT GAGTATGGTA
151  TTGCCTGCCC ATGCCCAAAT TACCACCGAC AAATCAGCAC CTAAAAACCA
201  GCAGGTCGTT ATCCTTAAAA CCAACACTGG TGCCCCCTTG GTGAATATCC
251  AAACTCCGAA TGGACGCGGA TTGAGCCACA ACCGCTA.TA CGCATTTGAT
301  GTTGACAACA AAGGGGCAGT GTTAAACAAC GACCGTAACA ATAATCCGTT
351  TGTGGTCAAA GGCAGTGCGC AATTGATTTT GAACGAGGTA CGCGGTACGG
401  CTAGCAAACT CAACGGCATC GTTACCGTAG GCGGTCAAAA GGCCGACGTG
451  ATTATTGCCA ACCCCAACGG CATTACCGTT AATGGCGGCG GCTTTAAAAA
501  TGTCGGTCGG GGCATCTTAA CTACCGGTGC GCCCCAAATC GGCAAAGACG
551  GTGCACTGAC AGGATTTGAT GTGCGTCAAG GCACATTGgA CCGTAGrAGC
601  AGCAGGTTGG AATGATAAAG GCGGAGCmrm yTACACCGGG GTACTTGCTC
651  GTGCAGTTGC TTTGCAGGGG AAATTwmmGG GTAAA.AACT GGCGGTTTCT
701  ACCGGTCCTC AGAAAGTAGA TTACGCCAGC GGCGAAATCA GTGCAGGTAC
751  GGCAGCGGGT ACGAAACCGA CTATTGCCCT TGATACTGCC GCACTGGGCG
801  GTATGTACGC CGACAGCATC ACACTGATTG CCAATGAAAA AGGCGTAGGC
851  GTCTAA
```

-30-

Number 117 ORF

```
   1 ..CGCTTCATTC ATGATGAAGC AGTCGGCAGC AACATCGGCG GCGGCAAAAT
  51   GATTGTTGCA GCCGGGCAGG ATATCAATGT ACGCGGCAnA AGCCTTATTT
 101   CTGATAAGGG CATTGTTTTA AAAGCAGGAC ACGACATCGA TATTTCTACT
 151   GCCCATAATC GCTATACCGG CAATGAATAC CACGAGAGCA wAAAwTCAGG
 201   CGTCATGGGT ACTGGCGGAT TGGGCTTTAC TATCGGTAAC CGGAAAACTA
 251   CCGATGACAC TGATCGTACC AATATTGTsC ATACAGGCAG CATTATAGGC
 301   AGCCTGAaTG GAGACACCGT TACAGTTGCA GGAAACCGCT ACCGACAAAC
 351   CGGCAGTACC GTCTCCAGCC CCGAGGGGCG CAATACCGTC ACAGCCAAAw
 401   GCATAGATGT AGAGTTCGCA AACAACCGGT ATGCCACTGA CTACGcCCAT
 451   ACCCAgGGAA CAAAAAGGCC TTACCGTCGC CCTCAATGTC CCGGTTGTCC
 501   AAGCTGCACA AAACTTCATA CAAGCAGCCC AAAATGTGGG CAAAAGTAAA
 551   AATAAACGCG TTAATGCCAT GGCTGCAGCC AATGCTGCAT GGCAGAGTTA
 601   TCAAGCAACC CAACAAATGC AACAATTTGC TCCAAGCAGC AGTGCGGGAC
 651   AAGGTCAAAA CTACAATCAA AGCCCCAGTA TCAGTGTGTC CATTAC.TAC
 701   GGCGAACAGA AAAGTCGTAA CGAGCAAAAA AGACATTACA CCGAAgCGGC
 751   AgCAAGTCAA ATTATCGGCA AAGGGCAAAC CACACTTGCG GCAACAGGAA
 801   GTGGGGAGCA GTCCAATATC AATATTACAG GTTCCGATGT CATCGGCCAT
 851   GCAGGTACTC C.CTCATTGC CGACAACCAT ATCAGACTCC AATCTGCCAA
 901   ACAGGACGGC AGCGAGCAAA GCAAAAACAA AAGCAGTGGT TGGAATGCAG
 951   GCGTACGTnn CAAAATAGGC AACGGCATCA GGTTTGGAAT TACCGCCGGA
1001   GGAAATATCG GTAAAGGTAA AGAGCAAGGG GGAAGTACTA CCCACCGCCA
1051   CACCCATGTC GGCAGCACAA CCGGCAAAAC TACCATCCGA AGCGGCGGGG
1101   GATACCACCG TCAAAGGTGT GCAGCTCATC GGCAAAGGCA TACAGGCAGA
1151   TACGCGCAAC CTGCATATAG AAAGTGTTCA AGATACTGAA ACCTATCAGA
1201   GCAAACAGCA AAACGGCAAT GTCCAAGTTt ACTGTCGGTT ACGGATTCAG
1251   TGCAAGCGGC AGTTACCGCC AAAGCAAAGT CAAAGCAGAC CATGCCTCCG
1301   TAACCGGGCA AAgCGGTATT TATGCCGGAG AAGACGGCTA TCAAATyAAA
1351   GTyAGAGACA ACACAGACCT yAAGGGCGGT ATCATCACGT CTAGCCAAAG
1401   CGCAGAAGAT AAGGGCAAAA ACCTTTTTCA GACGGCCACC CTTACTGCCA
1451   GCGACATTCA AAACCACAGC CGCTACGAAG GCAGAAGCTT CGGCATAGGC
1501   GGCAGTTTCG ACCTGAACGG CGGCTGGGAC GGCACGGTTA CCGACAAACA
1551   AGGCAGGCCT ACCGACAGGA TAAGCCCGGC AGCCGGCTAC GGCAGCGACG
1601   GAGACAGCAA AAACAGCACC ACCCGCAGCG GCGTCAACAC CCACAACATA
1651   CACATCACCG ACGAAGCGGG ACAACTTGCC CGAACAGGCA GGACTGCAAA
1701   AGAAACCGAA GCGCGTATCT ACACCGGCAT CGACACCGAA ACTGCGGATC
1751   AACACTCAGG CCATCTGAAA AACAGCTTCG AC...
```

Number 118 ORF

```
   1 ..ACGACCGGCA GCCTCGGCGG CATACTGGCC GGCGGCGGCA CTTCCCTTGC
  51   CGCACCGTAT TTGGACAAAG CGGCGGAAAA CCTCGGTCCG GCGGGCAAAG
 101   CGGCGGTCAA CGCACTGGGC GGTGCGGCCA TCGGCTATGC AACTGGTGGT
 151   AGTGGTGGTG CTGTGGTGGG TGCGAATGTA GATTGGAACA ATAGGCAGCT
 201   GCATCCGAAA GAAATGGCGT TGGCCGACAA ATATGCCGAA GCCCTCAAGC
 251   GCGAAGTTGA AAAACGCGAA GGCAGAAAAA TCAGCAGCCA AGAAGCGGCA
 301   ATGAGAATCC GCAGGCAGAT ATGCGTTGGG TGGACAAAGG TTCCCAAGAC
 351   GGCTATACCG ACCAAAGCGT CATATCCCTT ATCGGAATGA
```

Number 119 ORF

```
   1 ..CAATGCCGTC TGAAAAGCTC ACAATTTTAC AGACGGCATT TGTTATGCAA
  51   GTACATATAC AGATTCCCTA TATACTGCCC AGrkGCGTGC GTgGCTGAAG
 101   ACACCCCCTA CGCTTGCTAT TTGrAACAGC TCCAAGTCAC CAAAGACGTC
 151   AACTGGAACC AGGTACwACT GGCGTACGAC AAATGGGACT ATAAACAGGA
 201   AGGCTTAACC GGAGCCGGAG CAGCGATTAT TGCGCTGGCT GTTACCGTGG
 251   TTACTGCGGG CGCGGGAgCC GGAGCCGCAC TGGGcTTAAA CGGCGCGGCc
 301   GCAGCGGCAA CCGATGCCGC ATTCGCCTCG CTGGCCAGCC AGGcTTCCGT
 351   ATCGCTCATC AaCAACAAAG GCAATATCGG TAaCACCCTG AAAGAGCTGG
 401   GCAGAAGCAG CACGGTGAAA AATCTGATGG TTGCCGTCGc tACCGCAgGC
 451   GTagCcgaCA AAATCGGTGC TTCGGCACTG AACAATGTCA GCGATAAGCA
 501   GTGGATCAAC AACCTGACCG TCAACCTGGC CAATGCGGGC AGTGCCGCAC
```

-31-

```
551  TGATTAATAC CGCTGTCAAC GGCGGCAGCc tgAAAGACAA TCTGGAAGCG
601  AATATCCTTG CGGCTTTGGT GAATACTGCG CATGGAGAAG CAGCCAGTAA
651  AATCAAACAG TTGGATCAGC ACTACATTAC CCACAAGATT GCCCaTGCCA
701  TAGCGGGCTG TGCGGcTGCG GCGGCAAGTG AGGGCAAGTG TCAGGATGGT
751  GCGATAgGTG CGGCTGTGGG CGAGATAGTC GGGGAgGCTT TGACAAACGG
801  CAAAAATCCT GACACTTTGA CAGCTAAAgA ACGCGaACAG ATTTTGGCAT
851  ACAGCAAACT GGTTGCCGGT ACGGTAAGCG GTGTGGTCGG CGGCGATGTA
901  AATGCGGCGG CGAATGCGGC TGAGGTAGCG GTGAAAAATA ATCAGCTTAG
951  CGACAAAtGA
```

Number 120 ORF

```
  1  ATGGCAATCA TTACATTGTA TTATTCTGTC AATGGTATTT TAAATGTATG
 51  TGCAAAAGCA AAAAATATTC AAGTAGTTGC CAATAATAAG AATATGGTTC
101  TTTTTGGGTT TTTGGsmrGC ATCATCGGCG GTTCAACCAA TGCCATGTCT
151  CCCATATTGT TAATATTTTT GCTTAGCGAA ACAGAAAATA AAAATcgTAT
201  CGTAAAATCA AGCAATCTAT GCTATCTTTT GGCGAAAATT GTTCAAATAT
251  ATATGCTAAG AGACCAGTAT TGGTTATTAA ATAAGAGTGA ATACGdTTTA
301  ATATTTTTAC TGTCCGTATT GTCTGTTATT GGATTGTATG TTGGAATTCG
351  GTTAAGGACT AAGATTAGCC CAaATTTTTT TAAAATGTTA ATTTTTATTG
401  tTTTATTGGT ATTGGCtCTG AAAATCGGGC AttCGGGTTT AAtCAAACTT
451  TAA
```

Number 121 ORF

```
  1  ATGTTACGTt TGACTGCtTT AGCCGTATGC ACCGCCCTCG CTTTGGGCGC
 51  GTGTTCGCCG CAAAATTCCG ACTCTGCCCC ACAAGCCAAA GaACAGGCGG
101  TTTCCGCCGC ACAAACCGAA GgCGCGTCCG TTACCGTCAA AACCGCGCGC
151  GGCGACGTTC AAATACCGCA AAACCCGAA CGCATCGCCG TTTACGATTT
201  GGGTATGCTC GACACCTTGA GCAAACTGGG CGTGAAAACC GGTTTGTCCG
251  TCGATAAAAA CCGCCTGCCG TATTTAGAGG AATATTTCAA AACGACAAAA
301  CCTGCCGGCA CTTTGTTCGA GCCGGATTAC GAAACGCTCA ACGCTTACAA
351  ACCGCAGCTC ATCATCATCG GCAGCCGCGC CgCCAAGGCG TTTGACAAAT
401  TGAAcGAAAT CGCGCCGACC ATCGrmwTGA CCGCCGATAC CGCCAACCTC
451  AAAGAAAGTG CCAArGAGGC ATCGACGCTG GCGCAAATCT TC..
```

Number 122 ORF

```
  1  ATGAGACATA TGAAAATACA AAATTATTTA CTAGTATTTA TAGTTTTACA
 51  TATAGCCTTG ATAGTAATTA ATATAGTGTT TGGTTATTTT GTTTTTCTAT
101  TTGATTTTTT TGCGTTTTTG TTTTTTGCAA ACGTCTTTCT TGCTGTAAAT
151  TTATTATTTT TAGAAAAAAA CATAAAAAAC AAATTATTGT TTTTATTGCC
201  GATTTCTATT ATTATATGGA TGGTAATTCA TATTAGTATG ATAAATATAA
251  AATTTTATAA ATTTGAGCAT CAAATAAAGG AACAAAATAT ATCCTCGATT
301  ACTGGGGTGA TAAAACCACA TGATAGTTAT AATTATGTTT ATGACTCAAA
351  TGGATATGCT AAATTAAAAG ATAATCATAG ATATGGTAGG GTAATTAGAG
401  AAACACCTTA TATTGATGTA GTTGCATCTG ATGTTAAAAA TAAATCCATA
451  AGATTAAGCT TGGTTTGTGG TATTCATTCA TATGCTCCAT GTGCCAATTT
501  TATAAAATTT GTCAGG..
```

Number 123 ORF

```
  1  ..ACCCCCAACA GCGTGACCGT CTTGCCGTCT TTCGGCGGAT TCGGGCGTAC
 51  CGGCGCGACC ATCAATGCAG CAGGCGGGGT CGGCATGACT GCCTTTTCGA
101  CAACCTTAAT TTCCGTAGCC GAGGGCGCGG TTGTAGAGCT GCAGGCCGTG
151  AGAGCCAAAG CCGTCAATGC AACCGCCGCT TGCATTTTTA CGGTCTTGAG
201  TAAGGACATT TTCGATTTCC TTTTTATTTT CCGTTTTCAG ACGGCTGACT
251  TCCGCCTGTA TTTTCGCCAA AGCCATGCCG ACAGCGTGCG CCTTGACTTC
301  ATATTTAAAA GCTTCCGCGC GTGCCAGTTC CAGTTCGCGC GCATAGTTTT
351  GAGCCGACAA CAGCAGGGCT TGCGCCTTGT CGCGCTCCAT CTTGTCGATG
401  ACCGCCTGCA GCTTCGCAAA TGCCGACTTG TAGCCTTGAT GGTGCGACAC
```

```
451    AGCCAAGCCC GTGCCGACAA GCGCGATAAT GGCAATCGGT TGCCAGTAAT
501    TCGCCAGCAG TTTCACGAGA TTCATTCTCG ACCTCCTGAC GCTTCACGCT
551    GA
```

APPENDIX C

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 1>:

gnm_1

```
 5   GAAAATTCAGCAGCAGCAGGAAGATTGCCAGCATTTGCGCGGCGGTTTTAAACTTACCGA
     CGGTGGCGACGGCAACGCTGTTCCTTTTGCCCATTTGCGCCATCCATTCGCGCAATGCGG
     AAATGGTAATTTCCCTGCCGATGATGATCATGGCAAACAAAACATAGGTCCGGTCGAGTT
     TGACCAGTAAAAGCAAAGAGACGGCGACCATCAGCTTGTCGGCAACGGGATCGAGGAAGG
     CGCCGAAATCCGAGGTCTGTTTCCACAACCTTGCCAAAAATCCGTCAAACCAGTCGGTCA
10   AGGCGGCAACGGCAAAAATGACGGCGGCGGTGAGATTAATCGTTTCCTCCGCGAACCACG
     GAAAAGGCAGGTAAAAAAGGGCTGTCAGGACAGGAATGAGCAAGACCCTCAACCATGTGA
     GGAAGATGGGGAGATTCCAAGGCATCGGTTTTCTCTGTGCAGACTGTAAAGTTGTGATTA
     TAACGGTTATCCTCATAACCCAAAACGTAAAATTGCTGCATGGGCATTCCCCCGCCCCGC
     CAATCTGTTTTCACATTCTTTTCAAACGCAGGAAAATGGCGGGCAATAAAAGCAAAATAC
15   CCAGTTTCAGGCTGAAAACGGCAGGTTGTGCCAACACTTCGACAAGGCGGTCTTCCGTGC
     GGGCAAAATCTTTATTGCTTATAGACACTGCCACTGTTGCGGTATTCCAACAGAACGCCG
     TTTAAAAAACCTTTGCCGACGGTTTCGCTTAAAACGGCTCTAACCTGCTCCGCCCTGATG
     GTTCTGCCGATATTGCCGCCTGTGCACAAACTGTCGAACCCATAGCAGGAAAGCCGGTAA
     TGCTGCCCGTCTGCATCCAGTTTGATTGCCCGTCCGCTGCGGTTGAGGGCGGTAACGGTC
20   AATTCCGCATATTCGAATGTTTTTTCTTGTTCGTGAAATGCCGTCAGGTAAGGTGCAATA
     AAAACGGCGGACAACAGCAGACAGCTTATGGCGGCAAACCATACCCAGCGATAATATAGT
     GGATTAAATTTAAACCAGTACAGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTA
     AGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCG
     CCTTGTCCTGATTTAAATTTAATCCACTATATTTCACGCTTACCCCTTGTTTCTCAAATG
25   CCGTCTGAAATAAGCGGCTTAATATATTGTTTACAGTATTGGGAAGCATAACAGACAAAA
     TGCCGTCTGAAATATTTTCAGACGGCATTTCTTATCCGAAACGGATTATTTTTGCGTTTC
     AACCGCTTCCAATGCACGCAGGGCATAAGTGTAAGCGGCACCCGCATTCAGGGCAATGGC
     GGTTGCCAATGCACCTGCGATTTCGCTGTCGGTCGCACCGGCTTTGGTGGCGGCGGCGGC
     GTGAACACTGATGCAGCTCTCACAACGTGTAGTAATGGCAACGGCGATGGCAATCAGTTC
30   GCGTGTTTTAGCATCAAGTGCCTCTGCAGCTGCCGCTTGTTCCAATGCGCCGTAGGCCTG
     CAGCATTTTAGGATGCGCCTTACCCAGCTCGCCGAACGATTTTTTAACCAATGCGGTATG
     TTCTTTCCAATCTTTAAACATTTTCTTTTCCTTTCTCTTGCGTTTAACCCTGATACGCGC
     TTGCGTATCTGTTTTCGATGTGCGTATTATTGCAATTATTCAGTTGTGTTTCTCGTTTAA
     TCATCTCATTTTATGGTTCAAAAAGATTTATGGACATTCTGGACAAACTGGTCGATTTCG
35   CCCAATTGACGGGCAGTGTGGATGTGCAGTGCCTTTTGGGCGGACAATGGTCGGTACGGC
     ATGAAACCTTGCAACGCGAAGGATTGGTACACATTGTTACATCGGGCAGCGGCTATCTCT
     GCATCGACGGCGAAACTTCCCCGCGTCCGGTCAGTACAGGGGATATTGTATTTTTCCCGC
     GCGGCTTGGGTCATGTGTTGAGCCACGACGGAAAATGCGGAGAAAGTTTACAACCGGATA
     TGCGGCAGCACGGTGCGTTTACGGTCAAGCAGTGCGGCAACGGACAGGATATGAGCCTGT
40   TTTGCGCCCGTTTCCGCTACGACACCCACGCCGATTTGATGAACGGGCTGCCTGAAACCG
     TTTTTCTGAACATTGCCCATCCGAGTTTACAGTATGTGGTTTCAATGCTGCAACTGGAAA
     GCAAAAAACCTTTGACGGGGACGGTTTCCATGGTCAACGCATTGTCGTCCGTCCTGCTGG
     TGCTTATCCTGCGCGCCTATCTCGAACAGGATAAGGATGTCGAACTCTCGGGCGTATTGA
     AAGGTTGGCAGGACAAACGTTTGGGACATTTAATCCAAAAGGTGATAGACAAACCGGAAG
45   ACGAATGGAATGTCGACAAAATGGTGGCGGCTGCCAATATGTCGCGCGCGCAACTGATGC
     GCCGTTTCAAAAGCCGGGTCGGACTCAGCCCGCACGCCTTTGTGAACCATATCCGCCTGC
     AAAAAGGCGCGTTGCTGCTGAAAAAAAACCCGGATTCGGTTTTGTCGGTCGCACTGTCGG
     TAGGCTTTCAGTCGGAAACGCACTTCGGCAAGGCGTTCAAACGGCAATATCACGTTTCGC
     CGGGTCAATACCGGAAAGAAGCGGGCAAAAATAAATCGGGGCTTCAAACGCAAATGCCGT
50   CTGAAAAGGCTTTCATACAGCATTTGCGTACCGCGTCATTTCAAGGGCTGCATCTTCATC
     ACTTCCATCAAAAAGTTGGTAAATGCGGGGTTGTTGGGTTTGACATCCATATTTTTCCAA
     CGCTGCTGCCAGCCGCGCAAGGCATTCTGGATATACAGCTTGGACTGTTCCGTATTGATT
     GCGCCCCGCTGGCTGTCTATCGCCGAACGCAGGTAGATTTCATACATACTGTCATCGACG
     GCATTGCGTCCGACCAGGCGTTTTCTGAAGTTGTTCAGATATTGCGCCGCCTGAACCTTG
```

-2-

```
GTCATTTTACCGATACCCACCTGATAGCCCAAGCGCGTCGCTTCATCGCTGATTTTGGCA
ACATCCGTCCAATGCGAAGAGGCAAGGCGGAAACCTTTTGCAGGTGCTTCCGTTTTGACG
GTATTGATAGGATTCACGGGGATTTCCGTCAATGTGGGCACATAAATAGACTGGCAGCCG
GAAAGAACTGCCGCAATGGAAAGAGGGATAAGGTATTTTTTCATGCCCCCATTATAATCA
AGTTTGCCTTGAGAAAACAAATTGTTCGGCAAGAAAAATAAAATTTCGGCATCAGAAGCA
GGCAAAAACACATTCCACAAGCCTTGCCGCAAGGTTTACAATCCGACCGTCCTTATCGCA
ACGACCGTTTATGGATACCGCAAAAAAGACATTTTAGGATCGGGCTGGATGCTGGTGGC
GGCGGCCTGCTTTACCATTATGAACGTATTGATTAAAGAGGCATCGGCAAAATTTGCCCT
CGGCAGCGGCGAATTGGTCTTTTGGCGCATGCTGTTTTCAACCGTTGCGCTCGGGGCTGC
CGCCGTATTGCGTCGGGACAmCTTCCGCACGCCCCATTGGAAAAACCACTTAAACCGCAG
TATGGTCGGGACGGGGGCGATGCTGCTGCTGTTTACGCGGTAACGCATCTGCCTTTGGC
CACTGGCGTTACCCTGAGTTACACCTCGTCGATTTTTTTGGCGGTATTTTCCTTCCTGAT
TTTGAAAGAACGGATTTCCGTTACACGCAGGCGGTGCTGCTCCTTGGTTTTGCCGGCGT
GGTATTGCTGCTTAATCCCTCGTTCCGCAGCGGTCAGGAAACGGCGGCACTCGCCGGGCT
GGCGGGCGGCGCGATGTCCGGCTGGGCGTATTGAAAGTGCGCGAACTGTCTTTGGCGGG
CGAACCCGGCTGGCGCGTCGTGTTTTACCTTTCCGTGACAGGTGTGGCGATGTCGTCGGT
TTGGGCGACGCTGACCGGCTGGCACACCCTGTCCTTTCCATCGGCAGTTTATCTGTCGTG
CATCGGCGTGTCCGCGCTGATTGCCCAACTGTCGATGACGCGCGCCTACAAAGTCGGCGA
CAAATTCACGGTTGCCTCGCTTTCCTATATGACCGTCGTTTTTTCCGCTCTGTCTGCCGC
ATTTTTTCTGGGCGAAGAGCTTTTCTGGCAGGAAATACTCGGTATGTGCATCATCATCCT
CAGCGGTATTTTGAGCAGCATCCGCCCCACTGCCTTCAAACAGCGGCTGCAATCCCTGTT
CCGCCAAAGATAAAAAATGCCGTCCGAACATCCTTCAGACGGCATATCGGGCTTTATTTC
CCCGCCTTCACATCCTGCCACTGGCGCACCATAAACTTCAATGCCGCCGGCTGGATAGGC
ACCATGATAAAGCTGTTTTTCAAATCCTCCTCGGTTGGGAAAATCGTATTGTCGTTTTA
AATTCGTCTTCCATCAGCTCACGCGCAGGCTTGCTCGAAGGCGCGTAAGTAACGAAATTG
CCGTTTTTCGCCGACACTTCCGGGTCGAGGAAGTCGTTGATGTATTTGTGCGCGTTGGCG
ACGTTTTTCGCATCTTTCGGAATCACGAAAGAATCCACCCAAATCCCCACGCCCTCTTTG
GGCATCATCACGCGGATTTTTTCCTTGCCGCCCGCTTCTTCGGCACGGCGTTTGGCGATG
TTCAAATCGCCGCCGAAACCGATTGTTACGCAGGTATCGCCGCGCGCCAAATCATCGATA
AAGCCGGACGAAGTAAAGCGTTTGATATTGGGGCGGTTTTTCTTGAGTAGGGCGGTTGCC
TCCCTGATGTCTTCCGTATTGCTGCTGTTCGGGTTTTTACCCAAATAGTTCAACACCATA
GGATAGATTTCCGCCGCGCTGTCCAAATAGCTGATGCCGCATTGCTTGAGTTTGGACGTG
TATTCGGGGTCGAACACCAAATCCCACTGGTTGTCCGGCAGCTTGTCCGTACCCAAAGCC
TTTTTCACGCGTTCGGTATTGATGGCGAAGGTATTTGTCCCCCAATAAAACGGCACGGCG
TATTCGTGGCCGGGATCGACCCCGTCCATCAGCCTCATCATTTCGGGGTTGAGGTGTTTA
TAATTGGGAATCAGCGACTTATCGATTTTCTGATACGCACCTGCCTTAATCTGCCTGCCC
ACAAACGCATTGGACGGCGCGACAATGTCGTAACCGGACTTGCCTGTCAGCACCTTGCTT
TCCAGCGTTTCATCGCTGTCGTACACATCATAAGTAACCTTGATGCCGTTTTTCTTTTCA
AAATCGGCAACGGTTTCCGGATCGACATATTCCGACCAGTTGTAAATTTTCAATACGTTT
TGGTTTTCCGCCGGTGCCGGTTTTTCGGCAGGCGGTTTGTCCGAACCGCCGCACGCTGCA
AGCAGCAAAGCAGTCAGGACGGCCAGGGGCAGATGTTTGGTCATTATCATTCCTTGCATA
TCGGGTTGGAGAAAGCGGCCATTATAGCCGATATTGGCAACAGGGCTTCAGACGGCATTC
AAAATCCCGCCACACTCTTCCGAAAACCGCCGCTTCCATAGCTAGAAACAGGGATTTGCG
GTAAGATACCGCCGTTCGTTTTCCCTGCTTTTACCATGACAAGACATTTGAGAGACATTG
AAAAAATTATGAAAACCTCCGAACTGCGCCAAAAATTCCTAAAATTTTTTGAAACCAAAG
GCCACACCGTCGTCCGCTCTTCCAGCCTCGTGCCGCACGACGACCCGACCCTGCTGTTTA
CCAACGCGGGCATGAACCAGTTTAAAGACGTATTCTTAGGTTTCGACAAACGCCCGTACA
GCCGCGCCACCACCGCGCAAAAATGCGTACGCGCAGGCGGCAAACACAACGACTTGGAAA
ACGTCGGCTACACCGCCCGCCACCACACCTTCTTTGAAATGATGGGCAACTTCTCCTTCG
GCGACTACTTCAAACGCGACGCCATCCACTTCGCTTGGGAATTTCTGACTTCCCCCGAAT
GGCTCAACATCCCTAAAGACAAACTGTTGGCGACCGTTTACGCGGAAGACGACGAAGCCT
ACAACATCTGGTTGAACGAAATCGGTATGCCGTCCGAGCGCATCGTCCGCATCGGCGACA
ACAAAGGCGCGAAATACGCATCCGACAACTTCTGGCAAATGGGCGACACCGGCCCTTGCG
GCCCCTGCTCCGAAATTTTCTACGACCACGGCGAAGAAATCTGGGGCGGCATTCCCGGCA
GTCCCGAAGAAGACGGCGACCGCTGGATCGAAATTTGGAACTGCGTATTTATGCAGTTCA
ACCGCGACGAACAAGGCAATATGAACCCGCTTCCCAAACCTTCCGTCGATACCGGTATGG
GCTTGGAACGCATAGCCGCCGTCATGCAGCATGTTCACAGCAACTACGAAATCGACTTGT
```

```
      TCCAAGACCTGCTCAAAGCCGTTGCCCGCGAAACCGGCGCGCCGTTCAGAATGGAAGAAC
      CCAGCCTGAAAGTCATCGCCGACCACATCCGCTCCTGCTCGTTCCTGATTGCAGACGGCG
      TCTTGCCTTCCAACGAAGGCCGCGGCTACGTATTGCGCCGCATTATCCGCCGCGCCGTGC
      GCCACGGTTACAAACTGGGTCAAAGCAAACCGTTCTTCCACAAACTCGTTGCCGATTTGG
  5   TCAAAGAGATGGGCGGTGCCTACCCTGAATTGAAAGAAAAACAAGCCCAAATCGAAGAAG
      CATTGAAAAACGAAGAAAGCCGTTTTGCCCAAACGCTGGAAACCGGTATGGCTTTGTTGG
      AAAACGCGCTGGTyAAAGGCGGCAAAACACTCGGCGGCGAAATCATCTTCAAACTCTACG
      ATACCTACGGTTTCCCATACGACTTGACTGCCGACATCTGCCGCGAACGCAATATCGAAC
      CGGACGAAGCAGGCTTCGAGCGCGAAATGGAAGCCCAACGCGCACGCGCACGCGCCGCCC
 10   AAAGCTTCAAAGCCAACGCCCAACTGCCTTATGACGGTCAAGACACCGAGTTTAAAGGTT
      ATAGCGAACGCCAAACCGAATCCAAAGTCCTCGCCCTCTACAAAGACGGCGAGCAAGTCA
      ACGAATTGAACGAAGGCGACAGCGGCGCAGTCGTCATCGACTTTACCCCGTTCTATGCAG
      AATCCGGCGGCCAAGTCGGCGATGTCGGCTATATCTTCTCAGGCGAAAACCGCTTTGAAG
      TACGCGATACCCAAAAAATCAAAGCGGCCGTATTCGGTCAATTCGGCGTACAAACTTCAG
 15   GCCGTCTGAAAGTCGGCGACAGCGTTACCGCCAAAGTGGACGACGAAATCCGCAATGCCA
      ATATGCGCAACCACAGCGCAACCCACTTGATGCACAAAGCCCTGCGCGATGTATTGGGCA
      GACACGTCGAACAAAAAGGCTCTTTGGTTACCGCCGAATCCACCCGTTTCGACATTTCCC
      ATCCCCAAGCGGTAACTGCCGAAGAAATTGCCGAAGTAGAACGCCGCGTCAACGAAGCCA
      TTTTGGCGAACGTTGCCGTCAATGCAGCCATTATGAGCATGGAAGACGCGCAAAAAACCG
 20   GCGCGATGATGCTCTTCGGCGAAAAATACGGCGAAGAAGTGCGCGTACTGCAAATGGGCG
      GTTTCTCTACCGAATTGTGCGGCGGCACACACGTTTCACGCACCGGCGACATCGGCCTCT
      TCAAAATCATCAGCGAAGGCGGTATTGCCGCAGGCGTGCGCCGTATCGAAGCCATCACCG
      GCCTGAACGCACTCAAATGGGCGCAAGAGCAAGAGCGTTTGGTGAAAGACATTATTGCCG
      AAACCAAAGCCCAAACCGAAAAAGACGTACTGGCAAAAATCCAAGCAGGCGCGGCACACG
 25   CCAAAGCATTGGAAAAAGAATTGGCACGCGCCAAAGCCGAACTCGCCGTCCACGCAGGCG
      CCAAACTCTTGGACGATGCAAAAGACTTGGGCGCAGCCAAACTCGTTGCCGCCCAAATCG
      AAGCCGACGCAGCCGCCCTGCGCGAAATCGTTACCGATTTAACCGGTAAATCCGACAACG
      CCGTGATTCTTTTAGCGGCAGTAAACGACGGCAAAGTCTCCCTGTGCGCCGGCGTATCCA
      AACCGTTGACCGGCAAAGTGAAAGCAGGCGATCTGGTTAAATTTGCAGCCGAACAAGTCG
 30   GCGGCAAAGGCGGCGGCAGACCAGATTTGGCGCAAGCCGGCGGCACGGATGCCGACAAAT
      TGCCCGCCGTGTTGGATAGCGTGAAAGACTGGGTCGGCGCGAAGCTGGTTTGATGTGGGA
      AAGGCAGCCTGAAAGGTTTCAGGCTGCCTTTTGTGCAAAGAGGCCGTCTGAAAGGTCTCG
      TTTGCCGTAGGTTGGGTCGCGACCCAACAAATTTTGTGAAGTATAAAAATGTTGGTCATG
      ACCCAACCTACCTGCCTTTTTGTACAAAGAGGCTATCTGAAAGGCCTTGTTTGCCGTATG
 35   GTGGGTCGCGACCCAGCAGATTTTTATTAGGGTATGACCCAAGCTACTTGCTACGATAAA
      AAAGGATTTTTAAATGAGCATTAGCCTTATTGGACTACACATTACCATAGCAATCATTTT
      GTTTTTTACTACAAATTTTATGGGAAAAAAATCATCTATATTTGGCTATTACCAACTGTC
      TTTTAGCGAAGAAAATCACTCTCCGGCATTTAATATTTTTTACAGAGCATTTACCCCTAT
      ATTATTTATCGTTATTTTTTCTTGGGTTGTTACTAGTCTTGAAATTCCCATTTCTCTTGA
 40   AAAGATAAACTATGTAGTAATTTATTATTTTATAATTAGATTGTTATCTGTATTTGTTTT
      TGAGAAAACACACATAGTTAACTGGTTTAATCAACTAACAATACCCATACTATCCATAAC
      ATTATCATTTATAGTATATAACAAAATGATTTTGCCCAAAAGTTTTCTACTTCCATCCTC
      ACAAGAAGTAGCTACTACTTTTTGAATAGCGCTTGGTGGTTACATATATAATATATTAAA
      TAATGAATCAGGGCATTTAAAATCTTATAAAGAAAGAAGAGTAAATTATGTAAAACACAT
 45   GCACAAAAAATTTGAAAGTTATTTTGGTAAAATTATAGATAAAATAATCAAAGAGGATAG
      TTATAATAATGATGATTTTTTAACCGATAAGAAAAAGCACTAATATATTCAGTTTTAAT
      TTATGAGAATTTTAATAGGGGACTAGTTTATAGATATTTTGAAAAAAATTATTTTGTACT
      GGTAGAATAAAAACATTTGGAATAATGCAAGTAACCTCAGCAGAGTACCTTTCCAATGAG
      GAAAGTATAAAAAAAGGCGGAAATATTCTTATGGAAAAATACAATGAAAAATATAATGAA
 50   TCTATTGATGGCAATAAAACTCTCTATAAATCATATTATGAATCAAGAAGAGAGTATT
      AAAAACTACAACCCAGATGCAAAATACATTAATGAAATTGAATCAATTTACATGATGCTT
      GGAGAAATCTATCCAAATGCACCAGACTTCATGTCACCACATTTTGAGGGGGACTGCTCT
      GAGGGGGAATAAAATCATTATTTATTCTTTATTAGTTATTAGCAGGATTTGTCGGGCATA
      AATGCCCGACCTACAAATTCAATTTTTTCAAACCTCTGCCAAATATTTTCATCTTTGCAA
 55   GGCTGTCTGAAAACCCAAACCCCATTTTCAGACGGCCTTTTTTCGCTAAAATCCCCATAC
      CGTTCAATCCGAAAACACAGGAGAATCATCATGGAAGTTACCATCTCCGCCATCATCAAT
      GGCGAATTTGCCGACCAATACGGCAAGCGCGGTAGTCAGTTTAATGAAAACGGGATGCTG
```

-4-

```
ATTTAATTCTATTTCCTTTGAAACTACCAATAACCTGCCTCCATCATAAAACTAAAGCA
AGCCGTAGCCTGCATTCCCACAAACCGCGTGCGTTGCCATGTCACACACCCTACCTGCGG
GCGACGCAAACCTTAAGAGACCTTTGCAAAATTCCCCAAAATCCCCTAAATTCCCACCAA
GACATTTAGGGGATTTCTCATGAGCACCTTCTTTCAACAAACCGCCCAAGCCATGATTGC
```
5
```
CAAACACATCGACCGCTTCCCGCTATTGAAGTTGGACCGGGTGATTGATTGGCAGCTGAT
CGAACAATACCTGAACCGTCAAAAAACCCGTTACCTTAGAGACCACCGCGGCCGTCCTGC
CTATCCCCTGCTGTCCATGTTCAAAGCCGTCCTGCTCGGACAATGGCACAGCCTCTCCGA
TCCCGAACTCGAACACAGCCTCATTACCCGCATCGATTTCAACCTGTTTTGCCGTTTTGA
CGAACTGAGCATCCCCGATTACAGCACCTTATGCCGCTACCGCAACCGGCTGGCGCAAGA
```
10
```
CAATACCCTGTCTGAACTGTTGGAACTGATTAACCGCCAACTGACCGAAAAGGTTTAAA
AATAGAGAAAGCATCCGCTGCCGTCGTTGACGCCACCATTATTCAGACCGCCGGCAGCAA
ACAGCGTCAGGCCATAGAAGTTGACGAAGAAGGACAAATCAGCGGTCAAACCACACCGAG
TAAGGACAGCGATGCCCGTTGGATAAAGAAAAACGGCCTCTACAAACTCGGTTACAAACA
ACATACCCGTACCGATGCAGAAGGCTATATCGAGAAACTGCACATTACCCCCGCCAATGC
```
15
```
CCATGAGTGCAAACACCTGTCGCCGTTGTTGGAAGGTCTGCCCAAAGGTACGACCGTCTA
TGCCGACAAAGGCTATGACAGTGCGGAAAACCGGCAACATCTGGAAGAACATCAGTTGCA
GGACGGCATTATGCGCAAAGCCTGCCGCAACCGCCCGCTGTCGGAAGTGCAAACCAAGCG
TAACCGATATTTGTCGAAGACCCGTTATGTGGTCGAACAAAGCTTCGGTACGCTGCACCG
TAAATTCCGCTATGCCCGGGCAGCCTATTTCGGACTGATTAAAGTGAGTGCGCAAAGCCA
```
20
```
TCTGAAGGCGATGTGTTTGAACCTGTTGAAAGCCGCCAACAGGCTAAGTGCGCCCGCTGC
CGCCTAAAAGGCAGCCCGGATGCCTGATTATCGGGTGTCCGGGGAGGATTAAGGGGGTGT
TTGGGTAAAATTAGGCGGTATTTGGGGCGAAAACAGCCGAAAACCTGTGTTGGGATTTCG
GTTGTCGTGAGGGAAAGGAATTTTGCAAAGGTCTCCAGCAGTTTGCGCATACATGCCGTA
ACGGCAACCTTATACGGCTTACCCTCGGACAGCGGGCGTTGGTGGAAATCCCGAATAAGC
```
25
```
GGTTCAAAACGTGTCGCTGCCACGGTAGCCATATACAGTGCCTTAAGCACCGCAGACCTT
CCGCCAAAGCAGCGGCTTTTGAATTTGGCTTCCCCGCTCTTCCTCGGGTGCGGGGCAATG
CCGACCAAACTCGCTATCCGTTTGTGCGACAGCCGCCCCAATTCAGGTAGCATCGCCATC
AGCGTAGCCGTCGTTATCGAACCGATGCCTTTGATTTGCTCCGCCACTTGGGCTTTGCCG
TCAAAATGCGTGTGGGTGTGGTCGTCGATTTGTTTGTCCGATTCGTCAATCAGCCGGTCA
```
30
```
AAATGGGCAATCAGTTGTTTGACGCTTCCGACTTGCGTTTCGTGAACCTGATGCAGACGG
TTTTTCTCGGCAGTCCGCATATCCGCCGATTGGTTGCGGCGGTTAACCAAGGCTTCCAAC
ACTTCTTCCGCTTCTGTGGGCGGGTGGTAGGGCATGGTTTGCCAATCTTCTTTCTGTGCC
TTCATCTGTGCGAAGAAGGCAGGCATTTTGGCATCTTTGGCGTCGGTTTTGGTCAGCGAC
TGCGATTGGGCAAACTGATGCGTCTGACGCGGGTTGGCGATAATCACGGCTATGCCTGCT
```
35
```
CGGTGGATGGCTTTGGCGGCGGGGATTTCGAGACCTCCGGTACTTTCCGTCACGACGAGG
GCGACCTTGTGTTTTTTAAGGTATTCGATAGTATGGGCGATACCTTTGGGGTTGTTGGTT
TCGGTTTTGGTTTTAGACAAAGACGAAACGGCGATGACGAAGTTTCGTTTGGCGATGTCG
ATATAGTGAATTAACAAAAATCAGGACAAGGCGGCGAGCCGCAGACAGTACGGATAGTAC
GGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTCGAGCTAAGGCGA
```
40
```
GGCAACGTCGTACTGGTTTTTGTTAATTCACTATATCTGTGCGTTACGACGGCATGCCGT
CTGAAGGGTGTTTATGTCTGCATCTAAGAAATTTCCGATTCCTTTGAGCTATTTCAGCAT
CGCGCTGGGCTTGTTTGCCTTGGGGCTGTCGTGGCGTTACGGCGCGTCTGTCGGGCTGCT
GCCCGCCTTGGCCGCCGAATCGCTGCTTGCGGCGGCTTCGGTCGTCTGGCTCTTGCTGGT
GGCGGCATACCTGATCAAAATGTTTGCGTACCGAAACGATTTTTTGTCTGATTTACGCGA
```
45
```
CTTGGTGCAATGCTGCTTCATCAGCGCGATTCCGATTACCGCTATGCTGGAGGGACTCGC
GCTGAAGCCCTATCAGGCAGGCGCGGCGGCAGTCCTGATTTATGTCGGCGTTGCCGGACA
GTTGGCTTTTTCGATGTATCGGGCGGCCGGTCTGTGGCGCGGCCTGCATTCCTTGGAGGC
GACGACGCCGATTATTTATCTGCCTACGGTTGCGACAAACTTTGTCAGCGCGTCATCTCT
GGCGGCGTTGGGGCATCATGATTATGCAGCTTTGTTTTTCGGCGCGGGTATGTTTTCCTG
```
50
```
GCTGAGCTTGGAAGCCTCCATCTTGGGCAGGCTGCGCACGGCGGCACCGGTCGGCACGGC
GGCGCGCGGCGTGGTCGGCATCCAGCTTGCGCCCGCCTTTGTCGGCTGCGGCGCGTATTT
TGCCGTCGGCGGTAAAGTCGACGGTTTTGCGTTGGCATTAATCGGCTACGGCTGCCTGCA
GCTTTTGTTCTTGCTGCGCCTGACCCGCTGGTTTTGGGAAGGTGGTTTTACGATGAGCTT
TTGGGGATTTTCATTCGGTTTCGCGGCAATGGCAGGATGCGGTCTGCATCTGGCGGCTTC
```
55
```
CGGCGTATTGTCGGGCTTGGGGCTGACGCTTGCCACCGCCGGATCGGCAGGCGTGGCGCT
GCTGCTTGTCGGTACGCTGCACCGGATAGCGACGGGGCGTTTCTTGGTACGCAGCTGATG
CGTTTTGCCGCCTTGTCAAAAATGCCGTCTGAAACGCTGGGATTCAGACGGCATTTTTTA
```

```
      TTTCACACCCTTACAGGTAGAATTTTTCGATGACTTTCAAATTGTCGTCCAATTTGTACA
      CCAACGGCTGACCGGTCGGGATTTCCAAGCCCATAATGTCTTCGTCGGAAATGCCCTCGA
      TGTGTTTTGCCAGCGCGCGCAGGGAGTTGCCGTGCGCCGCCACCAAGACGCGTTTGCCGC
      TCAAAATCGCGGGGGCGATTTGGTCTTCCCAAAACGGCAATACGCGCTCCAGCGTTACTT
 5    TCAGGTTTTCGCCGTCGGGTACGACATCGGCAGGCAGATGGGCATAGCGGCGGTCTTTGT
      GTGCGGAAAACTCATCGTCTTTGTCCAAAAGCGGCGGCAGGGTGTCGTAGCTGCGCCGCC
      AGATGCGGACTTGCTCGTCGCCGTATTGTTCGGCGGTTTGTTTTTTGTCCAGGCCTTGCA
      GTTGGCCGTAGTGGCGTTCGTTCAGCCGCCACGTTTTGATTTGCGGTACGAACAGTTGGT
      CGGATTCTTCCAAAACGATGTTGCAGGTCTTAATCGCGCGGGTCAGGACGGATGTGAAGG
 10   CGATGTCGAACTCATAGCCGTTTTCTTTCAGTTTCTTGCCGGCGGCGGCAGCCTCGGCAA
      GCCCCTGCTCGCTCAGCTTCACGTCGCGCCAGCCTGTAAACAGGTTTTTCGCGTTCCATT
      CGCTTTGTCCGTGGCGGATAAATACCAGTTCCATATCGTCTCCAATGTGTGAAAGTGGGA
      AAGCCTTATTTATAACATATTTTCACATTTCCCGTATTTGATTCAGATTCAGACACGCGC
      CCACTATGGTTTGCCGTTTTGATTTACAATAATGTCCTTTGCTTTACATTCCGCATACAC
 15   AATGAATACGCAAGCGCACGCCCCACATACCGATTCCAATACGCTGATGCTCGGCCGATA
      CGCCGAACGCGCCTATCTCGAATACGCCATGAGCGTGGTCAAAGGCCGCGCGCTGCCTGA
      AGTTTCAGACGGCCAGAAGCCCGTGCAGCGGCGCATTTTGTTTGCCATGCGCGATATGGG
      TTTGACGGCGGGGGCGAAGCCGGTGAAATCGGCGCGCGTGGTCGGCGAGATTTTGGGTAA
      ATACCACCCGCACGGCGACAGTTCCGCCTATGAGGCGATGGTGCGGATGGCGCAGGATTT
 20   TACCTTGCGCTATCCCTTAATCGACGGCATCGGCAACTTCGGCTCGCGCGACGGCGACGG
      GGCGGCGGCGATGCGTTACACCGAAGCGCGGCTGACGCCGATTGCGGAATTGCTGTTGTC
      CGAAATCAATCAGGGGACGGTGGATTTTGTGCCGAACTACGACGGCGCGTTTGACGAACC
      GCTGCACCTGCCCGCCCGCCTGCCTATGGTGTTGCTCAACGGCGCGTCAGGCATTGCGGT
      GGGCATGGCGACCGAGATTCCGCCGCACAATTTGAACGAAGTGACGCAGGCGGCGATTGC
 25   GTTGTTGAAAAAGCCGACGCTGGAAACCGCCGACCTGATGCAATATATTCCTGCCCCCGA
      TTTTGCCGGCGGCGGTCAAATCATCACGCCGGCGGACGAATTGCGCCGGATTTATGAAAC
      CGGCAAGGGCAGCGTGCGCGTGCGTGCGCGTTATGAAATCGAAAAATTGGCGCGCGGACA
      GTGGCGCGTCATCGTAACCGAGCTGCCGCCGAACGCCAATTCCGCCAAAATCCTTGCCGA
      AATCGAAGAGCAAACCAACCCGAAACCGAAAGCGGGTAAGAAACAGCTCAACCAAGACCA
 30   GCTCAATACCAAAAAGCTGATGCTGGATTTAATCGACCGCGTGCGCGACGAGTCCGACGG
      CGAACATCCCGTGCGACTGGTATTCGAGCCGAAATCCAGCCGCATCGATACCGATACCTT
      CATCAACACGCTGATGGCGCAAACTTCGCTGGAAGGCAATGTGTCGATGAACTTGGTGAT
      GATGGGTTTGGACAACCGCCCCGCGCAGAAAAACCTGAAAACGATTTTGCAGGAATGGCT
      GGATTTCCGCACCGTAACCGTAACACGCCGTCTGAAATTCCGTTTGAACCAAGTGGAAAA
 35   ACGGCTGCACATCCTCGAAGGCCGTCTGAAAGTCTTTCTGCACATCGACGAAGTGATTAA
      AGTCATCCGCGAATCAGACGACCCGAAAGCCGATTTGATGGCGGCGTTCGGGCTGACCGA
      AATCCAAGCCGAAGACATTTTGGAAATCCGCCTGCGCCAGTTGGCGCGTTTGGAGGGTTT
      CAAACTCGAAAAAGAATTGAACGAGTTGCGCGAGGAACAAGGCCGTCTGAACATCCTTTT
      GAGCGACGAAAACGAAAAACGCAAGCTGATTGTCAAAGAGATGCAGGCGGATATGAAACA
 40   ATACGGCGACGCGCGACGCACGCTGGTGGAAGAGGCCGGACGCGCCGTGCTGACGCAGAC
      CACCGCCGACGAACCCATCACGCTGATCCTGTCGGAAAAAGGCTGGATACGCAGCCGCGC
      CGGACACAATCTCGATTTGAGCCAAACCGCGTTCAAAGAAGGCGACTGCCTCAAACAAAC
      CCTCGAAGGCAGAACGGTTTTACCCGTCGTCATCCTCGATTCATCGGGCAGAACCTACAC
      GCTCGATGCCGCCGAAATCCCCGGAGGGCGCGGCGACGGCGTACCGGTTTCCTCCTTAAT
 45   CGAGCTGCAAAACGGCGCGAAACCCGTTGCGATGTTGACAGGATTGCCGGAACAACATTA
      TTTATTATCAAGCAGCAGCGGCTATGGCTTCATCACCAAGCTGGGCGATATGGTCGGGCG
      CGTGAAAGCGGGCAAAGTGGTGATGACCGCAGACAGCGGCGAAACCGTTTTGCCGCCGGT
      TGCCGTCTATGCCTCCTCGTTCATCAACCCCGACTGCAAAATCATTGCCGCCACCAGTCA
      AAACCGCGCCCTCGCCTTCCCCATCGGCGAATTGAAAATTATGGCGAAAGGCAAAGGGCT
 50   GCAAATCATCGGATTAAACGCCGGCGAATCGATGACGCATACCGCCGTTTCTTCCGAGCT
      GGAAATCCTGATTGAAAGCGAAGGCAGGCGCGGCGCGGCGCACAAAGACCGCATCCCCAT
      CTCCCTGCTTGAGGCAAAACGCGGCAAAAAAGGCAGACTATTGCCCATATCGGGCAGCCT
      GAAACAGCTTTCTTCCCCTAAATAAACCCGGTTCCGCACATATTATGGTGATTTCCAACC
      CCCGCGAACTTGAAAAACTCAAAGACCGGATTCCCAATCTGATCAACATCATCCGCGTCG
 55   CCATCGTTTTTCCGCTGATGATTATGCACATCCTCGGGCTGGAAACCGGCAGCCGTGCGA
      ACCTGCACGCTTCGTGGACGGCGTGGGCGTTTTATGTTTGGCTCGCCATTGCCTGCTGGC
      TGATTTTCTTTTCCATTATCCATCCGCATTGGCAATGGCAGTCGCTGAAAATGCCGCGTT
```

-6-

```
    TCAGCGCGGTAGCGGACATCACGATGATCGGCGTGCTGACCTACCTGTTCGGCGGCATCG
    ATTCCGGCTTCGGCATCCTGATCCTGCCCTTCGTCGTCTGCTCCTGCCTGCTCAGCTACG
    GGCGCTACCCCCTGCTCTATTCCAGCTACGCCGCCATCCTGCTGATATTCAACGCCATTG
    CCGACGGCGATATCGGCAAATACCCGCTCATATCGGATGCCCGAACCGCCTCGGCAACCT
 5  TCATCCTTGTCGCCGCCTCCTATCTTTCCGCCATCTTCACCTCACTGTCGGTCAAATACA
    TCGACCGTGCCGGAAAACTCGCCTACGACAGCCATATCGCCTACCACCGCATCAAAGGCT
    TGAGCCAAACCGTACTCGAACGCGTTCAGGAAGCTGTCGTCGTCATCAATGCCGAAGGGC
    TGGCGGTGCTGTTCAACCGGAAGGCGAAAGACCTTTTCCCCGCGCTCGAAATCGGACGGC
    GCGCCGGTCTGTCCGATTCTGCCGCCGAACTGTGGGATCAAGCCTCTCCGCACACTTTCG
10  AATACGTCCTCGGCACACCCGGCCTGAACGCCGGCATCCGCGCCGTTCCGGTCAACAAAG
    GGTCGGACAAGCTGCTCATCCTCTACATCCGCCCGCAAAGCGAAATTCAGGCAGAAGCCC
    TGTCCGTCAAACTTGCCGCGCTCGGACAACTGACCGCCAACCTCGCCCACGAAATCCGCA
    ACCCGATGTCCGCCATCCGCCACGCCAACGACCTGCTGCGCGAAAATATGGAAGCGGGGG
    CGGCAGATCCGTTCAACGCCAAATTGTGCAAAATCATCGACGGCAACATCTGCCGCATCG
15  ACAAAATGCTCGAAGACATTTCCTCGCTCAACAAGCGCAACAAAACCGAACGCGAAACCA
    TCGGCCTGATACCGTTTTGGGAAGAATTCAAACAAGAGTTCCTGCTCGGCCATCCCGATG
    CCGCCGACTGCATCCGTCCGGACATTCAAGGCGGCAGCCCGACCGCCTATTTCGATCCCG
    CCCACCTGCGGCAAATTATGTGGAACCTCGCCAACAACGCGTGGCGGCACAGCCGCAAAC
    AGCCCGGCTCGATTTCCGTCACCATCCGCCCCGCGCAAAAAAACACCGTCTGTATCCTCT
20  TTGCCGACCGCCCGAAGTGCAGGAACACCTGTTCGAACCCTTTTACACCACGGCGGAAAA
    CGGCACCGGCCTCGGGCTGTATGTCGCCCGCGAACTGGCGCACGCCAATTTCGGCGATTT
    GACCTACCTACCGGAAGCCAAATGTTTCGAACTCACATTACCGGAAAAAACCAATGACTG
    AACTGCAACACCCCGTCCTCGTCGTCGATGACGAAACCGACATTCTCGACCTGATGGAAA
    TGACCCTGATGAAAATGGGCTTGCGCGTCCATACCGCGTCAGGCGTTGCCGAAGCCAAAA
25  ACAAGCTCGACAGCCAACGCTATTCGCTCGTCCTGACCGATATGCGTATGCCGGACGGCT
    CGGGGCTGGAAGTCGTCCAACACATCAACAGCCGCCTGCTCGATACGCCGGTTGCCGTCA
    TCACCGCCTTCGGCAACGCCGATCAGGCACAGGAAGCGTTGCGTTGCGGCGCGTTCGACC
    CCGATACCATGCAGATACAGGACTATCTCGACCAAATCGAACGCGACATCATCGAACAAA
    CCCTCAAACAAACCGAAGGCAACCGCACGCAGGCCGCCAAACGCTTGGGCATCAGCTTCC
30  GTTCCATGCGCTACCGTATGGAACGCCTCAACATCGGCTGACGACAAAACGGCATCCGCA
    CCATCTCCGCCCACCCGAAAAAATGCCGTCTGAAACGGCACGGGAAAGCGGGTTCGCCCC
    ACGCCCGAACGGACACAAAACACCATGACCGACATCCTTATTGACAACACCGCCACCGAA
    ACCGTCCGCACCCTGATACGGGCATTCCCCCTTGTGCCCGTTTCCCAACCGCCCGAACAA
    GGCAGTTACCTCCTTGCCGAACACGATACCGTCAGCCTCAGGCTTGTCGGGGAAAAAAGC
35  AGCGTCATCGTCGATTTTGCCTCCGGCGCGGCACAATACCGGCGCACAAAAGGCGGGGGC
    GAACTCATCGCCAAAGCCGTCAACCACACCGCGCACCCCACCGTTTGGGACGCAACCGCA
    GGATTGGGGCGCGACAGCTTCGTCCTCGCCTCGCTCGGGCTGGCCGTTACCGCCTTCGAG
    CAACATCCCGCCGTCGCCTGCCTGCTTTCAGACGGCATCCGCCGCGCCCTCCTCAATCCC
    GAAACGCAAAACACCGCCGCGCACATCAACCTCCATTTCGGCAACGCCGCCGAACAAATG
40  CCCGCACTTGTCCAAACACAAGGCAAACCCGACATCGTCTATCTCGACCCCATGTATCCC
    GAACGCCGCAAAAGTGCCGCCGTTAAAAAAGAAATGACCTACTTCCACCGGCTCGTCGGC
    GAAGCGCAAGATGAAGCGGCACTCCTGCATACCGCACGCCAAACAGCAAAAAAACGCGTC
    GTCGTCAAACGCCCCGCCTCGGCGAACACCTTGCCGGACAAGACCCTGCCTACCAATAC
    ACAGGCAAAAGCACCCGCTTCGACGTTTACCTGCCCTACGGGACGGACAAGGGATAACGC
45  CCATAAAACAAGACACCGAAAAATTTGCCGTTCTTATGCAAACGAGAAACCGGTTTTTGC
    GTTTCGACTGTTTTGGATAAGTCATCACACCTTAAAGTTTGTCATTCCCACAGAAGTGGG
    AATCCGATTCATTCAGTTTTATAGTGGTTTAAATTTAAACCACTATAGTTGTTTTCGAGT
    TTCAGGCAACTTCCAAACCGTCATTCCCACGGAAGTGGGAATCTAGAAATGAAAGGCAAC
    AGGAATTTATCGTAAATGACTGAAACCGAACGGACTAGATTCCCGCCTACGCGGGAATGA
50  CGGGGCGGGCAGATGCCGTCTGAAATTCCGTCATTCCCGTGAAAACGGGAATCTAGAACT
    TCTGATTTTTCAGACGACTTTTGAACATTGCCGCCACCCAATGATCTGGATTCCCACCTG
    CGCGGGAATGACGAGGTTTCAGGTTGCTGTTTTTAAGTTGCTGTTTCGGGTTGCTGTTTT
    TTATGGAAATGACAAGGTTTTAGATTGCGAGAATTTATCCGCTCCTCCGTCATTCCCACG
    GAAGTGGGAATCCAGAAATGAAAAGCAACAGGAATTTATCATAAATGACCGAAACCGAAC
55  GGACTAGATTTCCGACTGCGCGGGAATGACGGGGCGGGAGGATGCCGTCTGAAATTCCGT
    CATTCCCGTGAAAACGGGAATCTAGAACTTCTGATTTTTCAGACGACTTTTGAACATTGC
    CGCTACCCAATGATTTGGATTCCCGCCTGCGCGGGAATGACGATGTAAAATTATCCGGGA
```

```
TTCAAAAAGACAGGCTTTCACATCCGTGGGAATGACTGCGGAAAGATGATTTTTATAGTG
GATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGCAAGG
CGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATATTTTGTCATAAAAATCCGCACC
TTAATCAGTTGGCGGTTAAATCAAACTTTTAGGGTGCAGATTACTTTTTATGATTTCAGA
CAGCATTTTGACAGGCGGCAGCCTATTCGGCAATACCAAAAACTTAATCAGCAGTTCTT
TGAATACAAAACCGAACACGCCCAAGCCCAAAACCAAAAACAAAATGGCGATGCCGAATT
TGCCTGCTTTGGACTCCTTGCCCAAATTCCAAACGATAAAACCCAAAAAAATAATCAAGC
CGGTCAGGCAGATTTTCAACGCCCAATCGGCAAAAACCGCTTCATCCATATTTTTTCCT
ATTGTTGATGTGTATGCCATATAAGATAAGGGTTTCAGACGGCATCTGCTGTCCAATGCC
GTCTGAAACACGCAATCAGCGTGCGAGTGCCTGTTTCAAATCGTCAATCAAATCGCCAAC
ATATTCCAAACCGACCGACAGGCGCACCAATCCGGGGCGGATGTTGGCGGCGAGTTTTTC
TTCGGGCTGCATCCTGCCGTGCGTGGTTGTCCACGGGTGGGTAATGGTCGAGCGCACGTC
ACCGAGGTTGGCGGTGCGGGAAAAGAGTTCCACGCCGTCCACAACTTTCCACGCCGCTTC
TTGATCGGCAACTTCAAAGCCGATGACGATGCCGCCGCCGTTTTGCTGTTTGCGGATAAG
CGCCGCCTGAGGATGGTCGGACAATCCGGTGTAGTACACGGCTTGAACCTGCGGCTGCGC
TTGCAGCCATTGTGCGATTTTCAGGGCGTTGTCGAACTGTTTTTCCATACGCAGCGACAG
GGTTTCCACGCCGCTCAACAACTGCCACGCATTAAACGGCGACATCGCCAGCCCGCAAGA
GTTGCAATACATGGCGACCTGCGCCAACAACTCTTCCGAACCCGCCAACACGCCGCCCAT
CACACGCCCGTGTCCGTCTATGGCTTTGGTCGCGGAGGAAACGGAAATATCCGCACCGTG
TTTCAAAGGCTGCGAGCCGACGGGCGACAGCAGGCTGTTGTCCACCACCAAGAGCGCGCC
GATGCCGTGCGCCAATTCCGCCAAGGCTTCCAAGTCGGCCACTTCGCCTAAGGGGTTGGA
CGGCGTTTCCAAAAACAGCAGTTTGGTATTGGCTTTGACGGCGGCTTTCCATTCGTTTAT
ATCAGTCGGCGACACGTGGCTCACTTCGATGCCGAATTTGGCAACGATGTTATTGATAAA
GCCGACGGTCGTGCCGAACAGGCTGCGGCTGGAAATCACATGGTCGCCCGCCTGCAAAAA
GGTGAAAAACGCCGCCTGAATCGCAGACATACCCGCCGAAGTGGCGACCGCGCGTTCCGC
ACCTTCCAAAGCGGCGATGCGTTTTTCAAAGGCGGCTGTGGTCGGGTTGGCGGTACGGGT
ATAAGTGAACCCTTTGATTTTTTTTGAAAACAAATCGGCAGCGTGTTGGGCGTTGTCCCA
CATGAAGCTGCTGGTCAGAAACAATGCCTGATTGTGTTCGCGGTATTCGGTTTGTTCTTT
GCCGCCGCGTATGGCGAGCGTTTGCGGATGGAGTTTTTTGCTCATCGGTGATTCCTCGGT
TTTGTCCGTTCGGCAACGGAGCGTGCGCCCGTTGTTTAATTTGTTAATATTTTGCGCCTG
TTCTATGATGCTTTCAAGTCGGATGAGAATGCAAATGCCGTCTGAAACGGCTTTCAGACG
GCATGGCAATCAGCGTTTGTATTTTAACTCGTACTTGATGTCGTTGAGGATTTTGCGGAC
ATCGTGTTCCAACACGTCTTCGACTACCGCCCCCGCCTGCTCGTGCAGCATCTGCTGGAG
CTGATAGGTGAAAAACCGCCATCTGCTTTTGCACCGCCGTTCGGATGATGCCGTTGACGGT
ATCGGTCAGATGCGGGCGCAGGCGTTTGATCAGCCGTTCGGTCAGCTCCTGTTCGGACAG
GCAGAACACTTCGCGCCGGTTGACGGCTTTCGGGTTCAGGATATTGATTTGGACGGGCAT
CAACGTTTCTTCCGCATCGTTTTCCCCGTTTTCCGAAACCGCCGGCTCATTCGTGCCGGA
TTCTGCCTCGTCGGCGTTTTCCCCGCTTTCAATCTGTCCGGTTTCAAATTCGACACTGTC
TTTTTTGGTATCAAACCGGATTCTCCGCCGCGATTCGATGTGTTTTTCCGAAACCGACAT
TTGCAGGGAAGCCTGCGCGTTGAGCCAGTTTTCCTGAAGGACGATCATCGGGTCGGTTTC
GACTTCCTCGCCGCAATCGGCAACGGCGGCATTGTGTTCCTCCTGCCATTTTTTCAGATA
CGCCTTCAACACACGGGCTCGGCTCTCATCGTCCAGTTTCGGCACAGGCGCGTCCGTTCC
GGTTTCAGAGGGGCGGGACAGCGGCGCGTAAGTCGGCACTGCCTTCATACGGCGCGTCTG
ACGCAGGTTTTCCAAACGTTTTTCCCAATTCGGCTCTTTATTCGCATCCATTTTCGGCTT
CCGGTTCTTAATCTTTGCAAGCAGACAAACCCGCGCCCAAAGCGCGGTTTGATATAATGG
CGCATTTTAACAGATTCGCGAGGATACATCATGGGCAGCATCGAACAGCGTTTGGAATAT
CTGGAAGAGGCGAACGACGTGCTGCGTATGCAGAACCACGTCCTGTCCACCGCATTCAAA
GCCTTAATCCGCGCCCTTCCCGCCGAAACCGCCGAAATCGCGGTCGAGTCGATTCAGCTT
GCTTTTGAGGACGCCTTGGCAGAATTGAGCTATGAGGACAGCCCGCATACGGATTTGTTC
CACGACGTTACTTATGCGTTTTTCCGTGAAAAGAACGTTAATTTTATGTTAAACTGATT
TTTTAGGCTTTTTGATTACCGAAAGGAATTTTGATGAATATGAAAAAAATGGATTGCCGCC
GCCCTTGCCTGTTCCGCGCTCGCGCTGTCTGCCTGCGGCGGTCAGGGCAAAGATACCGCC
GCGCCTGCCGCCAACCCCGACAAAGTGTACCGCGTGGCTTCCAACGCCGAGTTTGCCCCC
TTTGAATCTTTAGACTCGAAAGGCAATGTCGAAGGTTTCGATGTGGATTTGATGAACGCG
ATGGCGAAGGCGGGCAATTTTAAAAATCGAATTCAAACACCAGCCGTGGGACAGCCTTTTC
CCCGCCTTAAACAACGGCGATGCGGACGTTGTGATGTCGGGCGTAACCATTACCGACGAC
CGCAAACAGTCTATGGACTTCAGCGACCCGTATTTTGAAATCACCCAAGTCGTCCTCGTT
```

-8-

CCGAAAGGCAAAAAAGTATCTTCTTCCGAAGATTTGAAAAACATGAACAAAGTCGGCGTG
GTAACCGGCTACACGGGCGATTTCTCCGTATCCAAACTCTTGGGCAACGACAATCCGAAA
ATCGCGCGCTTTGAAAACGTTCCCCTGATTATCAAAGAACTGGAAAACGGCGGCTTGGAT
TCCGTGGTCAGCGACAGCGCGGTCATCGCCAATTATGTGAAAAACAATCCGGCCAAAGGG
5   ATGGACTTCGTTACCCTGCCCGACTTCACCACCGAACACTACGGCATCGCGGTACGCAAA
GGCGACGAAGCAACCGTCAAAATGCTGAACGATGCGTTGGAAAAAGTACGCGAAAGCGGC
GAATACGACAAGATTTACGCCAAATATTTTGCAAAAGAAGACGGACAGGCCGCAAAATAA
GCCCGCCCGTCCGAACACAATGCCGTCTGAAGCCCTTTCAGACGGCATTGTTCATCAATC
GGCCTACAATGAACTGCCTGCTGATTTCTCCCTACCGCAAAGCAACAGGCAAAGATTACA
10 AATATCAAAATCCGAGTAAAACAGTATTTTATTAAAACAAATTGATAATCAAGAGATTAG
AATTATGTATTGTCTTTACCGTACAAACGCTGGCACTATTTCAACCTGATAAAAAACAGC
CTTCAAAAAGGTTGTTTAAAACAGCAGCAGACACTTACCGCCACAACCTTGAAAAGGAAC
ACAATCATGACCGTCATCAAACAGGAAGACTTTATCCAAAGCATTTGCGATGCCTTCCAA
TTCATCAGCTACTATCATCCCAAAGACTACATCGACGCGCTTTATAAGGCGTGGCAGAAG
15 GAAGAAATCCTGCCGCCAAAGACGCGATGACGCAGATTTTGGTCAACAGCCGTATGTGT
GCGGAAAACAACCGCCCCATCTGCCAAGACACAGGTATCGCAACCGTCTTCCTCAAAGTC
GGTATGAACGTCCAATGGGATGCGGACATGAGCGTGGAAGAGATGGTTAACGAAGGCGTA
CGCCGCGCCTACACTTGGGAAGGCAATACGCTGCGCGCTTCCGTCCTCGCCGATCCGGCC
GGCAAACGCCAAAACACCAAAGACAACACCCCCGCCGTCATCCATATGAGCATCGTGCCG
20 GGCGGTAAAGTCGAAGTAACCTGCGCGGCAAAAGGCGGCGGCTCTGAAAACAAATCCAAA
CTCGCCATGCTCAATCCTTCCGACAACATCGTCGATTGGGTATTGAAAACCATCCCGACC
ATGGGCGCGGGCTGGTGTCCTCCCGGCATCTTGGGTATCGGCATCGGCGGCACGCCCGAA
AAAGCCGTGCTGATGGCAAAAGAGTCCCTGATGAGCCACATCGACATTCAAGAATTGCAG
GAAAAGGCCGCGTCCGGCGCGGAATTGTCCACCACCGAAGCCCTGCGCCTCGAACTCTTT
25 GAAAAAGTCAACGCGCTGGGCATCGGCGCACAAGGCTTGGGCGGACTGACCACCGTGTTG
GACGTGAAAATCCTCGATTATCCGACCCACGCCGCCTCCAAACCGATTGCCATGATTCCG
AACTGCGCCGCCACCCGCCACGTCGAATTTGAATTGGACGGCTCAGGCCCTGTCGAACTC
ACGCCGCCGCGCGTCGAAGACTGGCCCGATTTGACTTACAGCCCCGACAACGGCAAACGC
GTCGATGTCGACAAGCTGACCAAAGAAGAAGTGGCAAGCTGGAAAACCGGCGACGTATTG
30 CTGTTGAACGGCAAAATCCTCACCGGCCGCGATGCCGCACACAAACGCCTCGTCGATATG
CTCAACAAAGGCGAAGAATTGCCCGTCGATTTCACCAACCGCCTGATTTACTACGTCGGC
CCCGTCGATCCGGTCGGCGATGAAGTCGTCGGTCCGGCAGGTCCGACCACAGCCACCCGC
ATGGACAAATTCACCCGCCAAATGCTCGAACAAACCGACCTCTTGGGCATGATCGGCAAA
TCCGAGCGCGGCGTGGCCCACCTGCGAAGCCATCGCCGACAACAAAGCCGTGTACCTCATG
35 GCAGTCGGCGGCGCGGCGTATCTCGTGGCAAAAGCCATCAAATCTTCCAAAGTCTTGGCG
TTCCCCGAATTGGGCATGGAAGCCATTTACGAATTTGAAGTCAAAGACATGCCCGTAACC
GTCGCCGTAGATAGCAAAGGCGAATCCATCCACGCCACCGCCCCGCGCAAATGGCAGGCG
AAAATCGGCATCATCCCCCGTCGAATCTTGAGGCGCCATGCCGTCTGAACACAAAATCTGC
CTTCAGACGGCATTTCCGCCCCCGGTTGCGGTACAATCCACCATTTCATCACTCGGCGAC
40 CCACACCGTGAAAATCCTCATTTTAGGCAACGGACAGGTAGGTTCTACCGTCGCACAAAA
CCTTGCCGCCATACCCAACAACGACGTAACCGTTATCGACATCGACGAAAAAGCATTGCA
GGAAACAGGCAGCCGCCTCGATGTCCAAACCGTTTTCGGCAACGGCGCATCCCCCTTCAC
ATTAGAACGCGCCGGCGCGGAAGATGCCGACTTGCTGCTCGCGCTCTCCCGCAGCGACGA
AACCAACATCGTCGCCTGCAAAGTTGCCGCCGACCTGTTCAACATCCCCGGCCGCATCGC
45 GCGCGTCCGTTCCAGCGAATACCTCGAATACCTCAGCCCCAAGCTCGAAAACAACGAAAA
CGGCAGCCTTTCCATATTCGGCATAACCGAAACCATCAGCCCCGAACAGCTCGTTACCGA
ACAGCTTGCCGGCCTGATAGACTGCCCGGGCGCATTGCAGGTTTTACGTTTTGCAGACGA
CCGCGTGCGGATGGTCATCATACAGGCGCGGCGCGGCGGACTGCTTGTCGGACGCAGCAT
TGCCGACATCGCCCAAGATTTGCCCGACGGGGCCGACTGCCAAATCTGCGCCGTTTACCG
50 CAACAACCGCCTCATCGTCCCCGCGCCGCAAACCGTCATCATCGAAGGCGACGAAATCCT
ATTTGCCGCCGCCGCCGAAAACATCGGCGCGGTCATACCCGAATTGCGCCCCAAAGAAAC
CAGCACCCGCCGCATCATGATTGCCGGCGGCGGCAACATCGGCTACCGTCTCGCCAAGCA
GCTCGAACACGCATACAACGTCAAAATCATCGAATGCCGGCCGCGCCGTGCCGAATGGAT
AGCCGAAAACCTCGACAACACCCTCGTCCTGCAAGGTTCGGCAACCGACGAAACCCTGCT
55 CGACAACGAATACATCGACGAAATCGACGTATTCTGCGCCCTGACCAACGACGACGAAAG
CAACATTATGTCCGCCCTTTTGGCGAAAAACCTCGGCGCGAAGCGCGTCATCGGCATCGT
CAACCGCTCAAGCTACGTCGATTTGCTCGAAGGCAACAAAATCGACATCGTCGTCTCCCC

-9-

CCACCTCATCACCATCGGCTCGATACTCGCCCACATCCGGCGCGGCGACATCGTTGCCGT
CCACCCCATCCGGCGCGGCACGGCGGAAGCCATCGAAGTCGTCGCACACGGCGACAAAAA
AACTTCCGCCATCATCGGCAGGCGCATCAGCGGCATCAAATGGCCCGAAGGCTGCCACAT
TGCCGCCGTCGTCCGCGCCGGAACCGGCGAAACCATTATGGGACACCATACCGAAACCGT
CATCCAAGACGGCGACCACATCATCTTTTTCGTCTCGCGCCGGCGCATCCTGAACGAACT
GGAAAAACTCATCCAGGTCAAAATGGGCTTTTTCGGATAAACCGCCCCATTCCGGACATA
TTGCCGCCAAGCGGTATGGAAGCGGAAATAATGGTAGGTGGGCTTCAGACGGCATCCGCC
CTCCCCGTCATTCCCGCGTAAGCGGGCATCCAGACCTTGGGATAGCGGCAATATTCAAAG
GTTATAAAAGACCCGTCATTCCCGCGCAGGCGGGAATCCAGACCTTGGGATAGCGGCAAT
ATTCAAAGGTTATCTGAAAATTTAGAGGTTCTAGATTCCCGCTTTCGCGGGAATGACGAA
AAGTTGCGGGAATCCAGAACGTCGGGCAACGGCAATATTCAAAAGCCGTCTGAAAATTTA
AAAGTTCTAGATTCCCGCTTTCGCGGGAATGACGAAGTTTCAGACGGCATCGCCCGCCTG
TTTTGATATAGCGGCACCCCCCCGACAAAAAAACAATCCGGAACGCATCTGACCGTTCCG
GCTTGTTTTCAGGCGAATCCGCCGCATCAGAACATACTGCGCACGCCCATATTGACCTGC
CAAGTCTAGCGCATCGTGTGCATCGAAGACCTTTGCGCCTCAAAATAAAGCTGCCTTCCG
TTGTCGGCATTACCACGCAAAAAAATGAATTGCTTGATATTCCAATGTTTTTTATATGTT
TTTATATTGTGATGCGATCAGACAAACGCCCCCCTGACATTTGTTTAGACGGCATCGTAT
TGCTAAATTTCTATAAGTATGTATAATGTCCGTTTCCACGCGCCCATCGTCTAGAGGCCT
AGGACACTGCCCTTTCACGGCGGCAACCGGGGTTCGAATCCCCGTGGGCGTGCCAATTCA
AAAACCTGCTTGTTTCAAGCAGGTTTTTTATTATGAGTCGTCATTCCCGCAATTTTTCGT
CATTCCCGCAAAAGCGGGAATCTAGAGCGTAGGGTTGAAGAAACCGTTTTATCCGATAAG
TTTCCGTGCCGACAGGTCTGGATTmCCGCCTGCGCGGGAAGGACGGCAGAGGGTGGACGA
TGCCGTCTGAAGCCTGACAAAGCATTTGATGCCGTCTGAAACTTCGTCATTCCCGCAAAA
GCGGGAATCTAGAGCGTAGGGTTGAAGAAACCGTTTTATCCGATAAGTTTCCGTGCCGAC
AGGTCTGGATTCCCGCTTTCGTAGGAATGACGGAATTTTAGGTTTCTGTTTTTGTGGAAA
TGACGAATAAAGCGTGCCGGTTTATGCTCGCCGCAACACGCGGTTCAGACGGCATTGCTC
TCTTTTTTCATTATCAGTGGGTGTAGCAACTGTATTTTTCACCCCGTCGGGCAAAAATAC
AGTTGCTACGATGCACCCCGCCGCCCTGCCCTGTGCCTTGTCCTGCAATACGGCATATAA
TGCACCACAAACCCCGCGCTGCGGTTTTCAGACGGCATCGCCGTGCTTTTTTACAGGCA
TTAGCCCTTTTTATCGGACGCAATATTAAGGAGGAACAAATGAAAAGCTCTTTTGTGCAA
ACGCTTACCATCGCCGGTTCGGATTCGGGCGGCGGTGCGGGCATTCAGGCGGATTTGAAA
ACATTTCAGATGCGCGGCGTGTTCGGAACGTGCGTCATCACCGCCGTTACCGCGCAAAAT
ACCTTGGGCGTGTCGGCGGTTCATCTCGTCCCGACCGAAACCATCACCGCACAAATCCAA
GCAATCAGGGAAGACTTCGACATCCGCGCCTACAAAATCGGTATGCTCGGCACGGCGGAA
ATCATCGAATGCGTTGCCGACAAGCTGAAACACTGCAGCTTTGGCAGGCGCGTACTCGAC
CCTGTGATGATTGCCAAAGGCGGTGCGCCGCTGTTGCAGGATTCCGCCGTTGCGGCACTG
ACGCGCCTGCTGCTTCCCGATACGGATGTATTGACCCCCAACCTGCCCGAAGCGGAAGCT
CTGACCGGCGTGCATATTGAAAACCGTAAAGATGCGGAACGTGCGGCAAAAATCCTGCTT
GATTACGGTGTCAAAAATGTCGTTATCAAAGGCGGACATTTGAACGGCAGCACAAGCGGA
CGCTGCACGGATTGGCTGTTTACACAAAATGAAACGCTGGAATTCGACAGCCCGCGCTTT
CCGACCGCCCACACGCACGGCACGGGCTGCACGTTTTCCGCCTGCATCACCGCCGAGTTG
GCAAAAGGCTCGGACGTTTGCGAAGCCGTACAGACTGCCAAGGCCTACATCACGGCGGCA
ATCTCAAACCCTTTGGAAATCGGCGCAGGACACGGCCCGGTCAATCATTGGGCGTATCGG
GACTAACCGTAAAAATGCCGTCTGAAACAAAATGTTCAGACGGCATTTTTGAGGATTATT
CAGGCTTTTTCGCCAGCATCGTTACAAATTTAAACCGTATCGGATTGCCGTTTTCGTCTT
TGGCATGCATAGAACCCAATTCTTCTTTATATTCGACCAGTTCCCAATCCCGATAATAAT
CCTTCAGCTCGCCCTCTTTAAATTTAAAAGGGAACGGCATCGGACAGGGGAAATCCGCCG
TATCCATTGCCGATACAATCAAGTTGTACCCGCCCGCCGCCGTATGCGCCTGCATATCGG
CAATCACGTCGGGTACGCGCTGCGGCATCAGGAACATCAGCACCACTGTTGCCACAATAT
AATCAAACTCGCCCTGCAAGGCGGCGGCGTTCAAATCATATTCCAGCGTGCGGACGTTCA
AACCCTCCGCCTCTGCCAGCTCCGCCACGTTTGCCAAGGCGGCGGGATTGTGATCGACTG
CAGTAACTTCAAACCCCTTCAAACCGAGAAACAGCGCGTTGCGCCCCTGTCCGCAGCCCA
TATCCAACGCCCTGCCCGCCGGTACGGTATCCCGTGCCGCCGCGACCGCAGAATGCGTGG
CACTCATCCCGTATTTTTTGTGAAAATAGTCTGCCGCCGCGCAATACAGCGACAAACGGA
TTTCGGCATCGTCCGTTTTCGGTTTGACAGAAAACACCTGCTGCGGCGCAAACACACAAT
CGCCGCCGTCTGCCGACCAAACTTCTGCCGACCCGTCCGGTGCACGAACTTCGACATCGC
CCTGCAACACATTCAGGCAGACCCACTCCCCTTCCTCAGACGAATAGCCCGACAACAAAA

```
CTTCCGGCAGGTTTTCCACTTTCCATACAGGCATCTGTCCGAAACAAAACAACTCGCCAC
TTTGACCCACTATCCGCTCCTTCAwATTCAAAAATAAAGTTGCACATTATATGCCTATTT
TAATCCGCCGCAATCTTTCAGACGGCACGGCGCGCAAACCGCTTATAATCACGCCGGACA
CCACACAAAGGCACAATAATGAACCAAACCGTTTACCTTTACACCGACGGCGCGTGCAAA
GGCAATCCCGGCGCGGGCGGCTGGGGCGTGTTAATGCGCTACGGTAGCCACGAAAAAGAA
CTTTTCGGCGGCGAAGCGCAAACCACCAACAACCGCATGGAACTGACTGCCGTCATCGAA
GGACTGAAATCGCTCAAACGCCGCTGCACCGTCATCATCTGCACCGACTCGCAATACGTC
AAAAATGGCATGGAAAACTGGATACACGGTTGGAAGCGCAACGGCTGGAAAACCGCCTCC
AAACAGCCCGTCAAAAACGACGACTTGTGGAAAGAACTCGACGCTCTAGTCGGACGGCAT
CAAGTCAGTTGGACTTGGGTGAAAGGACACGCGGGACACGCCGAAAACGAACGCGCCGAC
GATTTGGCAAACCGTGGCGCAGCGCAGTTTTCCTGACTGCCGCTCCGGCAAAAATGCCGT
CTGAAACCGCTAATGGGCTTCAGACGGCATCGTCCTCCACCGTCATTCCCGCGCAAGCGG
GAATCCAAACCGTCGGGCAACGGCAATATTCAAAGATTATCTGAAAGTTTGAAGTTCTAG
ATTCCCGTTTTCACGGGAATGACGAAAAGTTGCAAGAATGACGGAGTTTCAGGCGGCATC
CGACCGCCCCGTCATTCCCGCGAAAGCGGGAATCTAAAAACCCAACGCTGCAAGATTTAT
CAGAAACAACTGAAACCGAACGGACTGGATTCCCGCCTGCGCGGGAATGACGGGATTTTA
GTAACCGTAGCAACCGCCTGCGCGACGGCTAAGGGGCTTCAGCAACCGTAGCAACTGCCT
GTGTGGGAATGACGGACAATGGGCTTCAGACGGCATCTCTTGCCTGCCGCTAAAACAGTT
TGCCGCACAACTGTTCAAACGCGTCCGATATGTTTCAACACACAGGACGACACATAAAGC
ACCTCCCTATGTGTCGTCCTGATTTGGAAGGGGTTACACCCCCTCCCAAATAAAGTCTGA
TCCTGCCGCCCTAAAGGGCGGGGTTTCAACCGAAAAGGAAATACGATGAAGTGGTACAAT
TAGCGGCAATGCGGACAGACAAATTAAACTATAGTGGATTAAATTTAAACCAGTACGGCG
TTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCG
GTTCTGTACTATTTGTACTGTCTGCGGCTTCGTTGCCTTGTCCTGATTTTTGTTAATCCG
CTATATCAGAAATTACCCTACCGTTTTTTAAACACTTTCAGGAATAAGGAAAAATGACCG
CCCAACCCTGCCCCATCTGCACGGCGCAAAATGAAGACGTTTTGCTGCAAACCCCCAACC
TCCGCGTCATCGCCGTCCATAACGACAGCGGTTCGCCTGCATTCTGCCGCGTCATTTGGC
GTAAGCATATTGCCGAAATGACCGACCTTTCGGCAGCGGAACGCGGCGAATTGATGGAAA
TGGTGTACAAAGTCGAAGCCGCTATGCGCCAAGTGTTCCGGCCGGCAAAAATCAACCTCG
CCAGCTTGGGCAATGTCGTGCCGCACCTGCATTGGCATATTATCGCCCGCTTTGAAAACG
ATGCGTCTTTCCCCGCGCCGATTTGGGCAAACCCCGTCCGGAAACACGGTATGACCCTGC
CGCAAGATTGGACGGAACAGCTTAAAAAGCTGCTTTAAGCCCGCCGATGCCGTCTGAAAC
CGTATGAAAGGGAAATTATGACCGAACCGACCTCCCGCCGCCGTTTTCTGAAAACCTGCA
CCGCCGCTGCCGGCGCGGGGCTGCTTCAGGCTTGCGGCACATCCGCCACATCCGTTCCGC
CCCTTCCCTCTTCCCATTCCGTTGTGAAAGCCCGAACCGTGCCTCTCCAAACGCCACGCC
GTCAAAGTTCGGACGGCAACCTTCTGCGCGTTGTCGCTTCGTCAGGATTTGCCGAAGACA
CCAACCGCGTCAACACAGCCTTAACCCGCCTTTACAATGTCGGTTTTACCGTAACCAACC
AACAGGCGGGCAGCCGCCGTTTCCAACGGTTTGCCGGCACGGACACGCAACGTGCCGCCG
ATTTCCAAGAGGTCGCTTCCGGCCGCGTCGCCACGCCTAAAGTGCTGATGGGTTTGCGCG
GCGGTTACGGTGCGGCGCGCGGATTCTGCCGCATATCGATTTTGCTTCGCTCGGCGCAAGGA
TGCGCGAACACGGCACGCTCTTTTTCGGATTCAGCGACGTATGCGCCGTCCAGCTGGCAT
TGTTGGCAAAAGGCAATATGATGAGTTTTGCCGGCCCGATGGCTTATAGCGATTTTGGCA
AACCCGCCCCCGGTGCGTTTACGATGGATGCCTTTATCAAGGGTGCAACCCAAAACCGCC
TGACCGTTGATGTTCCTTATATCCAACGCGCCGATGTCGAAACCGAAGGCATATTGTGGG
GCGGCAACTTAAGCGTCCTCGCCTCGCTCGCCGGCACGCCTTATATGCCCGACATCGACG
GCGGCATTTTGTTCCTCGAAGATGTCGGCGAACAGCCCTACCGCATCGAACGTATGCTCA
ATACGCTGTATCTTTCGGGTATTTTGAAGAAACAGCGCGCCATCGTGTTCGGCAATTTCC
GTATGGAAAAAATTCGAGATGTCTATGATCCGTCTTATGATTTTTCTGCCGTTGCCAACC
ATGTTTCGCGCACGGCGAAAATCCCCGTGCTGACGGGCTTCCCGTTCGGACACATTGCCG
ACAAAATCACTTTCCCTCTAGGCGCGCACGCCCGAATCCGTATGAACGGAAACAGCGGTT
ATTCGGTCGCGTTTGAAGGCTACCCCACACTCGATGCGTCCGCCCTGACTTTGGATACCC
TGCTCCCACCGCCGGATTTGCCCATCTTCCCCGAAAGCGGTGTTGCCGATATTTCGGAAT
AAACCCGCAAACGGACAAATGCCGTCTGAAGCCTTCAGACGGCATTTCCCAAGACGGCGG
CAGATTACAGCAATGCCCGAATATCGGCTTCGATTCTTCGGGCGTAACACTAGGCGCAA
AACGCTCGACCACTTCGCCGTCGCGGTTGACGAGGAATTTGGTAAAGTTCCATTTGATGT
CGCCTTCGTCGCGCTTCTCTCCCAAAGCTGCGAGCTTCAACACGAAATCTTTAAACAGAT
GATTGCCTTTATCTTGCGGTTTGACGGATTTCAGGTAGGCATACAAGGGCGCGGTATTTG
```

-11-

```
    CTCCATTGACTTCGATTTTGTCGAAAATCTTAAACTTCGTGCCAAACTTCATCATACACA
    CTTGGGCAATTTCTCCGCTGCTTTCGGGAGCCTGTTCGCGGAACTGGTTGCACGGAAAAT
    CCAAAATCTCCAAGCCTTCTGCGGTATATTGTGCATACAGCTTCTGCAAAGCCTCGTATT
    GCGGGGTCAGACCGCAACGCGTTGCCGTGTTGACAATCAGCAGAACCTTGCCGCGATAGC
  5 CTGACAAATCAACCGCATTGCCTTCTGCATCTTTCATTTGAAAATCGTAAATACCCATTT
    TTATCCTTATCTGATGTAAACCGATGCCATCTGAAACGTGCTTCAGACGGCATGAAAGCA
    GCAATTGTATAGCCGATTAAAATAAAAAATCCACATCCTTTTCCATTCCCGTCCCAATCC
    GCAATAAAAAACTGCACCCGAAACGGGTGCAGTTGCTCATTTCATACCGCAAAACTTAT
    TTGTCGCGGCCGAATACGATTTTAGTGGCTTGGATGGCGACACAGATTGCACCGCCGATA
 10 AAGACCAAGTCAGCTGCCGTACGTACCCAACGCAAGGTATCGAGGATTTCCATTTGCAGG
    AACTCTTCGCTGCGGGCATACCACAGACCGTGCGTGATGGAGGCGTATGCCTGAATCGCG
    CCGACAGGCAGCAGGCTGATGGCAATCATACCGGCCAAGCCGCCGTTGAGCAGCCAGAAG
    CCCCAAGTCATCAGTTTGTCGTCAAACTGCGCGTTCGGTTTCAAATAACGGGCAACCAGC
    AATACGAAGCCCAATGCCAAGAAACCGTACACACCAAACAAGGCGGCGTGCGCGTGAACG
 15 GCAGAAGTGTTCAAACCTTGGATATAGAACAGGGAAATCGGCGGATTGATCAGGAAGCCG
    AATACGCCGGCACCGATCATATTCCAAAAGGCGACTGCCACGAAGCACATCAGCGGCCAA
    CGCAGGCGTTTCGCCCAGTCGGACAGGTGTTGGTAAGACCAGTGTTCGTATGCTTCACGG
    CCCAGCAACACCAGCGGCACGACTTCCAAAGCGGAGAAGCAGGCACCGATTGCCATAGAG
    GCGGAGGTAGAGCCGGAGAAGTACAGGTGGTGCAGCGTGCCCGGAACGCCGCCCAACATA
 20 AAGATGGCGGCAGCGGCCAAAGTGGAGGCAGTGGCGGTACTGCGGCGGACAAAGCCCATA
    TTGTAGAAGACAAAGGCAAAGGCGGCAGTGGCAAATACTTCGAAGAAGCCTTCTACCCAC
    AGGTGAACCACCCACCAACGCCAGTATTCCATAACGGCAATCGGGGATTTTTCGCCATAG
    AACAGGCCTGGTGCGTAGAATACGCCCACACCGACCATAGAAGCTACGAAGATAGCCAAC
    AGGTTTTTGTCCACGCCTTTTTCTTTAAAGGCGGAAACCGTGCAACGCAACATCAGGAAC
 25 AGCCATAACAGCAGACCGACCATCAAAAGGAGTTGCCAGAAACGTCCCAAATCGAGGTAT
    TCGTAACCTTGGTGTCCGAACCAGAAGTTAAATTCCGGGGGAAGGATGTGCGTCAACGCG
    AAGAAGTTGCCCGCGTAAGAACCGCCGACCACGATGAAGAGGGCGATATAGAGGAAGTTT
    ACGCCGGCACGTTGGAACTTGGGATCTTTACCGCCGTTGACAATCGGCGCGAGGAACAAA
    CCTGCCGTCAAAAAGCCGGTTGCAATCCAGAAGATGGCGGATTGGATGTGCCAAGTACGG
 30 GTCAGGGCGTAGGGGAACCAGTCGGACATTTCAAAGCCCAACGCCTCGTCAATGCCGTAG
    AAACCCTGGCCTTCGACGGTGTAGTGCGCGGTCAGTCCGCCCAGCAATACTTGTACCACA
    AACAGGGCGACCGTCAGGAAGACGTATTTGCCCAATGCTTTTTGCGAAGGGGTCAGTTGG
    ATTTTGGAAATCGGGTCTTCAGACGGCACTTCCACTTCCTCGTGTTTGGTCAGGAAGGAA
    TAACCCCACATCAGCAAACCGATGCCCATCAGCAGAAGAACAACGCTGGTGAATGACCAC
 35 ATATAGTTTTCAGTGGTCGGTACGTTGTTGATCAAAGGTTCGTGCGGCCAGTTGTTGGTG
    TAAGTAAAATTCTCGTCAGGACGGTTGGTCGAAGCAGACCAAGAAGTCCAGAAGAAGAAG
    TTGAACAGTTTTTCACGCGCTTCTTGGCTTGGCAATGTATTGTTTTTCATTGCAAAGTGT
    TCGCGAGTGGTTTGGAACTTAGGATCGTCGCTGTACACACCGTGGTAGTAAGGCAGGATG
    CTTTCGATGGCTTTCACGCGCGTATCGCTGATGACGACGCTGCCGTCTTCCTTCACGCGG
 40 CTTTGATTGCGGTATTCGTCGGCCAGGCGTGTTTTCAAGACGGCTTGTTCCTCGGGGGAA
    ACCTCGTCGAATTTTTTGCCGTAAGTCTGTTGCGCGGTCAAATCCAACCAGGCAACCAAC
    TCACGATGCAGCCAGTCCGCCGTCCAGTCCGGAGCCTGATATGCACCGTGACCCAAAATC
    GAACCGACTTCCATACCGCCGGTAGTCTGCCATGCAGACTGACCTGCCAAAATATCGTCT
    TTCGTCATCAAGACCTTGCCGGATGCGGAAACGACCTGTTCGGGGTAAGGCGGGGCTTTT
 45 TTGTAAACCTCGCTGCCCATATAGCCAAGAATGGTAAAGCATACCGGGTAC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 2>:

 50 **gnm_2**

```
    CGAGGCGCAGATACAGGTTTTGGAAGATGTGCACGTCAAGGCGAAGCGCGTACCGAAAGA
    CAAAAAAGTGTTTACCGATGCGCGTGCCGTATCGACCCGTCAGGATATATTCAAATCCAG
    CGAAAACCTCGACAACATCGTACGCAGCATCCCCGGTGCGTTTACACAGCAAGATAAAAG
```

```
CTCGGGCATTGTGTCTTTGAATATTCGCGGCGACAGCGGGTTCGGGCGGGTCAATACGAT
GGTGGACGGCATCACGCAGACCTTTTATTCGACTTCTACCGATGCGGGCAGGGCAGGCGG
TTCATCTCAATTCGGTGCATCTGTCGACAGCAATTTTATTGCCGGACTGGATGTCGTCAA
AGGCAGCTTCAGCGGCTCGGCAGGCATCAACAGCCTTGCCGGTTCGGCGAATCTGCGGAC
TTTAGGCGTGGATGACGTCGTTCAGGGCAATAATACCTACGGCCTGCTGCTAAAAGGTCT
GACCGGCACCAATTCAACCAAAGGTAATGCGATGGCGGCGATAGGTGCGCGCAAATGGCT
GGAAAGCGGAGCATCTGTCGGTGTGCTTTACGGGCACAGCAgGCGCAGCGTGGCGCAAAA
TTACCGCGTGGGCGGCGGCGGGCAGCACATCGGAAATTTTGGCGCGGAATATTTGGAACG
GCGCAAGCAGCGATATTTTGTACAAGAGGGTGCTTTGAAATTCAATTCCGACAGCGGAAA
ATGGGAGCGGGATTTACAAAGGCAACAGTGGAAATACAAGCCGTATAAAAATTACAACAA
CCAAGAACTACAAAAATACATCGAAGAGCATGACAAAAGCTGGCGGGAAAACCTGGCAAC
CGCAATACGACATTACCCCCATCGATCCGTCCAGCCTGAAGCAGCAGTCGGCAGGCAATC
TGTTTAAATTGGAATACGACGGCGTATTCAATAAATACACGGCGCAATTTCGCGATTTAA
ACACCAAAATCGGCAGCCGCAAAATCATCAACCGCAATTATCAGTTCAATTACGGTTTGT
CTTTGAACCCGTATACCAACCTCAATCTGACCGCAGCCTACAATTCGGGCAGGCAGAAAT
ATCCGAAAGGGTCGAAGTTTACAGGCTGGGGGCTTTTAAAGGATTTTGAAACCTACAACA
ACGCGAAAATCCTCGACCTCAACAACACCGCCACCTTCCGGCTGCCCCGCGAAACCGAGT
TGCAAACCACTTTGGGCTTCAATTATTTCCACAACGAATACGGCAAAAACCGCTTTCCTG
AAGAATTGGGGCTGTTTTTCGACGGTCCTGATCAGGACAACGGGCTTTATTCCTATTTGG
GGCGGTTTAAGGGCGATAAAGGGCTGCTGCCCCAAAAATCAACCATTGTCCAACCGGCCG
GCAGCCAATATTTCAACACGTTCTACTTCGATGCCGCGCTCAAAAAAGACATTTACCGCT
TAAACTACAGCACCAATACCGTCGGCTACCGTTTCGGCGGCGAATATACGGGCTATTACG
GCTCGGATGACGAATTTAAGCGGGCATTCGGAGAAAACTCGCCGACATACAAGAAACATT
GCAACCGGAGCTGCGGGATTTATGAACCCGTATTGAAAAAATACGGCAAAAAGCGCGCCA
ACAACCATTCGGTCAGCATTAGTGCGGACTTCGGCGATTATTTCATGCCGTTCGCCAGCT
ATTCGCGCACACACCGTATGCCCAACATCCAAGAAATGTATTTTTCCCAAATCGGCGACT
CCGGCGTTCACACCGCCTTAAAACCAGAGCGCGCAAACACTTGGCAATTTGGCTTCAATA
CCTATAAAAAAGGATTGTTAAAACAAGATGATACATTAGGATTAAAACTGGTCGGCTACC
GCAGCCGCATCGACAACTACATCCACAACGTTTACGGGAAATGGTGGGATTTGAACGGGG
ATATTCCGAGCTGGGTCAGCAGCACCGGGCTTGCCTACACCATCCAACATCGCAATTTCA
AAGACAAAGTGCACAAACACGGTTTTGAGTTGGAGCTGAATTACGATTATGGGCGTTTTT
TCACCAACCTTTCTTACGCCTATCAAAAAAGCACGCAACCGACCAACTTCAGCGATGCGA
GCGAATCGCCCAACAATGCGTCCAAAGAAGACCAACTCAAACAAGGTTATGGGTTGAGCA
GGGTTTCCGCCCTGCCGCGAGATTACGGACGTTTGGAAGTCGGTACGCGCTGGTTGGGCA
ACAAACTGACTTTGGGCGGCGCGATGCGCTATTTCGGCAAGAGCATCCGCGCGACGGCTG
AAGAACGCTATATCGACGGCACCAACGGGGGAAATACCAGCAATTTCCGGCAACTGGGCA
AGCGTTCCATCAAACAAACCGAAACTCTTGCCCGCCAGCCTTTGATTTTTGATTTTTACG
CCGCTTACGAGCCGAAGAAAAACCTTATTTTCCGCGCCGAAGTCAAAAATCTGTTCGACA
GGCGTTATATCGATCCGCTCGATGCGGGCAATGATGCGGCAACGCAGCGTTATTACAGCT
CGTTCGACCCGAAAGACAAGGACGAAGACGTAACGTGTAATGCTGATAAAACGTTGTGCA
ACGGCAAATACGGCGGCACAAGCAAAGCGTATTGACCAATTTTGCACGCGGACGCACCT
TTTTGATGACGATGAGCTACAAGTTTTAAAGGCAGCCCGCATTTTGTAGAAAACCGCAAT
GCCGTCTGAAAGCCCTTCAGACGGCATTTGTTTCCCCAAACGCATCATCCTGCCGCAAGC
CTATGCCAATCCGTTTTATCGCATCGGCAACTCAAAGAAAAATCCATTTCATTCCCACGC
AGGGAAGCCGGTTTTTGATTTCGGTTATTTTTGGTTGTTTCGGGTAATTTATGAGTCGTC
ATTCCCGCAAAAGCGGGAATCAGTTTTTTTAAGTTTCAGCCATTTCCGATAAATTCCTGT
GGCTTTAGCTTTCCGGATTCCCACTTTCGTGAGAATGACGTGGTGCAGGTTTCCGTACGG
ATGGATTCGTCATTCCCGCGCAGGCGGGAATCTAGACCGTTCGGTTTCGGTTTTTTTGGT
TAGTGCCGCAACATTAAATTTCTAGATTCCCACTTTCGTGGGAATGACGGCGGAGCGGTT
TCTGCTTTTTCCAATAAATGCCCCCAACCTAAAATCCGTCATTCCCGCGCAGGCGGGAAT
CTAGACATTCAATGCTAAGGCAATTTATCGGAAATGACTGAAACTCAAAAAACTAGATTC
CCACTTTCGTGGGAATGACGTGGTGCAGGTTTCCGTATGGATGGATTCGTCATTCCCGCG
CAGGCGGGAATCTAGTCCGTTCGGTTTCGGTTTTTTTGGCTAATGCCGCAACATTAAATT
TCTAGATTCCCACTTTCGTGGGAATGACGGCGGAGCGGTTGCTGTTTTTCCCAATAAATG
CCCCCCAACCTAAAATCCGTCATTCCCGCGCAGGCGGGAATCTAGTCCGTTCGGTTTCGG
TTTTTTTGGCTAGTGCCGCAACATTAAATTTCTAGATTCCCACTTTCGTGGGAATGACGG
CGGAGCGGTTTCTGCTTTTTCCCAATAAATGCCCCCAACCTAAAATCCGTCATTCCCGCGC
```

```
     AGGCGGGAATTTAGACATTCAACGCTAAGGCAATTTATCGGAAATGACTGAAACTCAAAA
     AACTGGATTCCCTCTTTCGTGGGAATGACGTAGTGCAGGTTTCCGTACGGATGGATTCGT
     CATTCCCGCGCAGGCGGGAATCTAGACATTCAATGCTAAGGCAATTTATCGGAAATGACT
     GAAACTCAAAAAACTGGATTCCCGCTTTCGTGGGAATGACGCGATTAGAGTTTCAAAATT
  5  TATTCTAAATAGCTGAAACTCAACGCACTGGATTCCCGCCTGAGCGGGAATGACGAAGTG
     GAAGTTACCCGAAACTTAAAACAAGCGAAACCGAACGAACTGGATTCCCACTTTCGTGGG
     AATGACGGAATGTAGGTTCGTGGGAATGACGGGATGCAGGTTTCCGATGGATGGATTCGT
     CATTCCCGCGCAGGCGGGAATCTAGACATTCAACGCTAAGGCAATTTATCGGAAATGACT
     GAAACTCAAAAAACTGGATTCCCACTTTTGTGGGAATGACGCGATTAGAGTTTCAAAATT
 10  TATTCTAAATAGCTGAAACTCAACGCACTGGATTCCCGCCTGAGCGGGAATGACGAATTT
     CAGGTTGCTGTTTTGGTTTTCTGTTTTTGTGAAAATAATGGGATTTTAGCTTGTGGGTA
     TTTACCGGAAAAAACAGAAACCGCTCCGCCGTCATTCCCGCGCAGGCGGGAATCTAGTCC
     GTTCGGTTTCGGTTTTTTTGGCTAGTGCCGCAACATTAAATTTCTAGATTCCCACTTTCG
     TGGGAATGACGGGATGTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAG
 15  CTCAAAGAGAACGATTGTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTT
     GTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTGTTAATCCACTATAAATTTAATC
     CACTATATTTTTGTTCCAAAGTCAAAATATGCCGTCCGAACATTCGGGCGGCAGACAAA
     ACGGCACTGCCCGATAAAGGCAGTGCCGTTGTCCGTTTCAAACCGTGAAACATCAGCCCA
     AATTAAAGGCTTTATGCAATACCCTGGTTGCCAGTTCCATGTATTTTTCATCAATCAATA
 20  CGGAAACTTTGATTTCGGAGGTGGAAATCATTTGGATGTTGATACCCTCTTCGGCGAGCG
     TGCGGAAGATTTTGGCGGCTACACCGACGTGCGAACGCATACCCAAACCGACTGCGGAGA
     CTTTGCATACGGTGTCGTCGCCATCAATAGAAGCCGCGCCGATACTGTCTTGGCGTTCCG
     ACAGGATTTCCAAAGTCTGCTTGTAATCGCCGCGCGGTACGGTAAAGGAAAAATCGGTTG
     TGCCTTCGCTGCCGACATTTTGGATAATCATATCGACTTCGATGTTGGCATCGGCAACCG
 25  CGCCTAAAATCTGATAGGCGACGCCAGGTTTGTCGGGTACGCCGCGCACGTTGATGCGGG
     CTTGGTTTTTATCGAATGCGATACCGGTTACGGCAGCTCTTTCCATGTTGTCGTCCTCTT
     CAAAGGTAATTAAGGTGCCATTGCCGCCGTCTTGCAGGCTGCTCAGTACGCGCAGGCGCA
     CTTTGTATTTTCCGGCGAATTCTACTGAACGGATTTGCAAAACTTTCGAACCGAGGCTTG
     CCAGTTCGATCATTTCTTCAAATGTAACCGTATCCATGCGGCGCGCTTCGGGTACGACGC
 30  GGGGGTCGGTTGTGTAAACGCCGTCTACGTCGGTATAGATTTGGCACTCGTCGGCTTTGA
     GCGCGGCGGCAAGCGCGACGGCGGAAGTGTCGGAACCGCCGCGTCCGAGCGTGGAAATAT
     CGCCTTCACTGCTGATGCCTTGGAAGCCGGCAACGATGACGACTTTGCCGGCGGTAAGGT
     CGGCACGCATTTTTTCGTCATCAATGCTTTCGATGCGGGCTTTGGTGTGGGCGGTATCGG
     TTTTGAGGGCGACCTGCCAGCCTGTGTAGCTTTTGGCATCCACGCCGATGTCTTTCAATG
 35  CCATCGCCAAAAGGCCGATGGTTACTTGTTCGCCGGTAGCTAAGACGACGTCCAGCTCGC
     GCGGATCGGGATGCTCTTGCATTTCGTGCGCCAGTGCGACCAGTCGGTTGGTTTCGCCGC
     TCATGGCGGATACGACGACTACGATGTCGTGTCCTTCGGCGCGGGCTTTGGCGACACGTT
     TGGCTACGTTTTTGATGCGTTCGGGCGAGCCTACTGATGTGCCGCCGTATTTATGTACGA
     TTAACGCCATGTTTCGTGCTTTCTTGTGGGGGTTGTCGGGCAGCTTGGTTTGCTGGAAAA
 40  AGGGTTATTATTACTATTTTTTACATGGAATTCAAGAACGGACTGCGCTTTCCCGCCTGC
     CGTTTGACAGCGGTCAGCGAAAAACCTGTTCTTTCAGATTGTTGACAAAATGCCGTCTGA
     ACGGTTTTCAGACGGCATCCGGACGACAATCAGGCGGCGGACAACGCATTTTGCTGGTGT
     TGCAGCAGTTCGCCTATGCCTTTTTGCGCCAGTGCAACCAGTTTGCCCAATTCGTCCAAA
     CTGAACGGCGCGTCTTCCGCCGTCCCCTGTATTTCGATGATTTTTCCCGATGCGGTCATG
 45  ACGATATTCACATCACTGTCGCAACCGGAGTCTTCGGGATAATCCAAATCCAAAAGCGGC
     ACGCCGTTCACTACGCCTACTGACACAGCGGCAACGGCTTCGCGGATGGGGTTTTCACTC
     AAAATGCCGTCTGAAACCAGTTTGCCGACGGCGATTTGCAGCGCGACAAACGCACCGGTA
     ATCGAAGCCGTGCGCGTACCGCCGTCTGCCTGAATCACATCGCAGTCAATCAAGATTTGT
     CGTTCACCGAGTTTTTCCATATCCACGACCGCGCGCAGGGAACGCCCGATCAAACGTTGG
 50  ATTTCTTGTGTGCGCCCGGACTGTTTGCCCGCCGAAGCTTCGCGGAGCATCCGGGAAGCA
     GTTGAGGCAGGCAGCATCCCGTATTCCGCCGTTACCCAGCCTTGGTTTTTACCGCGCAGA
     AACGGCGGGACGTTTTCATCTATGGAAGCGGTACAAATCACTTTGGTATTGCCGCATTCA
     ATAAGGCACGAACCGTCCGTATGCGGCAGGAAATGAGGGGTGATTTTGATATCGCGCAGG
     CTGTCGGCGGCGCGCGAGATGCGGATGTAATCAGGCATACTGCCCTCCCGTTAAAAACAG
 55  ATAAATTAAAAAGCCTTAAATATGAAAAATCACATTTAAGGCCTTCAAACTGAAAATTTC
     TACGCCTCTTCGGCTTTGCTGCGGATAATCAAAAGCGGCAGGTGGCTTTGGCGCATTACC
     GTTTCGGCAAAACTGCCCATTAAAAGGTGCATCAGCCCGGTACGTCCGTGCGTACCCAAC
```

-14-

```
    ACCAGCAGGTCGGCACCGTTTTCATCGGCATAATCAACCAAATCCTGCGCCATTTCACGC
    GCACCCTTATTGGCAACCAGCAGGTGTTTGACGGTATTTTCCACACCCAGTTCCTGGGCG
    GTGCGCTCGGCGGCATCCAAAACTTCGTTGCCTTGCGCGACGGCGGCGGCTTCGTAGCTT
    TCGTGTTGCAAAAATTCGGGGGCGAGTGCCATATATTCGGCAGGATTGGCAACGTGCACC
5   AAAGTCAGGCGCGCACCGTTGACCCCGGCAAGCTCGGCGGCATGTTTCAGGGCATTGATG
    GACGTTTCACTGCCGTCAACGGCAACAACCAAATGTTTGTACATATCGTATTCTCCTTTT
    GCACCGCCTCGCGGTGCCCTCTTGTCGGATGGGCGCAGGGACAGTTTGCGCTGTTTCATT
    ATAGACCCGCCGTCGGGCTTTATACAACAGCCGAACAGCCCGACCGCTTCCAGTATAAT
    ATGCCGCTTCCGTGCAGTCAGGCATTTTTGCCGGCTTTCGTTCACTTTTTGATTTGACG
10  CAATCTTGCAGGATTCGACCATGTCCGACAACGCTTTGACCTCTTCGCGACGCTTCGGCG
    GCATCGCCAGACTCTACGGAGACTCTGCCTTGGCGCACTTTTCACAGGCACACGTCTGCG
    TAGTCGGCGTGGGCGGTGTCGGCTCGTGGGCGGTCGAGGCTTTGGCGCGGACGGGCATCG
    GACGTTTGACTTTGATTGATTTGGACAACGTTGCCGAATCGAATGTCAACCGCCAGCTGC
    ACGCCCTGACCGGCGACTTCGGCAAAGCAAAGTTACCGCCTTGCGCGAACGCATTACAC
15  AAATTAATCCGCAATGCGAAGTGTTTGAAATTGAAGATTTCGTTACCGAAGACAATTTGC
    CGGAATACTTCGGAAAAGGTTTTGATTTCGTCATCGACGCGATCGACCAAGTGCGCGTCA
    AAGCAGCAATGGCGGCTTATTTTGTGGAACGCAAACAACCGTTTGTCCTCAGCGGCGGCG
    CGGGCGGACAAAAAAATCCGGCGTTAATCCAAACCGCCGATTTGAGCCGCGTAACCCACG
    ACCCGCTGCTTGCCAACCTGCGCTACACCTTGCGGAAACGCTACGGATTCAGCCGCGATA
20  CGAAAGCAAATATGCGCGTGCCTTGCGTGTATTCGACCGAAAATATCGTGCCGCCGCAGT
    CTAGGGAGGCTTGTTCGGCAGATGCCGCTCCGCAAGGCTTGTCGTGCGCCGGCTACGGTG
    CAAGCATGCTCGTTACCGCTTCGTTCGGGCTATATTGCGCACAGGCGGCGGTGGAACACA
    TCGCAGACAAAAAATAAGCAATGCCGTCTGAAACAGGATTCAGACGGCATTTGAACAAAC
    TATGGTTATGATTTAAGACAACAAAGGATACGGATAAAAAATAACATAAAATATATGATT
25  CCTAATAATATACCAAGTATCGGAGAGCTATTTAATGGAATTCGTTAATAATTTAGTTAT
    TTTTTCATTTTTATTACTAATGCTTATTCCGATATTTTTTGTAGTATATGGTATATACCA
    TAAGATACGTTATCGCAAAATATGTATCCTAAGAACAAGTTTTATATTATTAGTGGTAAT
    ACTTTGCAGTATGTATTACATATATTGCCGTTATCTTGACCAACAAAAGTAGCTTATTA
    TTGCATAGATGAACAATGTATTTCTATTGTTCATCTATACAAAGATTATGGTATAAACTC
30  TCCCACATATGCGAGAATTTACGCAGGAAAAATATTGTTTAGATTTCAAGTAAGAGCTAA
    AAATTACGCTGAATTACTTATGGAAGATGATATATCAATTAGTAAAAAAATTTTGGGGAA
    TAAATTTATCATTTATGGGTCGCTACCTGTAATATACGGTAATGTAGATAATATTGAAGT
    AAAAGAAGCTACTGGTTATATAGATAGATCCAGTACTGATTATATTGTCTCAAGAAACTT
    AAAATTCAGACATTTATATTAATTAAGAGGTTTTAGCAAGAGTGCCGTCAAAATATAGGG
35  CGCATCATCGAATTCGCGAAAGACAAACGCTACGATGAACGTTTCAAGGATTTGAAAAAA
    GAATCCATAGGCTATCTGAACCGGCATCCCGGTTTGGTGTCCGACTACCTGAAGGCGGCA
    ATCAAGCTGTCGGTTCAGAAAAACCAACATCAGCACGCCTAAAACCGTATTCACAACCTG
    CTCCTTTTCAAAACATTTGCATTTAAAAGCCGTTATAATGCCGTCTGAACATCTGCCCGA
    CCACATTATACGTGAATGTCGGCAGATTGTTTTCTTTTGTAAACTTATATTAAAATCCAC
40  TTACCGATTCACGCCATGCCGCCCATCCCTGCCCCATCTGCACCATCCGAGCACACTGTC
    GCATGGGTATTCGGCCAACCCGTTACCGATTTGCCCCAGGATTTGTTTATTCCGCCCGAT
    GCATTGAAAGTCGTATTGGGCAGCTTCCAAGGCCCTTTGGATCTACTGCTGTATCTGATC
    CGCAAACAGAATATCGACGTACTGGATATTCCGATGGTGAAGATTACCGAGCAGTATCTG
    CACTACATCGCCCAAATAGAAACCTATCAGTTTGATTTGGCGGCGGAATATCTTTTGATG
45  GCAGCAATGCTGATTGAAATCAAATCGCGCCTGCTGCTGCCGCGTACCGAAACCGTCGAA
    GACGAAGAAGCCGACCCGCGTGCCGAGTTGGTGCGCCGCCTGCTGGCTTACGAACAGATG
    AAGCTGGCGGCGCAGGGTTTGGACGCGCTGCCCCGAGCCGGACGGGATTTCGCGTGGGCT
    TACCTGCCGCTGGAAATTGCCGTCGAAGCCAAGCTGCCCGAAGTCTATATTACCGACTTG
    ACGCAAGCGTGGCTGGGTATTTTGTCTCGGGCAAAACACACGCGCAGCCACGAAGTAATC
50  AAAGAAACCATCTCCGTGCGCGCGCAAATGACGGCAATCCTGCGCCGTTTGAACGGACAC
    GGAATATGCAGGTTTCACGACCTGTTCAATCCCAAACAGGGCGCGGCTTACGTGGTCGTC
    AACTTCATCGCACTGTTGGAGCTTGCCAAAGAAGGATTGGTCAGAATCGTGCAGGAAGAC
    GGTTTCGGAGAAATCCGAATCAGCCTCAATCATGAGGGGGCGCATTCAGACGGCATTTCC
    GGCACACGAGGCGGGCGCGATGTGTTCTAATACGCCCCAAGCCGCCACCAAAAATCGGGA
55  GACACGCCATATGACCGGCATCATACATTCGCTGCTTGACACCGACCTCTACAAATTCAC
    TATGCTGCAAGTGGTTCTGCACCAGTTTCCGCAGACGCACAGCCTTTACGAATTCCGCTG
    CCGCAACGCCTCGACCGTCTATCCGCTTGCCGACATCAGGGAAGACTTGGAAGCCGAACT
```

```
    CGACGCGCTCTGCCAACTACGCTTCACCCACGACGAACTCGGCTATCTGCGCTCCCTGCG
    TTTCATTAAAAGCGACTTTGTCGATTATCTCGAACTCTTCCAGCTCCAACGCCGCTTTGT
    CGAAATCGGCACAGACGATAAAGACCGTCTGAACATCCGCATCGAAGGTCCGATGATACA
    GGCGATGTTTTTGAAATCTTCATCCTCGCCATTGTCAACGAACTTTACTTCCGCCGCCT
5   GGAAACCCCTGCAGTCATAGAAGAAGGCGAACGCCGGCTTCAAGCCAAAGCCGCGCGCCT
    CAAAGAAATCGCCGCCGCACAAAACCCCGACGAACCGCCCTTCCTGATTTCCGACTTCGG
    CACGCGCCGCCGCTACAAGCTCGCGTGGCAGGAACACGTCATCCGCACCCTGCTTGAAGC
    CGCCCCCGGCATCGTACGCGGCACCAGCAATGTCTTTCTCGCCAAAAAACTCGGCATCAC
    CCCCATCGGCACCATGGCGCACGAGTTCCTGCAGGCATTCCAGGCCCTCGACGTACGCCT
10  GCGGAATTTCCAAAAGGCCGCGCTCGAAAGCTGGGTGCACGAATACCGGGGCGATTTGGG
    CGTTGCCCTGACCGACGTGGTCGGTATGGATGCCTTCCTGCGCGATTTCGACCTCTATTT
    CGCCAAACTTTTCGACGGGCTGCGCCACGACAGCGGCGACCCTTACGTTTGGGGCGACAA
    AGCCTACGCCCACTATCAAAAGCTCAAAATCGACAGCCGCACCAAAATGCTGACCTTCTC
    CGACGGGCTGGACATCGAACGCTCTTGGGCATTGCACCAATATTTCAAAGACCGCTTCAA
15  AACCGGCTTCGGCATCGGCACCAACCTCACCAACGATATGGGGCATACGCCCTTGAATAT
    CGTCTTGAAACTGGTCGAATGCAACGGGCAGTCCGTCGCCAAGCTGTCCGACTCTCCGGG
    CAAAACCATGACCAACAACAGCACCTTCCTCGCCTACCTGCGCCAAGTGTTCGACGTACC
    CGAACCCGAAACGCCGTAAACCGGCAGAAAAAGCGCACAATTCCTGTTTCTGCCGCATAA
    AATCTTTTAAAATACCGCCTGATTTGAATTTAACCGAAAGACCGAACTTCATGAACCTAC
20  ATCAAACCGTCGAACACGAAGCCGCCGCCGCCTTTGCCGCCGCAGGCATCGCCGACAGCC
    CTATTGTTTTGCAGCCGACCAAAAACGCCGAACACGGCGATTTCCAAATCAACGGCGTGA
    TGGGTGCGGCGAAAAAAGCCAAACAAAACCCGCGCGAGTTGGCGCAAAAGGTCGCCGAAG
    CATTGGCGGACAACGCCGTGATTGAAAGCGCGGAAGTCGCCGGTCCGGGCTTCATCAACC
    TGCGCCTGCGCCCCGAATTTCTCGCGCAAAACATTCAGACGGCCTTGAACGACGCTCGTT
25  TCGGCGTGGCAAAAACCGACAAACCGCAAACCGTCGTTATCGACTATTCTTCGCCCAATC
    TGGCGAAGGAAATGCACGTCGGCCACCTGCGTTCCAGCATCATCGGCGACAGCATTTCGC
    GCGTGTTGGCATTTATGGGCAATACCGTTATCCGTCAAAACCACGTCGGCGACTGGGGTA
    CGCAGTTCGGTATGTTGGTCGCTTATTTGGTCGAGCAGCAAAAAGACAATGCCGCGTTCG
    AGCTGGCGGATTTGGAGCAGTTTTACCGCGCCGCCAAAGTGCGCTTTGACGAAGACCCTG
30  CCTTTGCCGACACCGCACGCGAATACGTTGTGAAGCTGCAAGGCGGCGATGAAACCGTTT
    TGGCATTGTGGAAACAGTTTGTCGATATTTCGCTCTCGCACGCCCAAGCCGTTTACGACA
    CGCTGGGCTTGAAGCTGCGTCCTGAAGACGTGGCAGGCGAATCGAAATACAACGACGATT
    TGCAGCCCGTGGTCGATGATTTGGTTCAAAAAGGTCTGGCGGTTGAGGACGACGGCGCGA
    AAGTCGTGTTCTTGGACGAATTTAAAAACAAAGAAGGCGAACCCGCCGCATTTATCGTGC
35  AAAAACAAGGCGGCGGCTTCCTCTACGCCTCCACCGATTTGGCGTGCCTGCGCTACCGCA
    TAGGCCGTCTGAAAGCCGACCGCCTGCTGTACGTCGTCGACCACCGCCAAGCCCTGCACT
    TCGAACAACTTTTCACCACTTCCCGCAAAGCAGGCTATCTGCCGGAAAACGTCGGCGCGG
    CATTTATCGGCTTCGGCACCATGATGGGCAAAGACGGCAAGCCGTTCAAAACGCGCAGCG
    GCGACACCGTGAAACTGGTCGATCTGCTGACCGAAGCCGTCGAGCGCGCCACCGCTTTGG
40  TGAAAGAAAAAATCCCGAATTGGGTGCGGACGAAGCCGCTAAAATCGGTAAAACCGTCG
    GCATCGGCGCAGTCAAATACGCCGACTTGAGCAAAAACCGCACCAGCGACTATGTGTTCG
    ACTGGGATGCCATGCTCTCGTTTGAAGGCAACACCGCCCCCTATCTGCAATACGCCTACA
    CCCGCGTGCAAAGCGTGTTCCGCAAAGCAGGCGAATGGGATGCAAATGCGCCAACCGTTT
    TGACCGAACCGCTGGAAAAAACAGCTTGCCGCCGAGCTGCTGAAATTTGAAGACGTACTGC
45  AAAGCGTGGCGGACACGGCGTATCCGCACTACCTCGCCGCCTACCTCTATCAAATTGCGA
    CCCTGTTCAGCCGCTTCTACGAAGCCTGTCCGATACTCAAAGCCGAAGGCGCAAGCCGCA
    ACAGCCGCCTGCAACTGGCAAAACTCACCGGCGACACGCTGAAACAAGGCTTGGATTTGC
    TGGGCATCGATGTGTTGGACGTAATGTAAAACCGCACCGCCCGATTGCGGACAACAGCCT
    CGCCATCCTTATCCGAATCTGAAAAAAGCGGCGCGATACACCGTATCCGCCGCCCCTCCC
50  AAAATGCGAAACAAACAAACGCCAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAGCA
    AGCAAGCAAAAAATTATAACCCCCTTCCTGCCGACGCACGCACTTTCCGCGCGGCGCATT
    CCCCTTTTCCCGCCCCTCAAATCCGCCTTTTCTTCAGGCAGGGTTTCAGCCCGCCTCTTT
    TCCCTGTTTTCCTTTCCCCGACACGCGTGCGCTCCCCCTGCCGCACTGTGCTGCACTTTC
    GCGCCCGGACGGCATCGTTCCGCCATCCGGTTCTCTGTTTTACATACCCCTGTTTCAGAA
55  AGAAATGCAGATGTTTCAACACACAGGACGACACATAAAGCACCGCCCTATGTGTTGCCC
    TGATTTGGAAGGGGTTACGCCTCCCAAATAAAGTCTGATCCTGCCGCCCCGAAGGACAGA
    TGTCCGAGTGGCGAAGTTTCAACCGAAAAGGAAATACGATGAATATTCACACCCTGCTCT
```

```
   CCAAACAATGGACGCTGCCGCCATTCCTGCCGAAACGGCTGCTGCTGTCCCTGCTGATAC
   TGCTTGCCCCCAATGCGGTGTTTTGGGTTTTGGCACTGCTGACCGCCACCGCCCGCCCGA
   TTGTCAATTTGGACTATCTTCCCGCCGCGCTGCTGATCGCCCTGCCTTGGCGTTTCGTCA
   AAATTGCCGGCGTATTGGCGTTTTGGCTGGCGGTTTTGTTTGACGGGCTGATGATGGTGA
 5 TCCAACTCTTCCCTTTTATGGATCTCATCGGCGCCATCAACCTCGTCCCCTTCATCCTGA
   CCGCCCCCGCCCCTTATCAGATAATGACCGGGCTGTTGCTGCTGTATATGCTGGCGATGC
   CGTTTGTGTTGCAGAAAGCCGCCGCCAAAACCGACTTCCGGCACATTGCCGTCTGCGCCG
   CCGTTGTGGCGGCAGCCGGCTATTTCACCGGCCATTTGAGTTACTACGACCGGGGTCGGA
   TGGCCAATATCTTCGGCGCAAACAACTTCTACTACGCCAAAAGTCAGGCGATGCTCTACA
10 CCGTCAGCCAGAATGCCGACTTTATTACCGCCGGCCTGGTCGATCCCGTCTTCCTCCCCT
   TGGGCAATCAACAGCGTGCCGCCACGCATCTGAACGAGCCGAAATCTCAAAAAATCCTCT
   TTATCGTCGCCGAATCTTGGGGGCTGCCGGCCAATCCCGAACTTCAAAACGCCACTTTTG
   CCAAACTGCTGGCGCAAAAAGACCGTTTTTCGGTTTGGGAAAGCGGCAGTTTTCCCTTCA
   TCGGCGCGACGGTCGAAGGCGAAATGCGCGAACTGTGTGCCTACGGCGGTTTGCGCGGGT
15 TCGCACTGCGCCGCGCGCCCGACGAAAAATTTGCCCGCTGCCTCCCCAACCGTTTGAAAC
   AAGAAGGTTACGCCACCTTTGCGATGCACGGCGCGGGCAGTTCGCTTTACGACCGCTTCA
   GCTGGTATCCGAGGGCGGGCTTTCAAGAAATCAAAACCGCCGAAAACCTGATCGGTAAAA
   AAACCTGCGCCATTTTCGGCGGCGTGTGCGACAGCGAGCTGTTCGGCGAAGTGTCGGCAT
   TTTTCAAAAAACACGACAAGGGACTGTTTTACTGGATGACGCTGACCAGCCACGCCGACT
20 ATCCCGAATCCGACATTTTCAACCACAGGCTCAAATGCACCGAATATGGCCTGCCCGCCG
   AAACCGACCTCTGCCGCAATTTCAGCCTGCACACCCAATTCTTCGACCAACTGGCGGATT
   TGATCCAACGCCCCGAAATGAAAGGCACGGAAGTCATCATCGTCGGCGACCATCCGCCGC
   CCGTCGGCAACCTCAATGAAACCTTCCGCTACCTCAAACAGGGGCACGTCGCCTGGCTGA
   ACTTCAAAATCAAATAACAACAATGCCGTCTGAACGCACCAACAGCCTTCAGACGGCATT
25 TTGCAGACAGACCGACCCTTCAAGCCCACTTTTTTCATCATCTCCGATAAATTGCTTTGT
   ATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTC
   TCTAAGGTACTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTC
   GTCGCCTTGTCCTGATTTTTGTTAATCCGCCATAAAGACCGTCGGGCATCTGCAGCCGTC
   ATTCCCGCGCAGGCGGGAATCCAGAACGTGGAATCTAAAGAAACCGTTTTACCCGATAAG
30 TTTCCGCACCGACAGACCTAGATTCCCGCCTGCGCGGGAATGACGGGATTTTAGGTTTCT
   GATTTTGGTTTTCTGTCCTTGTGGGAATGACGGGATGTAGGTTCATAGGAATGACGTGGT
   GCAGGTTTCCGTATGGATGGATTCGTCGTTCCCGCGAAAGCGGGAATCCGGAAACCCAAA
   GCCACGGGAATTTATCGGAAAAACCGAAACCGCTCCGCCGTCATTCCCGCGCAGGCGGGA
   ATCTAGGTCTGTCGGTGCGGAAACTTATCGGATAAAACGGTTTCTTCAGATTTTACGTTC
35 TGGATTCCCACTTTCGTGGGAATGACGGGATGTAGGTTCGTAGGAATGACGTGGTGCAGG
   TTTCCGTATGGATGGATTCCCTCTTGCGTGAGGCTGACAGATGCCGTCTGAAAGACTTT
   CAGACGGCATAGCTTTTTCTCTTTGAATTTATAGTGGATTAACAAAAATCAGGACAAGGC
   GGCGAGCCGCAGACAGTACAGATAGTACGGAACCGATTCACTCGGTGCTTCAGCACCTTA
   GAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACG
40 ATAAATTTGCCACAAAAAAGCTGCCTCAAATGAATACCCGGGCAGCTTTTTGTTGATATG
   ACTCCAATCAGCGGTGTTGCGGATTGTAACGTTTTTCCAAACGCAGGAATATCCAGCCTA
   AGAAAGTCGTCATCAACAGATAAATCAGGGCGACGGTGTAAAGCGGTTCTTCATAAACCG
   AATACCGGCCCGTAATCGTATTCTGAACATACGCCAACTCCGCCACAGCAATGACCGACA
   GCAGCGAGCTGTCTTTCAAGAGCGTGATGAACTCGCTCGCCAAAGGCGGCAGCATGCGGC
45 GCAATGCCTGCGGCAGAATCACATAGCGCATCGCCTGCGGATAGGTCAGCCCCAAAGAAC
   GCGCCGCCTCCATCTGTCCTTTGTCTATAGACTGGATGCCCGCGCGGAAAATCTCACAGA
   TATACGCCCCCGAGTTGGCGATCAGTGCCAAAGAACCGGCAATCAGCGGCCCGTATCCGC
   GACGCAGCGCGATTGCCGCCTCGCCGCTGACCAAAATGCCGTCTGAAGGATGGACGAAAA
   ACGGAAACCACACATACGCCCAAATCACAATCTGCACAAACAGCGGCGTACCCCGGAACA
50 GCGTAACATACAGCAGCGAAACTTTACGCAACGCCCACGCCAGCACGCGCATCGGCGCAC
   CGGCTTTTTCCAAGTGAATCAGGCGCGCCAACGCCAACAACAGACCCAATACCGAACCGC
   CCGCCGTTGCCACGACCGTCAGCCCCAAGGTCGTCAGTGCGCCGTAAAGAAACATCCAGC
   GGTATTCGTAAATAATGTCAAAACGAAATCCATAAACCGTCCGTATCAAAAACCGGCGG
   AACTGCCGCCGTTGCAAAATAATCCGCCATTTTACCGTAAAAACCGCCGCCTGAACTTTT
55 TTATCGCGGCAGACGGCGGTTGCGCGTCTCCGCAAAAATGCAGGGCGCGCGGTTTTCAGA
   CGGCATTTGCCGTTCAAAGCCGTGCGGTGTCTTTACCAAATGCCCAACCATTCGCCCACG
   GCATCCATCCAATCCTTATTGCCCCCGCCGCTCCTGCCTGCTCGGCGGTACGCCCACGGC
```

-17-

```
GCTTGCGGATTTTTAGCTTTCCACAATCCTTTGCGTTCCCTTTCCGCCTGAATTTGAGCG
TCGGCATAATCGGCAAAATCCGCCTTATCCTGCTGTTCTTTAGCATAACTTTTATAATGC
CACGCCGCCCCGTCCTGCACCTGCATCAGGTTCAAATCGGTTTTGCCGACAGAAACCTGC
GCCACTTCGCGCTGGTAGCGGTCGGTATCGAACACGCGCACGCTGACTTTCCTGCCTTCC
GCCGCCGCGCGCAGGTTGTCGCGCGAACGCGTGCCGTAAGCCTGTTTCATCTCCGGCGCG
TCGATATACGCCATCCGGATTTTGTGTTTCGCGCCGTCGCCGTCGATAACGTGAAGGGTG
TCGCCGTCATAGACTTTGGACACCGTGCCTGTGTAGCGGTGGCCGGATTTCGCCGATGCT
CGGCGGCGGGCGGGCGCGTCGGAACCCGCGTCCCCTGCCGCGCCGAGTACGTCGAGTACG
GCAACCGCCGTCCGCACCGCCTCGCTGCCGTACCCCGTATAACCCAACGCACCCAAAAGC
GACAGGGCGACGGGAAGCCATTTCATGATTTTTTTAATCTGCATATTTTTCAAATGCCGA
TGCCGTCTGAACATATCGGAATCGGATTTCAGACGGCATCTTAACGTCAGGATTACCCTT
GGCAGGGATAGATGACTTTCGCACCCTCTTCCGTCCCCAAAATCAACACATCGGCGGCAT
CGCGGGCGAATATGCCGTTTTCGAGCACGCCGGTGATTTTGTTGATTTCGTCTTCCATCG
TCAGCGGCTGATCGATATTCAAGCCGTGGACATCGACGATTTGGTTGCCGTAAAACGTGG
TGTAGCCGATACGCAGTTCGGGCTGTCCGCCCATAGCGAGCAGTTTGCGCGAAACAAGAG
AGCGCGCGCTTTCGACGACTTCCACAGGCAGAGGGAATTTGCCCAAACGTGAAACATATT
TGCTTTCATCCGCAATGCAGATGAATTTTTCGGACGCGCTGGCGACGATTTTTTCGTTGA
GGTGCGCGCCGCCACCGCCTTTAATCATTTGCAGGGCGTGGTTCACTTCATCCGCACCGT
CGATATAGACCGCCAACCCCGATACTTCGTTCAAAGAAACGACGGGAATATCGTACTGGG
CAAGCAGTTCGCCGGATTTTTTGGAAGTAGATACCGCGCCTTTGATTTTTTTGCCGCTCT
TACCCAAGGCTTCGATGAAAAAGTTGATGGTCGAGCCGGTACCGATGCCGATATATTCAT
TTTCGGGTACGAATTCGACTGCTTTTTCGGCGGCGATGCGCTTGAGTTCGTCTTGTGTCG
TCATATTTTTGTCCTTTGGGAAACCGTATCAACAAACAGCCGCCATCTTAACATTTTTTT
GCACGTCCTGCCCGCCGCGTTCAAATGCGTACCAGCAATACCGCCGCCTGCGCCTCTATG
CCTTCCATCCGCCCGAGATAGCCGAGTTTTTCGTTGGTTTTGCCTTTGATGTTGACGCAC
GAAATGTCTATGCCCAAATCGGCGGCGATGTTGGCACGCATTTGCGGAATGTGCGGCGCG
AGTTTGGGTTTCTGTGCAATCACGGTCGTATCGACATTGACCGCCTGCCAACCCTGCGCC
TGAACGCTTTGATACGCCGCACGCAAAAGGACGCGGCTGTCCGCATCTTTGAACTCTGCG
GCGGTGTCGGGGAAATGGCTGCCGATATCGCCCAAACCTGCCGCACCGAGCAGCGCGTCG
GTAACGGCGTGCAGCAGCGCATCGGCATCGGAGTGTCCGAGCAGCCCTTTTTCAAATGGG
ATTTCAACTCCGCCAAGTATCAGCTTTCTGCCTTCGGTCAGTTGGTGGACATCGTAGCCC
TGTCCGATACGGATGTTCGTCATCGTTTGTGTTCCTGATGTTTTGAATTGAAGTTCAGAC
GGCATCGAGCAGCAGCCTGACGATGTATGCGTCCTGCGGCTGCGTCAGTTTCAAATTGCG
CACGTCGCCCTGTATCAGTAGCGGACGCACACCCAATTTTTCCACGGCGGACGCTTCATC
GGTAATGCCGTCCAAGTTTTCCGCAGCCAATGCGCGGTGCAGCAGCCCGGCGCGGAAAAG
CTGCGGCGTTTGCGCCTGCCAAAGGCTCGTCCGCTCGACGGTTGCACTAATGTTCCCACC
GTCCGCGCACTTGAGCGTATCGGCAATGGGAATTGCCAAAATCCCGCCTTCGGCGGCGTT
GCCCGCCTGTTCTATCAACCGCGTCAAAGCTTCAGACGGCAGGCAGCAACGCGCGGCATC
GTGTACCAGAATATTGTCGGTTTCCGCCGCCAAACCGGTTTCCAACAGTTTTGCCACACC
GTTGCGGACGGTTTCGGCGCGGGTCTGTCCGCCGTTTTTCCACACCCGAACCTGTGGAAA
TGCCGTCTGAACCTTATCGGCAAACGTGTCTTCGGGCGAGACGACAACGACGGTCAAATC
GACGGCCTCATGCCGTTCAAAAATCCCAATCGTATGTTCTAAAACGGTTTTGCTTCCGAT
TTCGACATATTGCTTGGGTTTGTCCGCACCGAAACGCGCCCCGATGCCGGCGGCGGGAAT
CAGCGCGATATTTTTGCGCTTCATGCGTCCGTCCCGCCGTTTTCAGACGGCACGGCTTCC
TTGCGCCAGATACAGGCTTCGCCCAAGCCGTCCAAATATTGCCCGTGCGCCGCCAACTCG
TTTTCGTCCGCCCTGATGACTTTCAGTTTGCCGCTGCGTTTGGTTTCGGTATGCACCACG
GGTTTGGTTTCCATTTTTTCCTCTGCGGCCGCACCCATCAGGTCGAACTGCCGCCGCGTC
ATAGCAAGATAGACTTCGCCCAAAAGTTCGCAGTCGATCAATGCGCCGTGCAGGACGCGC
TTGCTGCGGTCGACGGAAAAACGGTTGCACAAGGCATCCAGGCTGGCTTTCTGCCCGGGG
AACATTTCGCGCGCCATCGCCAGGGTATCGGTAACGGTACAGCCGAGTTCCTCAACGGTC
GGCAACCCCATCCGGCGGAACTCCATATTGAGGAAGCCCACGTCGAATTTGGCATTGTGG
ATAATCAGTTCCGCACCGCGCAGGAAATCGGCAATCTGCCTGCCGACCTCTGCAAACGGC
GGCGCGTTTTTCCCTTCCAAAACCTGTATCGTCAAGCCGTGGACGCGTGCCGCCTCTTCG
GGCATATCGCGCTCGGGGTGGACATAGAGGTGCAGGTTTTTGTCGGTCATTTGGCGGTTG
ACCATTTCCAAACCGGCAAACTCGACCAAGCGGTCGCCGCCGTCGGCATACAGACCGGTG
GTTTCGGTATCGAGGATGATTTGGCGTGTCGTCATATCGGTGTCTTTCTTCTATCTTCGT
AAATTGCTTATTTTTTAAGCAATGTATTTTTCTGTTTTCATTTCAATGCACAAACCCACT
```

-18-

```
      TATTCACAGTGTGTTCACAACATTGGGCAGGCGGATTGTGTATTTTGGGGACAATTTTTT
      CAGACGGCATTCAAGGTTTTTTCCTGATTGCCGCCGCGCCTAAAAACCGCCTTTCGCGCT
      TAATCAAAAATACCGACAACGGAATATTGCCCAAAGCGACAATCAGATACAACAAGGAAA
      TGCTGTCAAACAAAAACAGCAACACCGCGCTCAAAACGGCAGCGGAAACCATAAAAATAC
5     CGTTAACGATATTGTTGGCGGCAACGGCGCGGGCGCGGAAAGTCTCGCTACTGGCGGTTT
      GCAGCCAGGTATAGAGCGGAACGGAGAAAAATCCGCCGAAAAGCCGATCAGCGTCATCA
      CCGCCATCACGGGATATGCCCATCCTTGCGATAAAAACCAAAAAATGCCGTTCAGCCCTT
      CAAAACGGTGTCCGTGCGTCAGCCACACCAAAACCAAGCCGCAAACCGTCAAACCCAACG
      CACCAACCGTTACCCAAGCCAACATCAGGCGTTCCCTGCTGAACTTGGCACACAGTACCG
10    AACCGGCGGCAATACCGATGGAAAACAGAGCAAGCATCAGGTTGAAAACATTGTCGTTGC
      CGCCCAGATGGATTTGGGTAAAGGTCGGCAGTTGCGTGGTATAAACCGCGCCGACAAACC
      AAAACCACGAAATACCGATAATGGCGGTAAAAACGGGCTTGTGCCGCACCGTTTCACGCA
      GCAGGGATTTTGTGCCACGGACAATATTCCACTCAATTTGTGTATCGGCAGCCTTGGCGG
      GTACGGACGGCATAAACAGGCTGCCGACCGTGCCTCCGACGGCGACCAGCAAAACCAGTA
15    TCCCGACAATATAAGGCGGTACACCTGCCACCGCCGTTCCCAAAATCTGACCGAACAGGA
      TGGCGACAAACGTACCCGATTCAATCAGGCTGTTGCCCATCATCAACTCTTTGTCGTCGA
      GATAATCGGGCAGGATGGCGTATTTCAGCGGCCCGAACAGCGTCGATTGCGCGCCCATGC
      AAAACAGACACGCCAAAAGCAGCGGGGCAGACCGGATATAAAACCCGTATGCCGCCACCG
      CCATAATGATCATTTCCAGCACCTTGACCCAACGCGCCAAAACGGCCTTGTCGAATTTGT
20    TACCCAACTGCCCCGACAGCGAGGAAAACAGGAAATACGGCAAAATAAACAGCAACGCGC
      CCAAGTTCAACATCTGTCCGGCAGGCAGGAAGCCGTTTTGCCCCAAACCGTAAAACCCAA
      TCATCACAAACAGCGCGGTTTTGAACACATTGTCGTTGAACGCGCCGAGAAACTGCGTAG
      CGAAAAGAGGTGCGAAACGGCGGCTTTTAACCAGTCCCAAACCGCCTTTTTTAGCGTACA
      TCGTTTTCCCTCTCTTTTTCAATCAGTTTACTTGTCGAATCATCATCCATCAGGATGCGG
25    TGCGCCGGCCCTTCCAAGTCGTCAAACTGCCCGTTTTTGCCCGACCACCAAAAAAACCAG
      CCGATGACAAACGCCAAAATAATGCTGATGGGCACCAATATAAACATGCTTTCCATCACA
      TATTCCCTGTCAAATCGTTCAAAACAAAGTCTGCCCCGACACGGTCAGATATTCGTTAC
      GCAAAGTTCCGACGGGAGCTTCGTCAAAAAACAGCTCGATACGGTCTTTGACCACGCGCC
      AATATTGGGGGATTTCCGTCTGACCGAACGGCGACAGGACATGATTTTCCATTCCGCCTT
30    CAAGTTTGACGGCAAAACGCCCGCTTTGCGGCCGTGCTTCCGATTCGTCGTCGGCAAGCA
      GGATGAAAAAGCCTATATGCCGTCCCGATTGGTCATGAATACTGAAATAATGCATAAATT
      TCCCACCCGCCTTTTTTCAGACGACACCAACTAAAAACAGGGCGAATGTACCAGTTTGGA
      CGGGAAGAATGCAAAGAAATTCTCCCTCCCCCAGCCGAAAACACCGGCAAACCGCATATC
      CCCCTTTTTTCCGTCAAAATGCCTGACTTCCGCCATTTTCACGCAAACGCCCGATTAAGC
35    CAAGCAATTGCAAAGATTTTTTGCTAGAATAGCCTGCTTCTTTTATCAACCTTTTCAGAC
      GGCCCCACTACTTTCCCGCCCAGGAAGGCAAAACGGATTCGGCACGAATCCGGTTAGTAT
      CCGTGTCCGATTCCAATGCCGTCTGAAACTTTCCGGAGTAAGAAAATGTCCCAAAAATTG
      ATCTTGGTTTTGAACTGCGGCAGCTCGTCCCTCAAAGGCGCGGTCCTGGATAACGGCAGC
      GGCGAAGTCCTGCTCAGCTGCCTTGCCGAAAAACTCAACCTGCCCGATGCCTACATCACA
40    TTCAAAGTAAACGGCGAAAAACACAAAGTCGATCTGTCCGCACATCCCGACCACACCGGC
      GCGGTCGAAGCCCTGATGGAAGAACTCAAAGCCCACGGCCTCGACAGCCGCATCGGCGCC
      ATCGGCCACCGCGTCGTCAGCGGCGGCGAACTGTACAGCGAATCCATCCTCGTTGACGAC
      GAAGTCATTGCCGGCATCGAAAAATGCATCCCGCTCGCCCCCCTGCACAACCCCGCCCAC
      CTCTTGGGCCTGCGTGCCGCGCAAAGCATTTTCAAAGGCCTGCCCAACGTCGTCGTATTC
45    GATACCTCCTTCCACCAAACCATGCCCGAAGTCGCCTACAAATACGCCGTTCCGCAGGAG
      TTGTATGAAAAATACGGCCTGCGCCGTTACGGCGCGCACGGTACCAGCTACCGCTTCGTC
      GCCGACGAAACCGCGCGCTTCCTCGGCAAAGACAAAAAAGACCTGCGTATGGTCATTGCC
      CACTTGGGCAACGGCGCGTCCATTACCGCCGTCGCCAACGGCGAATCGCGCGACACCAGT
      ATGGGCCTGACCCCGCTGGAAGGGCTGGTAATGGGTACGCGCAGCGGCGACATCGATCCT
50    TCCGTATTCGGCTTCCTCGCCGAAAACGCCAATATGACCATCGCCCAAATCACTGAAATG
      CTGAACAAAAAATCCGGTCTGCTCGGCATTTCCGGCCTGTCCAACGACTGCCGCACCATT
      GAAGAAGAAGCCGCCAAGGGGCATAAAGGCGCGAAATTGGCCTTGGATATGTTTATCTAC
      CGCCTTGCCAAATACATCGGCAGTATGGCGGTTGCCGCAGGCGGTTTGGACGCACTGGTC
      TTTACCGGCGGCATCGGCGAAAACTCCGACATCATCCGCGAACGCGTGATCGGCTACTTG
55    GGCTTCCTCGGTCTGAACATCGACCAAGAAGCCAACCTGAAAGCCCGCTTCGGCAACGCC
      GGCGTGATTACCACTGCCGACAGCAAAGCCGTTGCCGTGGTCATTCCGACCAACGAAGAG
      CTGATGATTGCCCACGACACTGCCCGTTTGAGCGGTCTGTAAGGTTTTATCCGCACACGA
```

```
ACTGCCTCCGGAAATGGAGGCAGTTTTTTTATCCGGCTTTCCATGCTTAAACAGCACTGC
CTCTTTTCAGACATTGACGGTTGCAGCCGCTTACCTGAACCTTATAGTGGATTAAATTTA
AATCAGTACGGCGTTGCCTCGCCTTGCCGTACTATCTGTACTGTCTGCGGCTTCGTCGCC
TTGTCCTGATTTAAATTTAATCCACTATAATGATTAACTATTTTTTAATCATGTTATTAT
TTTCCATAAAATACATGACATTAAGATGTTTTTCCACAAAAGATACACACACCGGCAAAC
ACCGGCTGTGTTTATCTTTTCTTATGCCTATTTTTTAATCATCGTATTTTTATCTTTTAA
TTTCAATACGCAAACTAACTTATACACACGGTTTTCACATCTTTAGACTGCTTCCGTGTG
TATAGTGGATATTGCCGTTTTCCTTTCTGACAAAAATGCCGTCTGAGAACTTCAGACGGC
ATTTGAAACATCGGAATCAGCGGTTTTGTTCATACCACTCGATAAACTTGTCTGCTTTGA
CAAAACCCAGCAGCGGCTCGCTGCGGCTGCCGTCGGAGCGGACGACAAACACGCCCGGCG
GCCCGAACAGACCGTATTCTTTCAACAACGCCTGATGTTCGGGCGTGTTGGCGGTTACGT
CGATTTGGAAAAAGCGTTCCATATCGACTGCCTGATGCACTTCCGGCTGATTGAGCGTGT
AAGCCGCCATTTCTTTGCAGGAAATGCACCAGTCGGCATAAAAATCCAAACGACGGGTT
TGTCGGGATGTTCTTTCAACGCCGTATCCATCGCTGCCTTCAGCGCGGCAGTATCGGCAA
ACATTTTGCCGTGTTCCGAAGATTTGCCTGCTTCGGCTGGTGGATTGAGGGTCAGGAAAT
GGTGCAGCGCGGTCGTTTTGCCGTTTGCGCCCTGCCAGCCGAACCACGCGCCGCCTATCA
GCAATATACCGCCCAATGCGAATGCCACAGCTTTCGGACGGCGTTTCTGCCTGCGTCCGT
TGACCAGCAGCATAAAGGCAGGAACCAGCATCAGCAGCGTGTACAGCGCGACGACGAGAT
AATAGGGCAAGTGCGGCGTGGCGAGGTAAACGGCGACGGCTAGCAGGATGAAGCCGAATG
CGTATTTGACGGCATTCATCCAATCGCCTGCCTTAGGCAGGATATGCCCGCCGAACGTGC
CGATGGCAATCAGCGGAACGCCGGTGCCCAACGCCAAAGTGTAAAGTGCCAAACCGCCTA
AAACCGCATCGCCCGTCTGACCGATGTAGCCCAAAGCAAATGCCAGCGGCGGGGCGACGC
ACGGCCCGACAATCAGCGCGGACAATATGCCCATAATAAAGACGGAAACGATTTTACCGC
CTGAAAGCCTGCTGCTTTGATTCTGAAAATACGACTGCACGGCGTTGGGAAGCTGGATGT
TGAACAGCCCGAACATAGACAGTGCCAAGACGACCATTAAAGCCGATGCCGCCAATACCA
CCCAAGCCTGCTGCAACCATACGGTCAGCAGTGCGCCCGTCAGTCCGGCAACAATGCCGA
CCAGCGTATAAGTCAGAGCCAAACCCTGAACATAAACGACGGACAGCACAAACGCCCGCG
CCTTGCCCGCCTTTTTGTCGCCGACCACAATACTGGAAACAATCGGCAACAGGGGATACA
TACAGGCGGTAAAACTCAGGCCCAAACCAGCGAGAAAAAACGCCAAAGATTGGCGTTGA
GCGTATCCCAAGACAGCTTGAAACGGCTGTCGCCGCCCTCATCCCCCTTCGGGGGCGGCA
GCGCCCCGCTGCCGTTTTGAGAGGAAGGCTGCAAAAAGCGGTCTTTGGCGGATGCCGGTT
CGTCGGTTTGCGGATGGTAAGTGCCGTTGCCGAAAATATCAAACTCGGTATCCACGGGCG
GATAGCACACGCCGGCTTCGGCACAGCCCTGATAGGTCAAAACCAATTTATACGGTTCGC
CGACAGCCTTTGCATAAGGAAAGGCAACCTGCGCCTCGTGATGGTAAACCGTCTGCCTGC
CGAAAAACTCGTCTTCCTTCTCTTCGCCCTTGCTGAAAGAAGGCTGTCCCAACAAATCCG
CCGGATCGGTCTTGCCGACGATTTTCGCCTGATACATATAGTATCCGTCGGCAATCCTGA
AACGGACGTTCACACCGTCGTCGGCAACGGCAAGCTCCGGCACGAATGCCTTTTCCGGCG
GCAGCAGATCGTTCGCATCCAGCCGAAAGCTCGTCCGCACAACATCAAAAATACGGCGA
ACAGGCAAATCAGTTTTTTCATAATCGAATCCGTTTCAGACAAATAATTTGTCTGCATTA
TAAATGGTAAGGTTGACGGTGGGATTTAATTTATGTAAAACCCGCCATTATCCGAACCTA
TTTCCATAAACATCTTATCGAACCCGCCATGTACGATGTCAATACCCACGATGTCCGCCG
CTTTTTCGCCCGCGTGTGGCAGCAGCGGCTCAATCCGCTGCAACTGAGCGCACTGGAACA
GAAAGCCCTCCGCATTGTCGAAGCCCATCCCGAATACCACCGTTATCTCGAACGCATCGA
AGACCATCTGGACACCGACTGGCTGCCCGAAAACGGCGAAAGCAACCCCTTCCTGCATAT
GTCGCTGCATCTGTCCGTCCAAGAACAGGCGGGCATAGACCAGCCGCACGGCATACGCGC
AATCCACGACACCCTGTGCGCCAAACGCGGCTGGCTGGAAGCCGAACACGAAATGATGGA
GGCACTGGCGGAAACACTGTGGACGGCGCAACGCTACGGCACCGGTTTGGATGTCAATTT
CTACATGACCCGACTGCGCAAACTCATCGGCTTGGGTGCAGAAGATCAAGCCAGATTGAA
CCCGCATGAAATCGCCTGACCATACCAACCGCCTGCAAAATGCCGTCTGAAGCGGAACAA
CCCCTTTCAGACGGCATTCATTTTCCCCCAATCATTTCCACAACGCCTTTTTCAGCATAA
TCAACCAATCCTTCTTATCCAAAACGGGGCGTTGTGCAAACACATCGTATCGGCACGCGT
CCAGTTTCTGCAAAATCAACTGCGCCCCCAACACAATCATACGGAGTTCCAAACCGATAC
GCCCATTCAGTTCCCTTGCCAAAGGCGAACCCGCCTTCAGCATACGGAACGCACGCCGAC
ACTCATACGCCATCAGCCGCTGAAACGCCGCATCCGCCCGTCCTGCCGCGATCTGTTCCT
CAGAAACACCGAATTTCAACAAATCGTCCTGCGGAATATAAACCCTGCCTTTTTGCCAAT
CCACAGCCACATCCTGCCAAAAATTCACCAGTTGCAAAGCCGTACAGATGCCGTCGCTTT
GCGCCACGCACACCGCATCCGTTTTCCCGTACAAAGCCAGCATAATGCGTCCGACAGGGT
```

-20-

TGGCGGAACGCCGACAATAATCGGCCAGCTCGCCGAAATTTCCATACCTTGTTTTAACCA
CATCCTGAGAAAATGCAGAAAGCAAATCATAAAACGGCTGCAAATCCAAACCGAACGGCA
CAACCGCCTCGGCATCCAATCGTGCAATCAAAGGATGCGCCGACCGGCCGCCCGATGCCA
ACACGTCCAACTCGCGCTGCAAACCCTCCAACCCCGCCAACCTGGCTTCAGACGGCATAC
TGCCCTCGTCCGCCATATCGTCCGCCGTCCGTGCAAACGCGTACACCGCGTGAACCGGCT
TCCTCAACCTGCGCGGCAAAATCAGCGAACCGACGGGAAAATTCTCATAATGCCCAACCG
ACATACCTTCTCCATCCATCAAACAAAATGCCGTCTGAAACGGAACAAACCCTTTTCAGA
CGGCATCAGATACCTCCAAGCTGCCGGCAATCAGTGGTGGTGATGACCGTGCGGGCCGTG
GACATGACCGTGTGCGATTTCCTCATCGGATGCATCGCGCACGCTTTCAACTGTAGCCTT
AAAGCGGATTTTCATGCCTGCCAAAGGATGGTTGCCGTCCACCACCGCCTTGCCGTCGGC
AACATCGGTTACACGATAGACGACAACATCGCCGGTTTCAGGATCGTCGGCTTCAAACAT
CATGCCGACTTCGACTTCAACAGGGAACACGCCCGCATCTTCGATACGGACCAACTCCGG
ATCCTGCTCGCCGAACGCATCGTCGGGCGACAGCGCCACATCGACCGTATCGCCGGCATC
CTTACCGTGCAACGCCTCTTCCACCAAAGGGAAAATGCCGTCGTAACCGCCGTGCAGATA
CGCAATCGGTTCTTCGGTTTTGTCCAAAAGCTGATTGTTGGCATCATACATCTCATAATG
CAGCGAAACCACGGAATTTTTCACGATAGCCATATTTGTCCTTTCAGGAACAGCAGATTA
ATTACAGGCGCATTCTAACACAACCGCCGCGCCGGCCGATTACCGTTAACCTGTTCATAA
ACTGTACAGCACATATTTCAATGTAAATCTTTGTTATTTTATTGCGGTGTAACTTTTTTA
CAACATTCTTAAAACCATTCCGACCTGTCTGCCGACTTTCCCAATCCGCCTTAATAAATC
ATACAAGATACTGAAATTATATTAATCTCTATAATATTTATCCCTATCGAATTTTTAACA
GCAAAACCGTTTTACAGGATTTATCAATCCGCCCGCCAGAAAACTTTTCATTCAAACCTT
TTTCCCATCTGTACGACATTGCAATCCCTTATTCCATAGTGCATAATTACGCAAATTCAG
CGATGAATTTCCAACCCGGTTTGTAGTATGGTCGATAAAGACCTATTTGTTTCAATAATT
TAAATTGGTTCTAAAGGTTACTAAAATGAAAAAATCCCTGTTTGCCGCTGCTTTGTTGTC
TTTGGTTCTGGCAGCCTGCGGCGGTGAAAAAGCCGCTGAAGCTCCCGCTGCTGAAGCACC
TGCCGCCGAAGCTCCCGCTACTGAAGCACCTGCCGCCGAAGCTCCCGCTGCTGAAGCACC
TGCCGCCGAAGCTCCTGCTGCTGAAGCTGCCGCTACCGAAGCACCTGCCGCTGAAGCTGC
CGCTACCGAAGCACCTGCCGCTGAAGCTGCCGCTACCGAAGCACCTGCCGCTGAAGCTCC
TGCTGCCGAAGCTGCAAAATAAGCATTTTCCGCTTGCAAAAAAGCAGGATACGTTCAGTA
TCCTGCTTTTTTGATTTTTCAGACGGCATCAGATTCCCTTCCTCAATCTTCTCCCTACCC
TTCCGACAAACATGCTTGACCTTCATACCGAATTTTCCCGACTCCTACCGGCAGATGAAA
TTGCCGAACCTTCTCCGACGCTTTTAAAAGACCAGCGCAACCGCTTTACGTCTGCACCAG
ACATCATTTTGCAGCCGCTCAGCGTTAAAAGCGTGCAAACCATTATGCGTTTCTGCCACC
AACACCGTATTCCGGTTACGCCGCAAGGCGGCAATACTGGTTTGTGCGGCGCGGCAGTAT
CGGAAAACGGCGTATTGCTGAACCTTTCCAAACTCAACCGCATCCGCCAGCATCAATTTGT
CAGACAACTGCATAACCGTCGAAGCAGGTTCCGTACTCCAAACCGTCCAACAGGCAGCCG
AAGCCTCAAACAGGCTGTTCCCACTCAGTCTCGCCAGCGAAGGCTCGTGCCAAATCGGCG
GCAACATCGCCTGCAATGCCGGAGGTTTGAACGTATTGCGTTACGGCACGATGCGCGACC
TGGTTATCGGTTTGGAAGTCGTCCTCCCCAACGGCGAACTGGTTTCCCATCTCCATCCCC
TGCATAAAAACACCACCGGCTACGACCTGCGCCATCTGTTTATCGGTAGCGAAGGTACAT
TGGGCATTATCACTGCCGCCACGCTCAAGCTGTTTGCCAACCCCTTAGACAAAGCAACCG
CATGGGTCGGCATACCCGACATCGAATCCGCCGTCCGCCTGCTGACCGAAACCCAAGCAC
ACTTTGCCGAACGCCTATGCAGTTTTGAGCTGATCGGCCGTTTTGCCGCCGAATTGTCTT
CCGAATTCAGCAAACTCCCCCTGCCGACACATTCAGAATGGCATATTTTACTTGAGTTGA
CCGACTCATTACCCGACAGCAATCTTGATGATCGGCTTGTCGAATTTCTTTATAAAAAAG
GCTTTACCGACAGCGTGTTGGCGCAAAGCGAACAAGAACGTATCCATATGTGGGCGTTGC
GCGAAAACATCTCCGCATCGCAACGCAAACTGGGCACCAGCATCAAACACGATATTGCCG
TTCCTATCGGGCGCGTTGCCGACTTTGTCCGCCGGTGCGCCAAAGATTTGGAACAGAATT
TCAAAGGCATACAAATCGTCTGCTTCGGACATCTGGGCGACGGCAGCCTGCACTACAATA
CTTTCCTGCCCGAAATCCTCAGCAATGAAGTCTATCGTTACGAAAACGACATCAACAGCA
CAGTCTATCGCAACGTCCTTGCCTGCAACGGCACGATTGCCGCCGAACACGGCATAGGTA
TCATCAAAAAACAGTGGCTGGACAAAGTACGCACGCCTGCCGAAATCGCCCTGATGAAAA
GCATCAAACAACACCTTGATCCATATAACATTATGAATCCGGGCAAACTGCTTCCGTAAC
CGGCATTTCTGATTTGCATACACAACAAAGAAAGGGACAATAGATCCGATTGTCGGTTTA
GCGCGAGCTCGTGAGTGCGGTTAAAAATTGGTGGAAATTACACGAAAATGACCGCACTT
TTAAAATAAAAAAATCGGCAGTGAATTTCCCTGCCGATTTATTTTGTTACAACTTAACT
TAAAACGTCCACTGTAAATTCAACGCACCTTGTTTAGCTTGATGATGTTTGCCTGTTTGG

-21-

```
CGGTTGAATGTGGCTTGTAAGGTTAAGTGAGATTTGATTTTCACTGCTACACCTAATTGG
CTCTCAATTGCCGTCTTATTGTTTATCACTCGACGCTCTCCGTCCATTTCCACACCGAAA
GGTTTGTTGTGGTAAAGCGCGTTCACAGCGGCGAAAGGTTCAATAGCGATATTTTTATAG
AGTGAAAATTGAGCTTTAGCTTGAACGCCAACCCGAGTTTGTAATTGGCGGGAGCCAAGT
AAATTCACGTGGGCATTTTCGCTATCGCTGAATTTTCCGTTTACCCCCAAATAAGTCAAT
TGTGCCTGTGGTTGTAGGTAAACACGAAGGCTGTTGCCCTTTTTAGTGAAGTGTTCCGCC
AATAACGCATTGTAACCTGCTTCAATTGAGGCAGTAATACCTTTTGAAGTAAAACGTTCT
GTACCATCTTCAGTGTTGATACGGTGGCGGAAGCGTTGATATTGCATCCAGCTATCCGCA
TACGCACCTGTCTGTTTGTCCTGAAGTTGGTGCCAAGTGGCGTAAACGCCTGCACCAAAG
CCTTTCACATTTCCCGTTGTAAGATTGTCTGTATCTGGGTTGTGGAAAGTGCTACGTTGT
TCTGCTTGTCCGCCCATTAAGCCAATAGAAAGTTGATTACTTTCGTTTTGCCATGTGAAT
ACTTCGCCGCCGAGTTGCACACCTTTACGATAGCCTTCTACAGGTGCTGTTTTGCCTTGC
ACCCATTGGTTGGAATGTCCGTCAATCACACGCAACCACAAGCCTTTGCGTGGTAAAGTG
CGGTCGAAAATATCGCTGTTTTTGTTGTTCAAACGCAAGGCGAATAAGGTATTGGCGGCT
TGAGCCTGTTGTGCATAAATCGCCATATCATCGCGTTCTTGCACTTTGGTAAAAAAGCCC
TCTGGGCGTTGTTGTAAAGAAAGCGTATAAATTCCCTTTTGGTGTTTGCCAGAAAGACGG
AATGCGTGTTTATCTGCTGTGCCATTTACTTTGATAATTTGATGCCCATCGAGGCTTTTT
AAATCGTCTATTGGATTTTCGAAGATGATGTCGGAAGTGCCAGTAACATTTTTCTCAAAA
ATTAATGCAGTATTTTTCGCTTCTTTAGGATCGTAAGCAAAACGAAACGAGCTCCGCCA
GCATAATCTTCTTTTACGAGTAAACTTTCACTTTTAGTATTAAAACGGATGTCTGCATTC
GTTGTTTTTAATTTCCCAACATTAGAATCCCAACGGGGCTCCCAGAGAGAATTTTCTAAG
CGGAATTCATCCAAACTAATCGTTTGCCCGATAACGTGCGAGTTGTCTGTAACCTCAATA
TAGTGGAATGGATCTAAACCAGAATATAGATGTGCTGCAAAAGAAACATAATTTTCAATA
TGATGAATTACTTGATTAGCCCATTCTGTATAATTCCCGACAGATAAAATTTCGCTGTTG
ATATGACTATTTTTTATTTTTGGACCTAAGGAGAATATATGACTTTTTACTATAAGAGGA
TGGGATCCAAATTTTTCAGCTTGGCAAGTACTATAATCACGTATCTTAGTGTTAGAATTA
AAACATTCCTTAAAATATTTCCGTATTTGTTCTTCTGTGTCCCCATTTCTTTTTGCAACC
CCTAAACCTCGGGCGAAGCCAACTAGGTAACCTTCGGTATATTCTTGATCATAAAAAGAA
ATCTTTTTTGAGTTATTGATGTTTTCGAATTGGTATGTTCTAGGGTATAGTGCGGGAAAG
GGTGGAACTTTTGGATTATCCTCGGTTATAAGATAAGTTTCTTTTTTCCAATATTCACTC
GTTTTATCGCGGAGTTTTTTTAAGCGGGTAATTTCATCATTAGTGAGCTTGGTTTTGTCG
TAAACGTAATCAACAGCCAAAAGCGGAGAGGTATAAAGAATAGAAAAAAATAGACTTACA
ATAAATGATTTTTTAAACTTCTGCTTGCTTGCTTGCTTGCTTCGAGTTTCATAATAAATT
TTCCTTTGTCAAGTAAAAATAAATGGGGCGTGGATTTTAGCATAAAACTGAACAAAAAAT
GTCATTTATCTCACATTTTTCTCTATTTATTTCTTGTTTATTAAAAGTAAACGTTTGCTT
TTTGCTATTTTGTCAAGCCAGTTTGAAAATGTGTATAATTGCCCTCGTTATTTACAAAAA
TTTCAGGAAAAATGACCGCACTTTACCCTTGGCTAATGCCAATTTATCATCAAATTGCTC
AAACCTTTGACGAAAGCTTGGGGCATCATGCCGTGCTGATTAAAGCGGATGCTGGTTTAG
GTGTAGAACGTTTACACATCAGGCGGCAGCCTTGCCCATACCGTCTGAAGCACTGTTTCC
ACAATCAGCGCGTATGCTTAATCAACCGCTGTTTCTCGCGTTTCCAATCCGCCTCTTTCA
TACTCTGGCGTTTGTCGTGCTGTTTCTTACCTTTTGCCAAACCGATTTCCATCTTGATTT
TTCCGCGTGAAAAATGCAAATCCAGCGGCACGATGGTGTAGCCGGCACGTTCGGTTTTGC
CGATTAATTTGTTGATTTCCGACTGGTTCAACAAGAGCTTGCGCGGACGTACGGCATCTG
GTTTAATGTGTGTCGAGGCTGTGGGCAAAGCCGTAATATGGCAGCCGACCAGATAAAACG
CGTCTTTTTTCCAATAGATATAACTCTCTTTAAGCTGTACGCGCGCGGCGCGGATTGCTT
TGACTTCCCAGCCTTCCAAGACCAAACCGGCTTCAATCCGGTCTTCAATGAAAAAATCGT
GAAATGCTTTTTTATTGTTCGCAATAGCCATAAACATCCTATCAATATCCGCCGTCAGAC
GGCATAAACCCGAAAACAGAACCCATCATACCGCCTCTTCAACCGCCTGCACAATCTTCT
CGGGATACAGCCTGTTGAGGCAGTCGGTATGCCCCAGCGGACATTCCCGCTTAAAACACG
GCGAACATTCCAAGTGCAGGCTGACGATTTTCGCCCTATCGCTCAAAGGCGGCGTATGCG
TCGGGCTGGAAGAACCGTAAACCGCCACCACCTTCCTGCCCAAAGCTGCCGCCAAATGCA
TCAATCCGCTGTCGTTACACACGACCGTGTCCGCCAACGACAGCAAATCCATTGCCTGCG
ACAAATCGGTTTTGCCGCACAAATTGACACACATACCGTCTGAAAGGCGGTTGATTTCCT
CGGCAATTTCATCATCTTTTTGCGAACCGAACAGCCAAACCTGCCAACCCGCCGCCAGAT
AATGTTTGCCCAACTCGGCAAAATGCCTTGTCGGCCAACGCTTTGCCGGCCCGAATTCCG
CACCCGGACAAAAAGCCAGAACAGGCTTTCCAATATCCAAGCCAAAGGTTTCGACAGAAA
TTTCCCGCCGCCGTTCATCAATGGAAAACTCGGGGAATCCCGAATGCCCGTCAAAATCTT
```

-22-

```
CCTGACTCGGATGCGCGAGAGCCGTATATCGATCCACCATCAAAGGCAGACGTTCCTTAT
CCAGCCTGCGTATATCGTTCAACAGAAAATAACGGCTTTCACCGACATAACCCGTCCTTT
TACCGATACCTGTCGCCAGCGCGATGATTGCCGATTTCAAAGAACCGGGCAACACGATAA
CCTGATCGTATCCGCGCCGCCCCAAATCCCTACCGACCCGCCAACGGCGTTTCAACTCCA
ACGCACCATGTCCGAACGAATTCTCAAGAATTTCATTCACTTCCGGCATACGCTCGAACA
CCGCCATCGACCACTTCGGTGCGAACACATCAATCGTGCAACCGGGGTGAAGTTCCTTCA
AACGGCGGAACAAGGGCTGGGTCATCACGCAGTCGCCTATCCAACTGGGGGAAATAATCA
GGATTTTGATGGACATAACAAGAAACCGAAATCAGACAGGCAGAATTTTACCGCGAAACC
GTTGGAAAACCTATCTTGCCGCATTCCGAACGCCGGACGTGCAAATATGAAAAGCCCGA
ACATTCAAGTTCGGGCTTCAAAATTCTGGCTCCCCGACCTGGGCTCGAACCAGGGACCTG
CGGATTAACAGTCCGTCGCTCTACCGACTGAGCTATCGGGGAATGGGGCGTATTATAGCG
TC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 3>:

gnm_3

```
GCGGGGGCtTCCATCGCAGTCATGCACAACATCTGCATCAAATGGTTTTGCACCATATCG
CGCAACGCGCCGGTAATGTCGTAAAACTCACCGCGCTCTTCCACACCGAGCTGTTCGGCG
ATGGTCAACTGCACGCTTTCGATATATTTATTGTTCCACAGCGGCTCGAACATTACATTG
GCAAAACGCAGCGCAAGCAGGTTTTGCAGGCTTTCTTTGCCAAGGTAGTGGTCGATGCGG
TAAATTTGCCCTTCTTTGAAATAACGCGCAACATCGGTATTGATTTGCTGGGAAGAAGCC
AAATCCGTACCCAACGGTTTTTCCAAAACTACGCGCACATTGTCGGCATTCAAACCGATC
GCAGCAAGGTTTTCACAGGCTTGCGCGAAGAATTTGGGCGCGGTGGACAGATAGATGACG
ACGTTGTCGGTTTCTTTGCGCGCTTTGACCAAATCGCCCAAAGCGGCAAAATCGTCCGGC
TGCGTAACATCGACTTTGAGATATGCGAAACGTTCGACAAACGATGCCCAAGCCTCATCG
GAAAAATTTTCTTTCACATGGATTTTGGAACTGGTTTCCACCTTCGCCAGAAAACCTTCG
GTATCCAACTCGCTGCGGCTGACCCCCAAAATACGCCCTTCGGGATGAAGCAGACCGGCA
ACATGCGCCTGGTACAGACAGGGCAACAGCTTGCGCATCGCCAAATCGCCGGTCGCACCG
AACAACACCAAATCAAAATTTGTTTGTGTACTCATCGTATTATCTCGTCAGGAAAGAATT
TTTCGATGCCGTCTGAAACCTGTTTCCCCCATCACGCTGCATCGCAATATCGGAAACAAA
GGCAGGCGGCATAATGAGTAGTAATACTACACACCGCTACACTTTTTGTCTATTCCCATT
TTTACAATTTATTTGACCTAGTCCAAAAATCGGGCAGGTTTCCCCTATTCCGTTACAACA
ATCGAAAGATTCTGCGATTTAAATCAAATTTCTTTTCAATGCCTGATTTTTTTGTAACAA
AATTACAAATTTTGTACTATAATAACACCCGCTTCCCACTTTCAGACGGCATACCTTTTA
AAATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAGATAA
TACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGG
CGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATACTTACCGTCTGAATACCCGATA
CAAAAATCAGAAACGCACAAACAAATCCCCAATACCCCCCCGTTCCGACAGGAGACCGA
CCGTGAACACTACTCCTATCCACTCCAAACTCGCCGAAATCACCGGGCGCATTATTGAAC
GCAGCCGTCCGACGCGTGAAAAATATCTGGCGAAGATCCGCAGTGCCAAACAAATGGGAC
GCTTAGAGCGCAACCAGCTCGGCTGCAGCAACTTGGCACACGGCTATGCTGCCATGCCTA
AAAGTATCAAAATCGAAATGCTTCAGGAAACCGTCCCCAACTTAGGCATCATCACCGCCT
ACAACGACATGGTTTCCGCACACCAGCCGTTTAAAGACTTCCCTGACCAAATCAAAGACG
AAGCGCAGAAAACGGCGCGACCGCCCAAGTCGCCGGCGGCACGCCCGCCATGTGCGACG
GCATCACGCAAGGCTACGCCGGCATGGAATTGTCGCTGTTCTCCCGCGACGTGATTGCCA
TGAGTACCGCCATCGGGGCTGTCGCGCATCAAATGTTTGACGGCGCAGCCTGTTTATGGGCGTAT
GCGACAAAATCGTTCCAGGTTTGATGATAGGCGCGCTTTCGTTCGGTCATATTCCGGGTA
TCTTCGTCCCCGCAGGCCCGATGTCCAGCGGTATCGGCAACAAAGAAAAAGCCCGCACCC
GCCAGCTTTTCGCCGAAGGCAAGGTCGGACGCAACGAACTTTTGAAAAGCGAAATGGGTT
CTTACCACAGCCCGGGCACCTGCACTTTCTACGGCACGGCAAACTCCAACCAAATGATGA
TGGAAATGATGGGCGTGCACCTGCCTGCCGCCGCCTTCGTCCACCCTTACACCGACCTGC
GCGAAGCGCTGACCCGCTACGCCGCCGGACACCTCGCGCGCGGCATCAAAAACGGCACGA
TTAAACCTTTGGGCGAAATGTTGACCGAAAAATCCTTTATCAACGCCTTGATTGGCCTGA
```

-23-

```
TGGCAACCGGCGGTTCGACCAACCACACCATGCACCTCGTCGCTATGGCGCGTGCGGCCG
GCGTGATTTTGAACTGGGACGACTTCGACGAAATTTCCTCCATCATCCCGCTGCTCATCC
GCGTTTATCCGAACGGCAAGGCCGACGTGAATCACTTTACCGCAGCGGGCGGACTGCCTT
TCGTTATCCGCGAATTGCTGAATGCAGGCCTGTTGCACGACGATGTCGATACCGTCGTCG
GACACGGTATGCGCCACTACACCAAAGAGCCTTTCCTTATCGACGGCAAACTCGAATGGC
GCGAAGCCCCCGAAACCAGCGGCAACGACGACATCCTGCGCAAAGCTGACAACCCGTTCT
CCCCCGACGGCGGTCTGCGCCTGATGAAAGGCAACATCGGACGCGGCGTGATTAAAGTGT
CCGCCGTGCGCGAAGGCTGCCGCATTATTGAAGCGCCTGCCATCGTGTTCAACGACCAAC
GCGAAGTGTTGGCTGCGTTTGAACGCGGCGAGTTGGAACGCGATTTTGTGTGCGTCGTCC
GCTACCAAGGCCCGCGTGCCAACGGTATGCCCGAATTGCACAAACTGACCCCGCCTTTGG
GCATCCTGCAAGACCGCGGCTTCAAAGTGGCGCTGCTGACCGACGGCCGTATGTCCGGCG
CGTCCGGCAAAGTTCCAGCCTCCATCCACATGACACCCGAAGCCCTGATGGGCGGCAACA
TCGCCAAAATCCGTACCGGCGACCTGATCCGCTTCGACTCCGTTAGCGGCGAACTCAACG
TCCTGATTAACGAAACCGAATGGAATGCCCGCGAAGTCGAAAGCATCGACTTGGGCGCGA
ACCAACAAGGCTGCGGCCGCGAACTCTTCGCCAACTTCCGCAGCATGACCAGCAGCGCGG
AAACCGGTGCCATGAGTTTCGGCGGCGAATTTGCCTGATGCGCGTTTCAGACGGCCTTTT
CAGACCGAAGGCCGTCTGAAAAATTATTCAAGCGTTTTAAGATAGACGTAGGTTGGATTC
TCGAATCCGACACAGCCGTCCAAGATGTCGGTTTCTTGAATCCGACCTACAACCTGTCCC
ATCTTAATAAAATACCCCATTCCACCCGGAGAACCGAAATGTCCAAACTGACCCCCCGCG
AAATTTTGACCGCCGGCGCAGTTGTGCCGGTAATGGCGATTGACGACTTAAGCACCGCCA
TCGATTTGTCCCACGCCCTTGTCGAAGGCGGCATCCCTACCCTCGAAATCACCCTGCGCA
CCCCTGTCGGCCTCGATGCCATCCGCCTGATTGCCAAAGAAGTGCCCAACGCCATCGTCG
GCGCAGGTACGGTAACCAATCCCGAACAGCTCAAAGCCGTCGAAGACGCAGGCGCGGTTT
TCGCCATCAGCCCGGGGCTGCATGAATCCCTCGCCAAAGCCGGCCACAACAGCGGCATCC
CCCTGATTCCCGGTGTTGCCACCCCGGGCGAAATCCAACTGGCTTTGGAACACGGCATCG
ACACCCTCAAACTCTTCCCCGCCGAAGTCGTCGGCGGCAAAGCCATGCTCAAAGCCCTGT
ACGGCCCCTTACGCCGATGTTCGCTTCTGCCCGACAGGCGGCATCAGCCTCGCCACCGCGC
CCGAGTACTTGGCACTGCCCAACGTCCTGTGCGTCGGCGGCTCTTGGCTGACACCGAAAG
AAGCCGTGAAAAACAAAGACTGGGACACCATCACCCGCCTCGCCAAAGAAGCGGCGGCGT
TGAAACCCAAAGCCTGATTCGCATCGTAAAAATGCCGTCTGAAAAACCTTTCCCGTTTCA
GACGGCATTTTGCCGATTGAGGGCACAGTCGGCATACACGGCAGCACTGATCAGACATAC
CGCCCCTAAAATGCCCATCCGCCTTCCGCATAATAAAAATAACGTTCAGTTCATTCGACA
GCAGCCGGACAGCCCATACTACGCGGCTGAAAAAATGCCGTCTGAAACGCATTCAGACGG
CATCCACTTAAAAAAAAACAACTGATTCAACGCCGATTAATCCGCTTCCAAAACCACTTTC
ATCACTTGGTTTTCGGCGGCGTGTTTGAACACGTCGTAGGCTTTTTCCAATTCACTGAAT
TTGAAATGATGGGTCAGCATTTTGGTGTAATCGACGGAGCTGCTGGAAATCGCCTTCATC
AGCATTTCGGTGGTATTGGCGTTTACCAGACCGGTAGTGATGGCAAGCTTTTTAATCCAG
AGTTTTTCCAGTTTGAAATCAACGGATTGACCATGTACACCAACCACAGCGATATGGCCG
CCGGGTTTCACAATGTCTTGGCACATATTCCATGTAGCAGGGATACCGACGGCTTCGATG
GCGCAATCCACGCCGTCTTCGCCGACGATGGCAAAGACTTGTTTGGATACTTCGCCGGAA
GCAGGGTTAATGGTATGGGTCGCACCCAATTCTTTCGCCAGTTTCAAACGGTTTTCGTCC
ATATCGCAAACGATGATGGCGGCGGGACTGTACAGTTGGGCGGTCAACAGGGCGGACATA
CCGACAGGGCCTGCCCCAGCGATGAATACGGTGTCGCCGGGTTTGACATCGCCGTATTGC
ACGCCGATTTCGTGGGCGGTCGGCAAAGCGTCGCTCAACAACAGGGCGATTTCTTCGTTG
ACATTATCGGGCAGCGGAACGAGGCTGTTGTCGGCATAAGGCGTACGGACGTATTCGGCC
TGAGTACCGTCAATCATGTAACCCAAAATCCAACCGCCGTTACGGCAGTGTGAATAGAGT
TGGGTTTTGCAGTTGTCGCAAGTGCAACATTTGCTGACGCATGAAATAATGACTTTATCG
CCGACTTTGATGTTTTTTACAGCCTCGCCGACTTCTTCTACAATACCGATGCCCTCATGA
CCGAGAATACGGCCGTCGGCAACTTCGGGGTTTTTGCCTTTCCAAATACCCAAATCGGTA
CCGCAAATCGTGGTTTTGACGATTTTCACCACCGCATCGGTCGGATCGATAATCTGCGGA
CGGGGTTTTTCTTCAAAACGGATGTCGTTTGCGCCGTGATAAACCATTGCTTTCATGCTG
ATACTCCTTGCTTGTTGATAAATAATTTCAATACCGCAATAAAGTTTCTTTATATGAGTT
ATATGCCCCTACAAAAAAATAAGTCAATAAGAATTATTTTCACAATGTTATACAATAACAT
ACCGTTTTAAATATAAATAAAACCACCGATTGATATTAATGAACACACCCATCCCCTTCT
CCGAACGGCTCATCCGCTGGCAAAAACAACACGGTCGCCACCACCTCCCTTGGCAGGTCA
AAAACCCTTATTGCGTCTGGCTTTCCGAAATCATGCTCCAGCAAACGCAAGTCGCCACCG
TGTTGGACTACTATCCGCGCTTCTTAGAAAAAATTCCCGACCGTTCAGACGCTTGCCGCCG
```

```
CGCCGCAAGACGAAGTGTTGTCGTTGTGGGCGGGCTTGGGCTATTACAGCCGCGCGCGCA
ACCTGCACAAAGCCGCGCAACAAGTCGTCAGGCAATTCGGCGGCACGTTTCCGTCGGAGC
GCAAAGACTTGGAAACCCTCTGCGGCGTAGGCAGAAGCACCGCCGCCGCCATTTGCGCCT
TCTCCTTCAACCGCCGCGAAACCATTTTGGACGGCAACGTCAAACGCGTACTCTGCCGCG
TGTTCGCCCGCGACGGCAATCCGCAGGACAAAAAATTTGAAAACTCGCTCTGGACACTTG
CCGAAAGCCTGCTGCCGTCTGAAAACGCCGATATGCCTGCCTATACACAAGGTTTGATGG
ATTTGGGCGCGACCGTGTGCAAACGGACGAAACCCTTGTGCCACCAATGCCCGATGGCGG
ACATCTGCGAAGCGAAAAAGCAAAACCGCACCGCCGAGCTGCCGCGCAAAAAAACCGCCG
CCGAAGTACCGACCCTGCCGCTTTACTGGCTGATTGTCCGCAACCGGGACGGCGCGATTT
TGCTGGAAAAACGCCCCGCCAAAGGCATTTGGGGCGGGCTGTATTGCGTGCCGTGTTTTG
AAAGTTTGAACGGGCTTTCCGACTTTGCCGCCAAATTCTCCCTGACCATGGCAGATATGG
ACGAACAAACCGCCCTGACCCACCGCCTGACGCACCGGCTGCTATTGATTACGCCCTTTG
AAGCACAAATGCCGTCTGAAAGCCCTTCAGACGGCATTTGGATAAAGCCGGCGCATTTGA
AAGATTACGGTTTGCCCAAGCCTTTGGAAATTTATTTAAACGGTAATAGGTTAGAATAAA
CAAAATAAACCCATTGAACTGTTGTTTGCAGGTATCGCAGCAAGAACAACCGATGAATTT
GGGTCGTATTTTAGGCGGCGGGATAATGTTCAAATGGGACATTTGGAACGGAAGAAGTCG
GCAATTTAAAAAGGATTTAAAAAGCAAAGAAGGTCAAAAACATGAACACAAACTTAAATG
ACAAAGACAAAGCCATGGATACCGCAATCAGGTTTCAGAAAAGGATGAGGATTCCGAAAT
TTTTCTTTTTAATTCTCGGAATCACAATGGTTTTGGCATTTATCCAAGACGTGATAACGG
GTTCTAATTTTCTGCAAATAACAATTAATGTAAAATTTTCGTAAAAATTTATCGGCTTTT
AAAACAAAATTGACTAAAATAGTCGCGAGTTTTTACTGCAATAAAGGAGATTGCAATGAA
TATGAAAACCTTATTAGCACTAGCGGTTAGTGCAGTATGTTCAGTTGGTGTTGCGCAAGC
ACACGAGCATAATACGATACCTAAAGGTGCTTCTATTGAAGTGAAAGTGCAACAACTTGA
TCCAGTAAACGGTAACAAAGATGTGGGTACAGTGACTATTACTGAATCTAACTATGGTCT
TGTGTTTACCCCTGATTTACAAGGATTAAGCGAAGGCTTACATGGTTTCCACATCCATGA
AAACCCAAGCTGTGAGCCAAAAGAAAAGAAGGTAAATTGACAGCTGGTTTAGGCGCAGG
CGGTCACTGGGATCCTAAAGGTGCAAAACAACATGGTTACCCATGGCAAGATGATGCACA
CTTAGGTGATTTACCTGCATTAACTGTATTGCATGATGGCACAGCAACAAATCCTGTTTT
AGCACCACGTCTTAAACATTTAGATGATGTTCGCGGTCACTCTATTATGATCCACACGGG
TGGTGATAATCACTCCGATCATCCAGCTCCACTTGGCGGTGGCGGCCCACGTATGGCATG
TGGCGTGATTAAATAATTCGATTGTTCGAAACGAAAGTGCGGTGAATTTTGACCGCACT
TTTTTGCTAGATATTTAGCATTGAGACCTTTGCAATAACATAGGTTACTAAAATTTTATG
CTCAATCTCATTTTCAAAATGCAAAACTTTTCTGATTTTTCCTACTTTTTGCTCAATATT
AGGAAGGTTTTAGGCAATTGAAAATTTTTTGGCGCATTTTTATGCGTCAAATTTCGTTAA
CAGACTATTTTTGCAAAGGTTTCAATTCATAAGTTTCCCGAAATTCCAACATAACCGAAA
CCTGACAATAACCGTAGCAACTGAACCGTCATTCCCGCGAAAGCGGGAATCTAGACCTTA
GAACAACAGCAATATTCAAAGATTATCTGAAAGTCCGAGATTCTAGATTCCCGCTTTCGC
GGGAATGACGAAAGAGACCTTTGCAAAATTCCTTTTCCCCGACAGCCGAAACCCCAACA
CAGGTTTTCGGCTGTTTTCGCCCCAAATACCGCCTAATTCTACCCAAATATCCCCTTAAT
CCTCCCCGGATACCCGATAATCAGGCATCCGTGCTGCCTTTTAGGCGGCAGCGGGCGCAC
TTAGCCTGTTGGCGGCTTTCAACAGGTTCAAACACATCGCCTTCAGGTGGCTTTGCGCAC
TCACTTTAACCAGTCCGAAATAGGCTGCCCGGGCGTAGCGGAATTTACGGTGCAGCGTAC
CGAAGCTCTGTTCAACCACATAACGGGTCTTCGACAAATATCGGTTGCGTTTGGTTTGCA
CTTCCGTCAGCGGACGGTTGCGGTGGGCTTTGCGCATAATGCCGTCCAGCAACTGATGTT
CTTCCAGATGTTGCCGGTTTTCCGCACTGTCGTAGCCTTTGTCGGCATAGACGGTCGTAC
CTTTGGGCAGTCCTTCCAACAACGGCGACAGGTGTTTGCACTCATGGGCATTGGCGGGGG
TAATGTGCAGTTTCTCGATATAGCCTTCTGCATCGGTACGGGTATGTTGTTTGTAACCGA
GTTTGTAGAGGCCGTTTTTCTTTATCCAACGGGCATCGCTGTCCTTACTCGGTGTGGTTT
GACCGCTGATTTGTCCTTCTTCGTCAACTTCTATGGCCTGACGCTGTTTGCTGCCGGCGG
TCTGAATAATGGTGGCGTCAACGACGGCAGCGGATGCTTTCTCTATTTTTAAACCTTTTT
CGGTCAGTTGGCGGTTAATCAGTTCCAACAGTTCAGACAGGGTATTGTCTTGCGCCAGCC
GGTTGCGGTAGCGGCATAAGGTGCTGTAATCGGGGATGCTCAGTTCGTCAAAACGGCAAA
ACAGGTTGAAATCGATGCGGGTAATGAGGCTGTGTTCGAGTTCGGGATCGGAGAGGCTGT
GCCATTGTCCGAGCAGGACGGCTTTGAACATGGACAGCAGGGGATAGGCAGGACGGCCGC
GGTGGTCTCTAAGGTAACGGGTTTTTTGACGGTTCAGGTATTGTTCGATCAGCTGCCAAT
CAATCACCCGGTCCAACTTCAATAGCGGGAAGCGGTCGATGTGTTTGGCAATCATGGCTT
GGGCGGTTTGCTGGAAGAAGGTGCTCTTGAGAAATCCCCTAAATGTCTTGGTGGGAATTT
```

```
     AGGGGATTTTGGGGAATTTTGCAAAGGTCTCTAGATGAGTGAAAAAGAAGTGCAGGCTGC
     CTAAAAAGACAGAAAAAGTCTTTCCGGCAGCCTGCACTTTGGTTTCATTTCAGTCAGTAA
     ACCCAGTAAACGACGGTCTGAAAACGCAGAACGTTACGAAAAAAGCAGCCTACACGCCCA
     TCCCCGCCTTCTACCCGTTCTGTAAATCATACAGATAGCGGTAATATCCGTTCGGCTTC
   5 GCCAGCAATTCCTGCTGTGTTCCCGCTTCCACAATCCTGCCTTTATCCATGGCAATGATC
     CGGTGTGCCGTTTTAACAGTGGACAGACGGTGGGCGATAATCAGCACCGTCCGGTTGGCG
     CAAATGGCCTGCATGTTCTGCATAATCGCTCGTTCACTTTCATAATCCAGCGCGCTGGTG
     GCTTCATCAAAAATCAGAATGCGCGGATTGGTGATTAACGCGCGGGCAATCGCAATACGC
     TGCCGCTGTCCGCCCGACAAGCCGGCCCCTTGTTCGCCCACCACGGTGCCGTAGCCTTCC
  10 GGCAGCTCCATAATAAACTCGTGTGCGCCCGCCAGTTTGGCTGCTTCGATAATGCGTTCC
     AGCGGCATACCCGTATCCGTCAGCGCGATATTGTCGCGTATGCTGCGGTTGAGCAGCACA
     TTCTCCTGCAAGACCACGCCGACCTGCCGCCGCAGCCAGGCAGGAGCGGCCAAAGCCAAA
     TCGTTGCCGTCCACCAACACCCGTCCCTGCTCCGGTACATACAGACGCTGCACCAATTTG
     GTGAGTGTGGATTTGCCCGACCCCGAACGTCCCACAATCCCCAGCACTTCCCCGCCCGA
  15 ATCCGCAGGTTCAAATCCTGCAAAATCAGCCTGCCGTCCGCCTTATAGCGGAAATCGACA
     TGTTCGAACGTAATCTCCCCCCGGATATCGGGCAAAGCCAAATGCGAAGACGCATTCTCG
     GTCGGCGCATTCAGAATATCCCCCAAACGCGCCACCGAAATCCCCACCTGCTGGAAATCC
     TGCCACAACTGCGCCAAACGGATAACAGGCGCCGCCACCTGTCCCGAGAGCATATTAAAC
     GCAATCAGCTGCCCCACCGTCAGCTTGCTCTCAATTACCAGCCGTGCGCCAATCCACAAC
  20 GTCGCCACCGTCACCAGCTTCTGAATCAGCTGCACCCCCTGCTGGCCGACCACCGCCAAC
     TTCGTTACCCGAAATCCCGAAGCCACATAAGCCGCCAACTGATTGTCCCAACGCTGCGTC
     ATCTGCGGCTCCACCGCCATCGCCTTTACCGTACCCACCGCAGTGATGCTTTCTACTAAA
     AACGACTGGTTGTCTGCATTGCGCGCGAACTTATCGTTCAGACGCGTCCGCAGTATCGGA
     CTGATAAATGCCGACCAAAACGCATAGGCAGGCAACGAAGCCAATACCACCCAAGTCAGA
  25 GTGGAGCTGTAATACCACATCACCGCCAGAAAGATAAACGAAACGCCAAATCCAACACC
     GAAGTCAGCGCCTGACCGGTCAAGAAATTGCGAATCTGCTCCAATTCCCGCACCCGAGCC
     ACCGTATCACCCACTCGTCTGTGCTCGAAATAGGATAAAGGCAGGGAAAGCAGATGCCGG
     AACAAACGCGCGCCCAATTCCACATCAATACGTGAAGTCGTATGTGCAAACAGATACGTC
     CGCAAACCGCCCAACACAATCTCAAACAGCGACACCACCAACAAAGCCACCGACACCACA
  30 TCCAAAGTAGAGAATCCCCGATGTACCAGCACCTTGTCCATCACCACTTGGAAAAACAGA
     GGCGTAATCAGCGCAAACAGCTGCAACACCACCGACACCACCAATACTTCAAAAAACAAC
     CGGCGGTATTTGATTACCGCCGGAATAAACCAGGTAAAGTCAAACTTTGCCAAACTGCCC
     AATACCGAAGCGCGGGAAGCAACCAATATCAGTTTGCCCGAATATCTGTTAGAAAATTCG
     GCAAAAGACAATACCGCAGACTTATTCGTAACCAAATCCTGTATCAAAAATTGGGCATGC
  35 TCACCCTCACCGTCTGTTTTGGCCAAAATGAAATGGTTGCCGTCATCACACCATACCAAT
     GCGGGTAAAGTCGCCATAGCCAAACGTTTAATAGGCTGGCGGACTACCTTTGCCTTCAAT
     CCCAAAGATTTGGCGGCTAACAGCCATTGCGTTTCATTTAAATCGCTCTGTGCGGAAGTA
     CAAAATTCATGCTGTATATCGGCAGGATTGGCGGCAATGCCGTGGTAATGGGCGAGGATG
     ATGAGGGCGGAAAGGGCGGGGAGCGGTGCGGATACGATAGACATAAATAAAATATAGTTA
  40 GATTGGATGTGGATAACGGCTGGCTGGAAAAGGAATATATTAAGTAGAAAGAAATATATA
     AATAAAACAGCAGAACGCATTGTAAGGATATATATGGGAATTGTAAAGAGAAAGTATGGA
     AAAGTTCTCGTTTCAGGAAGGTAAAACGGCTTAGGAATCGAGTTAGATGAGGATGCCTCG
     CACCTCTCGTGCCTCCTGCATACCGTTAAGGCACAGGGTTAAGGTGCAGGCTGCTCCGAA
     CTCTGTTGCGGTCGGGTAATGTTATTTTTTGTGTTTCAGGCAGCCTGAAATATCTGTATA
  45 TTTTTGTTTTAAATAGATTTTAAAGATTGATAACTGTTCTTGACGATTTTTCAAGAAAGG
     AGTAAATTTCAAGAAAGGAGTAAAGTGACTTATTATCAATGACAAGCAACGCGCGAAGTG
     ACAAGGAAAACTATCTACTTAAATTCTAAGGAGGCTTCGAATATCATAAACCAATCAGAA
     ACATAGAGATAAAAATTATGTACAAATATAATCCTCTTATACAATTTATTGCACAGTTGA
     TTATGTCTTATGGAGCAAGCGTAGGGTGGGCACTTGCTGCCCCACGCGTTTCATATTTCA
  50 AGGCAGCCTGAAACCGTGTGGGCATAAATGCCTACCCTACATCCCAAAAAACAAGCGCAG
     CCTGCGTGTGTAGGGTGCGAACTTTCGGCAGGTAGACACGCAGTTTTATATTTTCAAGCT
     GAGGGATGCTTAAGAAAAGTACAAAACATTAAAAAATAAGGGGCTGTACTAGATTAGCCC
     TAAATCCACACCAATCCCGCAAGATTTTTAGCTGTCGGGACGGTGTGCCGAAGTTAAATC
     GAAATTCGCATTCTTTCAAGAACAGCGGGAAAGATTTGCGATCAATTCCGTTCTATTTGC
  55 GCAAGACGCGTTTTGCCTGATTCCAAAAGTTCTCAATGCCGTTTATGTGGTTCTGACGGT
     CAGCAAATTCCTTGGAATGGTTGATGCGGTAATGGATAAAACCGCTTACGTCCAACTTGT
     CGTAACTGCTCAGGCTGTCGGTATAAACAATGCTGTCCGGCATGATTTTCTGTTTGATAA
```

CAGGCATTAAAGTATCGGACTTGGCATTATCTACGACAACGGTATAGACCCGTCCGTTAC
GTTTCAGAATGCCGAAGACAACCACTTTTCCTGCCGCACCGCGACCACGTTTGCCTTTAC
GCCGTCCGCCGAAATAGCTTTCGTCCAACTCGACAGAGCCCTCGAAAACCTCATTGGCAG
CCAAGGCCAGATAATGGCTGATGACCATACGGATTTTGCGGTAGAACAGGACTGCCGAAT
TGGGATGGATACCCAAAATATCGGCAGCAGAACGGGCGGTAACTTCGAGTACAAAAAAAC
GGAGCAGCTCTTTCTGTACTTTTTTCTTTAATTTGCAGTGTGTTATCTTCATATTTCGGG
GGTAACATATCTGCTAATCTAGTACAGCCTCAAACAAAAAGAGAAATTTTAATTTCGCT
AAATCGCATAAAGATTAATCAAGAGTATCATTAAATGATATGAGTGAGCATCTATAATGC
CAAGAAGAGTTGTTAAGACATAACGATTATTGAAATAGATTGTAAAATAGATACTTAGAT
AGTCTGAAAAACGGATTTGTGAAACTTTTTATTACGCGCCATCATTTGAAAATGAAACTT
AAAAAACACTTATCATAATAAATATTTTCTTTACGTTGTTTGCTAATAAACTCAGTGCAA
TATCAGCGCAATATTTTATGGAAATTTTATGGATAACAAAAAAGAATTTATTAATAATTT
AACAAATAGGTATATGTGGATCTATCCATTGGTCTTAAATATTCTATTTCTACCTTTTTA
CCAGTCCTACCAATCTTTTTTTATTGCGCTTGGTTGTTTGTTTGCACTGGTTAGAAAAAT
GCAAAGCTTAGATTTTAAATTACAAAATCATATTGTATTGTTAAATATAAAAAGTGCTTG
GGCAGATAAAAAAGTATTTTTGATTAGGATAGTAGTGTCATGGTTGGCAGTAATGGAAAT
ATGGATGTGTTTTATTTCGGAATCATCAACGTGGGTATGCGGTGCTTTTTGTTTAAATAG
TGAAATATTGGAAAAAATTTTTCGTGGCTTTGGTTATTCTGGTAGTTTATATTTTTTATT
TATATTGATGATTGATCTCAATAAGTTAAGAGAGAGTATTTGAATTTCATTTTTTGTTTG
ACTTAAACTCAAGGAGAGTAACAATGATTGGTAGTGGTGATACTAAACAATGCAAAAAAT
TTTCTGCGTGTGATGGAAAATACCACGTCTACGATCCCCTCGCCCTAGACTTGGACGGCG
ACGGCATAGAAACAGTCACCGCCAAAGGCTTTTCAGGCAGCCTGAAGACTGAGAGAGTGA
ATACGATGAGTATACACTCTATGCCACTAAATTGATATTCACTAAATCATACCAGCTATA
TTTTATTTAATGAGACATATGAAAAATAAAAATTATTTACTAGTATTTATAGTTTTACAT
ATAGCCTTGATAGTAATTAATATAGTGTTTGGTTATTTTGTTTTTCTATTTGATTTTTTT
GCGTTTTTGTTTTTTGCAAACGTCTTTCTTGCTGTAAATTTATTATTTTTAGAAAAAAAC
ATAAAAAACAAATTATTGTTTTTATTGCCGATTTCTATTATTATATGGATGGTAATTCAT
ATTAGTATGATAAATATAAAATTTTATAAATTTGAGCATCAAATAAAGGAACAAAATATA
TCCTCGATTACTGGGGTGATAAAACCACATGATAGTTATAATTATGTTTATGACTCAAAT
GGATATGCTAAATTAAAAGATAATCATAGATATGGTAGGGTAATTAGAGAAACACCTTAT
ATTGATGTAGTTGCATCTGATGTTAAAAATAAATCCATAAGATTAAGCTTGGTTTGTGGT
ATTCATTCATATGCTCCATGTGCCAATTTTATAAAATTTGCAAAAAAACCTGTTAAAATT
TATTTTTATAATCAACCTCAAGGAGATTTTATAGATAATGTAATATTTGAAATTAATGAT
GGAAACAAAGTTTGTACTTGTTAGATAAGTATAAAACATTTTTTCTTATTGAAAACAGT
GTTTGTATCGTATTAATTATTTTATATTTAAAATTTAATTTGCTTTTATATAGGACTTAC
TTCAATGAGTTGGAATAGTTTTGGTAATTTTATGAGCGCACGCTCATCCGCGTTAGCAGA
ATTTGGAAATATGGTTGCTAATTTAGTTTCTGCAAAAAATGAGAAAGATATCTCGAAACG
TAATGAATATTACAAACAAGCTGGTTATAGTGCATTATTAGCATTTGGTAATTTGGCTAG
TAATATTGCACCAGGTAGTACGTCATCGCATATTGTAAACGGAACAAATGCCTCTGTGAT
TGCAAGCCGTCTCTCTGGAAATATATCTTCAGCTATTCAGGAGCATAAAGATGGTAAAGT
TAATATCAACCGTTTTCAAAATATTTTAGCGGATTTATATTCATTGGGAGGGTTAGGAAG
TACATTAATAGAGAAGAATGGAAATATGCAGAGTTGGGGGATTCCATTAGCAATTGCTGG
AGATATAATTGCAGCAACGGCTATTGCCACAGGAGATACTGGTACGATATCTACAGAGGA
ATTTTATAATTTTGACAACTGGAAAGGTTTTGGGTATGAGCTATTTGAAGACTGGTCTCG
TTGGGTATACGACTGGCTGCCCGACGGCTGGAATCTGTGGAAAGAATTGGACAGAAACCG
TTCAGGCCAATACCACATCTACGACCCCCTCGCCCTAGACCTAGACGGCGACGGCATAGA
AACAGTCGCCGCCAAAGGCTTTTCAGGCAGCCTCTTCGACCATAACGGCAACGGCATCCG
CACCGCCACTGGCTGGGTTTCTGCCGATGACGGTTTACTCGTCCGCGATTTGAACGGCAA
CGGCATCATCGACAACGGCGCGGAACTCTTCGGCGACAACACCAAACTGGCAGACGGTTC
TTTTGCCAAACACGGCTATGCAGCTTTGGCCGAATTGGATTCAAACGGCGACAACATCAT
CAACGCGGCAGACGCCGCATTCCAATCCCTGCGTGTATGGCAGGATCTCAACCAGGACGG
CATTTCCCAAGCTAATGAATTGCGTACCCTTGAAGAATTGGGTATCCAATCTTTGGATCT
CGCCTATAAAGATGTAAATAAAAATCTCGGTAACGGTAACACTTTGGCTCAGCAAGGCAG
CTATACCAAAACAGACGGTACAACCGCAAAAATGGGGGATTTACTTTTAGCAGCCGACAA
TCTGCACAGCCGCTTCACGAACAAAATGCTATCCATTAGCCATGTTCGGGAAAACACGAT
TTCCCCGTTTGTTTTAGGCTGTCTAAACAAATAACCATAAATGTATATCATTATTTAAAA
TAAATAAAAGTATTTAACTATTATTGACGAAATTTTAGAGAAAGAGTAGACTGTCGATTA

```
AATGACAAACAATAGTGAGAAAGGAAATATTTACTATCCGAGCACAGAGCATATTTTAGG
TAGCCTGTAACTGTTCCTGCTGGCGGAAGAGGATGAAGGTTGACTTACCCGAGAATAAAT
GTCCTGTTGTGTGATATGGATGCCATGCCGCGAAGCAATTGATGCAATCACGGCAGTCCT
ACTTGAATGAAACCTGTCGTTGCAGAATTTGAAAACGCTATTTTTAAGAAAGGATAAAGG
GAGAAAGAATTTTTGGTTTTTAAGCTGCATGAAACCGTGTTGGAATAAATGCACACCTAC
GATAATTAATAATTTTCGTTTTTTATTCTACAAGCTATTTATATATGATTGCTAAAAGTT
TATTTTTTAGATGCCAAAAAATATATTTTATATACTTCATATTGTTTATATGTCTTTATT
TGAATATATCTTACGATGGGGAAATATTTATATATTTTATAATAAATTTTACTCATTTGC
TAATATGTCATGGAATATTACTTGTATTTTGTAGAATTTTTCCATATGAAAATATTCCAT
TTACTATTTTTCTGAACTTTATTAGTTTATTTTTAATATTTTTACCTCTTATATTTACCA
TAAGAGAGCTAATTGATTCATATTATATTGAGTCGATAATTAATTTATTCTTAATTTTAA
TTCCTCACGTTATTTTTTAATTTACTTGAAAGGAAAGCAGATATGACATCTGCAAATTT
TAATATTAACGGTTTTGGAGATGTGAAATTAACACCCTATTCACCACTCTTGGGATATAA
AGCTTGGGATTCATTTATTGGTTCTATTCAATCCTTATCTGATTTAATCTATAATGTGGA
TAACAATAGAAATAAAATGGAAATTACTGTTAATAATGCTATTCAAGCTGCAGATAGCTT
TTTAAGCAGTAATTGGAAGAGATAACAAAATAACAAAATAACAAAATAACAAATACTGCT
TCTTTACTTGCATCCTTCGATAACATTTTTTAAATTTAAGAAATGTATCTCGAGATATAC
GAGAAACAGGAAAATTTAAACCTAATGATATTCAACAAGCAATTGGTGATATATTCATTG
CTGCTGGTGATGGATTACAATATATAAAACAACAAACAGAGGCGATGGCTCAAAGCAAAT
TCTTACCAACTAAATTAAAAACTGGTTTAAATGATGTCCTTAATTCTAGAATGCTAAAAT
CCTCTACTGTTTTACAGCATGAATTGAATTAAATAAGGATTATGGAAACGAGAGGCTTGG
CGAATCTATAATGAATATAGATGATTTTACACCAAGTAAGATAGCAAACTTTTTTGCGGA
TCCTGATACATACAGCAATGTATTAGAAGAAGTATCTAGGTTTATATATTCCTTAGTTCC
TGATGATGCAAACCCTTGGAAAGGGGGCGAAGATTATATTGGACGAGGGATAAGTGAATG
GGGAGAGTTACTGGAAAAATGGTATAAACAAGATTTTCTCCCTTATCTTGAAAAGAATGG
GACCAATTTCCGAAATTTGAAGATTGGCTGCCTGAATTCCCTGAATGGGCAAGAGAGTGG
TTGAAATTAGCTCTCAAACGTTCAGGCAAATATAACGTTTACGATCCCCTCGCCCTAGAT
TTGGACGGCGACGGTATAGAAACCGTTGCCACCAAAGGCTTTTCAGGCAGCTTATTTGAT
CACACCAACAACGGCATCCGCACCGCCACGGGCTGGATTGCTGCATATGACGGTTTTCCT
GTGCGCAAATTAAACAGTAACGGGGGCATTATTAGCACGACAGATACCATATTCCAATCT
TTGCATACATGGCTTGATCATCAACCAAGATGATATTTCCCAAGCACAGCATGATGCATG
CCATTGAAAAATATAGAAAATTAATTGAAAGCTTAAATGGATATTGAAATGAATGATCAC
ATAGTACAAATTATAAGAAGGTTCGGGCTAGGTAGGATATTTTTTATTCGTATAGCAAA
TCATCTATAATAATTTTTCTTCGTATGTTGTTTATTATATAATTTACAATTATCAATTT
AATTACCTTTCGCTTTTAATTTATTTATTACCAATATTGTGCAGTATATATATGTTTATA
TTTTTTTTAGGGAAAACTAAGGATACATTAACGACAGAGCGAAGAAAAAAATTTTTTAAT
TCTATTTTTCCACTTAGAATTCTAATGATAATAGGTTCTGAGAAAAAGAGGTTAGGCATC
GGTAGTTTTTATTTGCTAAACCTACTATGGATTATTTGGTGTCTTATGATTCATAGAGAA
CAAGTCCCATTAAATAACTTAACCCTCCTATTATCCTTCATATTTTCATTATTTTTTTA
TTATGTGATTTTGTTTTATTATTGAATGTTTATGTTTATTTTTTTAAATTAAGAGAGGCT
TAATATGGTTAATCAAATCAAATCTGATAATAATTCAGTTTCTATTGAATTTATATAAGA
TTTTATAACTGCAAGTACGGATGTAATTAATCTGAGTTACGAAAATTTTCGTAAAAATTT
TTATACACAAATGTCAACTGATTCTACCAATTATGCAGCCAAACATGAAAGTTTAGGAAA
ATCGGTACAACGTGAATTACAAAAAACACAAAGTCAGTTGAGACAAGTTGTAAGAAAAT
GCAGAGTAAATATAATATAAATAATAAAGCACGAGTAGCAGAAATATCTTTGTTAAGGCA
AATGCAAAGCCAATTTTCTCGAAAATATGTAAACAAAAATCTTGGTAACAGCAACACTTT
GGCTCAACAAGGCAGCTACACCAAAAAAGACGGCACAACCGCGCAAGCAGGCGATTTGCT
GTTGGCTGCTGACAACCTGCACAGCCGCCTCACGGACAAAATGCTATCCATTAGCCATGT
TCGGGAAAACACGATTTCCCCGTTTGTTTTAGGCTGTCTAAAACAAATAACCATAAATGC
ATATCATTATTTAAAATAAATAAAAGTATTTAACTATTTTTGACAAAATTTTAGAAATAG
AGCTAGAGTTTTAGTTAAGTAGAAATTGATAGTGCTTCAAGGGAAGTATTCTCTATGTTT
GCATTAAAGGGGGTCTGATAAAGCTATTATTCATTACTATGGACTTTTATTTCATTATTT
TCAGGCGGAAATCTCATAGCCGTTTTGAATTTTTCTCTTCCTTATTAATTATACAAATAA
TTAGTATATTCTGATATGGATTTTTTGGAAATTTTTATTATGTCTGCATTTAGAAAAATA
TTATTAATAATATCTTGCCTATTGATTGCTAGCTGCAGTTTTGTTGAAACTATTTTTTAT
ATGGCTATTAGCCCAGAACCTGTTGTGGTAGACTTTCCTCTTGGTAAAAAAACAAAAAGA
TCTATTGAACTCAAACAGAAAATTGGTAAACCTTATGCAATATCGTTAGGAACTAATTTT
```

```
ATACATTATGATCCAAAACAGGGGGAGAGGTGGATTGATGATAAGTTAAACTATCCATAT
AATATATCGGTTAAAATATTTAAAGTGGAAGAAGATGGTAAAAAACTTATTATAGATGAG
TTGCTTACAGAGAGAAGTAGAAAATTAGGAGGCGGAGTATTTGGAGCTGGGGGAAAATAC
AGTATGCATATTTATGATTTTTATTTGCCGGAAGGGGAATATTTATTTGAGATTTCTGAT
AATAGTGAATATATTCCACTTTACGATGAAATAAATAATTCTATAAGAATAGTAGTTAAT
GCACGAATTCAGTAAATTTTTCTAGAAATGTGGGGTTACTTATGGCTGATTATTATGCGA
TAACTGTAAAATTTGCGAAGCAGGGTACGCCACTGAAACAAGAGGGGGTGTATCCAAGAC
GGGTACGTTTGGGTTGAACTGTATTCGGCTAGAGATAAAAAAATCGGGGCTGTACTAGAT
TAGCCCTAAATTCCACACCAATCCCGCAGGATTTTAAGCTGTTGAGACGGTGTGCCGAAG
TTAAATCGAAATTCGCATTCTTTCAAGAACAGCGGGAAAGATTTACGATCGATTCCGTTG
TATTTTCGCAAGACGCGTTTTGCCTGATTCCAAAAATTCTCAATGCCGTTAATGTGGTTC
TGACGGTCTGCAAATTCCTTGGAATGGTTGATGCGGTAATGGATAAAAACCGCTCACGTCC
AACTTGTCGCAGCTGCTCAGACTATCGGTATAAACAATACTGTCCGGCATGATTTTCTTT
TTGATGACAGGGAGTAACGTTTCAGACTTGGCATTATCTACGACAACGGTATAGCCCCGT
CCGTTGCGTTTCAGAATGCCGAAGACAACCACTTTTCCTGCCGCACCGCGACCACGTCTG
CCTTTACGCCGTCCGCCGAAATCGCTTTCGTCCGGCTCGACAGGGCCCTCAAAAACCTCA
TCGGCAGCCAAGGCCAAATGATGGTTGATAACCGTGCGGATTTTACGGTAGAACAGTACT
GCCGAATTGGGATGGATACCCAAAATATCGGCGGCAGAACGGGCGGTAACTTCCAGCACA
AAAAAACGGAGCAGTTCTTTCTGTACTTTTTTCTTTAATTTGCAGTGCGTTATCTTCATA
TTTCGAGGGTAACATATCTGCTAATCTAGTACAGCCCCAAAAATATACCAAAAACAGCAA
AACAAATTGTAAGGATAGGTATAGGCTTTGTAAAGGTAAATTGTGAAAAAGCAGTTTTT
TAAACGAATGAAACGGCTTCGGGCTGAAATATATGCTGATGCCCTGTCCTTCCCGTATAT
CTTGTGTGTTGTCAAAGTGCAGGCTGCTTTGAAATCGGTATTGCCATCTATGAACCACCA
CTTTGTTTTATTTCAGCGGGCTTGAGATGTGTATAAGAATATTGTTTTGAATAAATTTAA
AAAAATGATAATCGTTATTGACGATTTTTAAAGGAAAGCGTAGAGTGCCAATTCTATGAA
GCAATACGGTAAGTAACAATGAAAATATCTACTGCTTGGGTATAGAGCATATTTCACAAC
CCGTAACTATTCTTGCGGAAACAGAGAAAAAAGTTTCTCTTCTATCTTGGATAAATATAT
TTACCCTCAGTTTAGTTAAGTATTGGAATTTATACCTAAGTAGTAAAAGTTAGTAAATTA
TTTTTAACTAAAGAGTTAGTATCTACCATAATATATTCTTTAACTAATTTCTAGGCTTGA
AATTATGAGACCATATGCTACTACTATTTATCAACTTTTTATTTTGTTTATTGGGAGTGT
TTTTACTATGACCTCATGTGAACCTGTGAATGAAAAGACAGATCAAAAAGCAGTAAGTGC
GCAACAGGCTAAAGAACAAACCAGTTTCAACAATCCCGAGCCAATGACAGGATTTGAACA
TACGGTTACATTTGATTTTCAGGGCACCAAAATGGTTATCCCCTATGGCTATCTTGCACG
GTATACGCAAGACAATGCCACAAAATGGCTTTCCGACACGCCAGGGCAGGATGCTTACTC
CATTAATTTGATAGAGATTAGCGTCTATTACAAAAAAAACCGACCAAGGCTGGGTGCTCGA
ACCATACAACCAGCAAAACAAAGCGCACTTATCCAATTTCTACGCGACGGTTTGGATAG
CGTGGACGATATTGTTATCCGAAAAGATGCGTGTAGTTTAAGCACGACTATGGGAGAAAG
ATTGCTTACTTACGGGGTTAAAAAAATGCCATCTGCCTATCCTGAATACGAGGCTTATGA
AGATAAAAGACATATTCCTGAAAATCCATATTTTCATGAATTTTACTATATTAAAAAAGG
AGAAAATCCGGCGATTATTACTCATCGGAACTATCATAGGTATGGAGAGAACGATTACAG
CACTAGCGTAGGTTCCTGTATTAACGGTTTCACGGTACGGTATTACCCGTTTATTCGGGA
AAAGCAGCAGCTCACACAGCAGGAGTTGGTAGGTTATCACCAACAAGTAGAGCAATTGGT
ACAGAGTTTTGTAAACAATCCAAGTAAAAAATAATGGGCTGTCCTAGATAACTAGGATA
AACTCGATTTTACTAATTGTTTTAAAATGGAACAAGAACTTTTATCTCACTGTTGTTAAA
ACGCCATTCGCACTCCTTTAAATACAGCTCAAAATGCGCTTTGGGAATGCCGTTAAACTT
GCGTAAATGACGTTTTGCCTGGTTCCAAAAGTTCTCAATTCCATTAATATGGTTTTGTCG
TTCAGCAAAATGTGTGCTGTGATTGATACGAAAACGAAGTTTCAGCGAAGCTAAAATGGC
TAAATTCGCGCACATCTAATACATCATAGCTACGATAACAATCCGTATAAATAATGCTGT
CAGGTTTCACTTGTTCACGGATAATAGGAAATAAAGTAGCGGTTTGAGTATTCGGTACTG
TAACCGTATAAACCTTACCATTTCGCTTCAAAAGACCGAATACGGCGACTTTACCGGCAG
CACCGCGACCGCGTTTGCCTTTGCGTTGTCCGCCAAAATAACTTTCATCTGCTTCTACTT
CGCCATCAAACATTTCCAAATGCGGACTGTTTTGATAAATAAGTAATCGTAAACGATGAA
AATAATAGGCTGCGGTATTTTTATTAACGCCTACTAACTCTGCTGCCGTTCTTGCAGTTA
CACCTGTGACAAATAGCTCAATGAGTTTATTTTGTTTATACTGGCTTAGACGACTTTTTC
TCATAGGGATAATTCTAACTTAATTTGAATTTCCCTAGTTATCTAGGACAGCCCCTATTC
TTTAACTAATTTCTAAGCTTGAAATTATGAGACCATATGCTACTACCATTTATCAACTTT
TTATTTTGTTTATTGGGAGTGTTTTTTACTATGACCTCATGTGAACCTGTTAATGAACAAA
```

CCAGTTTCAACAATCCCGAGCCAATGACAGGATTTGAACATACGGTTACATTTGATTTTC
AGGGCACCAAAATGGTTATCCCCTATGGCTATCTTGCACGGTATACGCAAGACAATGCCA
CAAAATGGCTTTCCGACACGCCAGGGCAGGATGCTTACTCCATTAATTTGATAGAGATTA
GCGTCTATTACAAAAAAACCGACCAAGGCTGGGTGCTCGAACCATACAACCAGCAGAACA
5   AAGCACACTTTATTCAATTTCTACGCGATGGTTTGGATAGCGTGGACGATATTGTTATCC
GAAAAGATGCGTGTAGTTTAAGCACGACTATGGGAGAAAGATTGCTTACTTACGGGGTTA
AAAAAATGCCATCTGCCTATCCTGAATACGAGGCTTATGAAGATAAAAGACATATTCCTG
AAAATCCATATTTTCATGAATTTTACTATATTAAAAAAGGAGAAAATCCGGCGATTATTA
CTCATTGGAATAATCGAGTAAACCAGGCTGAAGAAGATAATTATAGCACTAGCGTAGGTT
10 CCTGTATTAACGGTTTCACGGTACAGTATTACCCGTTTATTCGGGAAAAGCAGCAGCTCA
CACAGCAGGAGTTGGTAGGTTATCACCAACAAGTAGAGCAATTGGTACAGAGTTTTGTAA
ACAATTCAAGTAAAAAATAATTTAAAGGATCTTATTATGAATGAGGGTGAAGTTGTTTTA
ACACCAGAACAAATCCAAACCTTGCGTGGTTATGCTTCCCGTgGCGATACCTATGGCGGT
TGGTATCCGAGCT

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 4>:

gnm_4

CGGGGCTTACAACATCGGCGCAATCGACAAAAAGACCATGCGCGACTTTGACAAGTCCTG
20 CCTGACCGAAATCAAACCGTTGAGCGGCGGAGACATCAAGGCAATCAGGGAGAAGGAGGC
ACTATCGCAAGCCGCTTTCGCCATCTATCTCAACGTGGGAAAAAATCACGTTTCGGCTTG
GGAGCGGGGCGTTAAAAAGCCGAGCGGCGCGGCGTTGAAGCTGCTGACCATCGTCAAAAA
CAAGGGCATCGAAGCCATTGCGTAGCCGACTTGGCAAACGGCAAAATCAGCAAGTTCACA
ATAGACGCGCTGCTGAATATGCCTGCCAAGACAGGCAAGACCGCCGAACTGAATATCAGG
25 GCGTAGCCGCATAAATGCCCGACCGCATCAAACCAAGCCGAAACGGCGGCGGTGCAGACG
ACATAGCCCGACAGCAAGGCACGGCGCAGACGGGCGCGAAACCCGAAACATCACCGACCG
CGAGGTACGGGGATTTTTTGCGCCCGTTGCAGGGGGGGATTGGATTTAAGCGGCGCGGGC
TTGAAGGCAAAACGGGTGGGGCACAGAACTGTTTAAATGCAGTCTGAATCTCAAACGATT
TCAGACGGCATTTTGAAACAATGGCTCAAATTCTCGATCCCCTTCCCTTAACGCCGACGT
30 TTTTTATTAACGCGCCCCTTATTTCTGACACTTTGCTCATAAACCGGCATAACGGTCGGC
AACAACCGTTTTAGATTTTCTATACGGGCATTGTTTGTCGGATGAGTAGAGGTAATAGCA
TAAATAAAGCCGTTTTGGTCGTTTTCCTGATTCATTTTTTCCCAAACCCTGACAGCGGCC
GCCGGATGATAGCCTGCCTGCGCCATCAACATCATTCCCCCCTCATCGGCTTCTTCTTCC
AAGCTGCGGCTATAAGGCAAGGTAAGACCGTACGTCCCCAAAATATCCATACCCAATCCG
35 ACCAATTCCGGATTAGTATCCGGTTTTTTGTCTAATATAATCTGCGTGCCTATCTGCGCC
GCCGTATTGGTCAAGATTTGCTGCCCGACCTTATTTTTACCGTGTTCATGCAGGGCGTGC
GTCATTTCATGCCCCATAATGGCGGCAATTTCGTCATCGGTCAGCTTGAGTTTGTCGACT
ATCCCCGTATAAAACGCCATTTTTCCACCGGGCATTGCCCACGCGTTCAGCTCATCGTTT
TTGAAAACCGTCATTTTCCAGTCAAACTTATGGCTGGTATTATTTGCCGCATCGGCATAA
40 GGCAGCATACGTCGAAATACTGCCTGCACCCTGCGGGCTGTTCTGGATGTGGTATCGACA
TTGCCGGCAGACTTGTTTAACTCAACCGTTTTCATATAATCTTTGGCAGCCGCAGCGTTC
ATTGTGGCGGAATCATGACCGTAAACATCAGCAACGACCGCACAAGCCCCCAATACCGAG
ATTACTGCCGACAGGCAGAGTATCCGTTTAAAGGAAGGAAGGAAGGAAATTTCATATTTA
GGTTTACTCCTTAAAAAATTAAATTTCAAAAAAATGCCGTCTGAATCCAAAACGGATTTC
45 GGACGGCATCTTAACATTGTTTAATGTTTTTAAAAAGATTTACACCACGATGTTCTCCAG
TCTGCCCGGTACGGCGATGATTTTCTTGGCAGGCTTGCCTTCTATGAATTTCACCGCGCC
TTCAGCGGCGTATTCGGCAGCTTCTTCAGCCGGTTTGTCGAAATCACGCATAAATTGCCA
ATAATTCTCCAACTTTTTTACGGCTGCTGCTGCCTTTTGCGGCAATATTGCGCTGAACTT
CAACTGTTTTCAAAATGGCAGAAGAATAAATATCCCTTGTGAATTCAGTATCATGATTTG
50 AAATCAAAATACCTTGGGAGTTGGGCGCAATTTATTGATTTTTTGTAAAGTCCGCGACCA
ATGAATTCGATCGTATTTTGGTCGCGCAGAATTTGCAACTGTTGGCGGATTTTGTCTCTG
ATATGGTTGTTTTGGGGAAATTGGATGGATAGTTTGTTTTCAAATTCATACATTTGCGAC

-30-

```
AATGTGAATTCTTCGGGGAGTTGGTCGATACATTTCATAACAGCCAGAAGCCAGCCTTTG
CGCTCCGCATTTTGGTTGCGTAAAAACAAATTGGATTGCCATTTTTTCAGAACGGTTTCG
GGTTCGATAATGCGGGAATTGTCTATTAAGAATATTTTGCCGCTTTCAGGCAAAGGGGCG
AGATTGATAGAACACATAATGTGGTTCGGCCGGTTTTTAATGCCTTTATTTCTGGGAATA
ATCATATCCGGCGTGATGAAATGTTTGGGTACAAGCACCAATTGCCGTATGGAGTAATCC
GCTTTTTTATATGCAAGAAAGAAAAAGTTGGGGTTGGTATCTGACCGGATGCGCTCCAAC
ATGGTGTGATATGCACCGTCAGGCACGCTGTTGCCTATGGTTTTTTGATTTTTACTCTTT
AATTCATATTGCTCGTGGCAATTTGGGCAAAAGAGGTCTGCAACAGGTTTGTTATTGGCA
AATCTCTGCATCGGCTTGCTTCCGCAACAGGGGCAGTAGCCGTTTTTTTCCAACCAAGCC
TCGCTCATTACACGGATTTTATGGGTTGCTTTATTTTGTTGCTTTCCCAATTCGGTATCG
AAAAATAAATTCATGTTTTGGATTTTGAGATTTCAGTTATTCGGGGTTCGTCATGCAGAC
AACACAATCCACCTTAAAAAGGCCGTCTGAAACCCTGTTTCCAAGTTTCAGACGGCCTTT
ATCCGTGTGGCTAAACCTTAAAAGCGGTTAGACGACGATGTTCACCAGTCTGCCCGGTAC
GACGATGATTTTCTTCGCCGGTTTGCCTTCCATGAATTTCACCGCGCCTTCGGTGGCGAG
TGCGGCGGCTTCGAGGTCGGCTTTGGATGCGTCGGCGGCAACAGTGATTTTGCCGCGCAG
TTTGCCGTTGACTTGAACCATCACTTCGATTTCGGATTTGACCAAGGCGGCTTCGTCGAC
TGTCGGCCAGCCTGCTTCCCACAGTTTCGCGCCGTTCAATTCGCTCCACAGGGTTTCGCA
GATGTGCGGCACGATGGGCCACAACAGGCGTACGGCGGTTTCCAATACTTCTTGGGCGAC
GGCGCGTCCTTGTTCGCCGCCGGTGTCGGTTTTGTCGTATTGGTTGAGCAATTCCATCAC
GGCGGCGATGGCGGTGTTGAACTGCTGGCGGCGGCCGTAGTCGTCGCTGACTTTGGCAGT
GGTCGCGTGCAGTTTGTGGCGCAGGTCTTTGAGTTCTTTAGACAAACCGTCTTGGCTGCC
TGCGAACGCTTTGACCGCTTCGCCTTGCTTCAAGTATTCGTAAACGGTACGCCACAGGCG
GCGCAGGAAGCGGTGTGCGCCTTCGACGCCGCTGTCGCTCCATTCGAGGGACTGTTCGGG
CGGTGCGGCGAACATCATAAACAGGCGGGCGGTGTCCGCGCCGTAGGCGTTAATCAGTTC
TTGCGGATCGACGCCGTTGTTTTTGGACTTGGACATTTTTTCCGTGCCGCTGATGACGAC
GGGCAGCCCGTCGGCTTTGAGGACGGCGGAAATGGGGCGGCCTTTGTCGTCGAACGTCAG
CTCGACATCGGCGGGGTTGATCCAATCTTTGCCGCCTTTGTCGTTTTCGCGGTAGTAGGT
TTCGCAAACGACCATGCCTTGCGTCAGCAGGCGTTCAAACGGTTCGTCAACATTGACTAG
ACCTTCGTCGCGCATCAGTTTGGTGAAGAAACGCGCGTACAAGAGGTGCAAAATCGCGTG
TTCGATGCCGCCGATGTATTGGTCGACCGCGCCCCAGTATTTCGCGGCGGCAGGATCGAC
CATGCCGTCTGAAAATTTTGGCGACATGTAGCGGAAGAAATACCAGCTCGATTCCATGAA
GGTGTCCATGGTGTCGGTTTCGCGTTTCGCCGCGCCGCCGCAGCATGGGCAGGCAGTTTC
GTAAAACTCGGGCATTTTTGCCAGCGGCGAACCCATGCCGTCGGGTACGACGTTTTCAGG
CAAAACGACCGGCAATTGGTCGGCAGGGACGGGTACGTCGCCGCATTGTTCGCAATGGAC
GATGGGAATCGGGCAGCCCCAGTAGCGTTGGCGCGAAATGCCCCAGTCGCGCAGGCGGTA
TTGGGTTTTCGGTTCGCCCGCGCCTTGGCTTTGCAGCTTGGCGGCGACGGCGTCGAATGC
CGTCTGAAAATCCAAGCCGTCCAAGTCGCCGCTGTTGACCAATACGCCGTTTTCTTTGTC
GCCGTACCATTCTTGCCATTGGTTTTCGTCAAATGCGTTGTCGCCGACGGCAATGACTTG
TTTTTTCGGCAGATTGTATTTGGTGGCGAACTCAAAATCGCGTTCGTCGTGCGCCGGAAC
CGCCATCACCGCGCCGTCGCCGTAGCCCCACAATACATAGTTGGCAATCCACACTTCCAG
CTTGTCGCCGTTGAGCGGGTTGACGACGTAGCGGCCGGTCGGCACGCCTTTTTTCTCCAT
CGTCGCCATATCGGCTTCGGCAACCGAACCGGCTTTGCATTCGGCAATAAATGCCTGCAA
TTCGGGTTTGTCGGCGGCTGCGGCGGCTGCCAGCGGATGCTCGGCGGCAACGGCAACATA
AGTCGCACCCATCAGCGTGTCGGGGCGGGTGGTATAAACTTGCAGGAATTTCGCGTAATC
GCCTTCCAAGCCTTGTTTGCTGTCGTCTGAAACGGCGAAGCGCACGGTCATACCGCGCGA
TTTGCCGATCCAGTTGCGCTGCATGGTTTTGACTTGTTCCGGCCAGTGTTCCAGCTTGTC
CAAGTCGTTGAGCAGCTCTTCGGCGTAATCCGTGATTTTGAAGTAATACATCGGGATTTC
GCGTTTTTCGATCAATGCGCCGGAACGCCAGCCGCGTCCGTCGATGACTTGCTCGTTGGC
AAGGACGGTTTGGTCGACAGGGTCCCAGTTTACCGTGCCGTTTTTGCGATAAACGATGCC
TTTTTCAAACAGCTTGGTAAACAGCCATTGTTCCCAGCGGTAGTATTCGGGTTTGCAGGT
TGCGGTTTCGCGCGCCCAGTCAATCGCAAAACCTAGGCTTTTGAGCTGGGTTTTCATGTA
TTCGATGTTATCGTACGTCCAAGCGGCAGGGGCGACGTTGTTTTTCATCGCCGCGTTTTC
CGCCGGCATGCCGAACGCGTCCCAACCCATAGGCTGCATGACGTTGAAGCCGTTTAAAAG
TTTGAAGCGGCTCAATACATCGCCGATGGTGTAGTTGCGCACATGCCCCATGTGCAGCTT
GCCGCTGGGATAGGGGAACATGGAGAGGCAATAATATTTGGGTTTGGAAGCGTCTTCGGA
GACGTTGAAAATACGGGCGTCGTCCCATTTTTTCTGCGCCGCAGGCTCAATGGCGGCGGG
CCGGTATTGTTCTTGCATAGTCATTCTGTTTTCGCTTAAAAACGTTGGAAAAATAAAGTC
```

```
GGCATCAATTATAACAGGTTGCCGGAAGCGGCGAATCGGCAGATTGCCGGCAGGATGCGT
AAATTCGCACGCGCATTATTCCGTATGCCGTACAAATACACCGCGTTTATTGATACGCAC
GTTTTTTATGCTAATATTACAAACCAAAATCAAATGTTTAAAACTCTCCTGATGCGGCTC
TTCCGAACAAAAGGCAGACGGGCATCGGGTAAAAGAGGATTCTGCATATGAAAATCAAAC
AAATCGTCAAACCGGGCTTGGCAGTATTGGCGGCGGGCGTTCTGTCTGCCTGCGCAACCA
AAAGCAACGTCAAAGCCGACGGCACGACCGACAATCCGGTTTTCCCGAAACCCTATTCCG
TAACGCTCGACAACAAGCGCGGCACATTCCCGACTTATGACGAACTGGATCAGATGCGCC
CCGGCCTGACCAAAGACGACATCTACAAAATCCTGGGCCGCCCGCATTACGACGAAAGTA
TGTACGGCGTGCGCGAATGGGATTACCTGTTCCACTTCCATACCCCGGGCGTAGGTATCG
ACCCTGAAAACACTTCCGGCGTAGAAGATGTTACTACCTGCCAATACAAAGTGATTTTCG
ATAAAGACAAATTTGCCCGCAGCTTCTACTGGAACCCCGTCTTCCCGAAAGATGCCGCCT
GTCCGCCGCCCGCACCCAAAGCCGAGCCGCAAGTCATCATCCGCGAAATCGTGCCGGCAA
AACCGAAACGTATCCGCCAATAATCCGACATGCCGTTCCGCCTGTTTTTAGGGATATTAT
GCGGCCTGTCAATGGTTGCCCCCGTATATGCACAGGGGCAGCCGGATACGGTCGGCGACT
TTATCCAAAAGAAAAAAGTCATCGTCGATACATCCAAAGCGGAACTCTGTTTCGCTGACG
ACCGTCAGTGCCACCCCGTCCTCATCGGTGTTGCCACGCCCAAGGGGACGTTCGGGCTGA
CGCTGAACAGTACCGACAAGCCCGGATACGGCGGCGAAGTCATCGGTTTCAAGCAGGAGG
GTGATTTTCTTTTCGCCCTGCACCGCGTTTGGAATCAGATACCGTCGGAAAGGCGGAACG
AACGCATCGCCTCCCCGTCCGTGTCCGACAGGATTATGACCAACGGCTGCATCAACGTCA
GCGATGCGGTGTACGAAAAACTGCGTCATTATTTTGTGTTGGAAGTGATTTGAAACAGAC
GGATACCGCACGCGCCGGTATCTGTTTTCACATTGCCCCGATGCCTGAAACAGACTGTCC
GCCACGTCATGCCGTCTGAAACCGGCGCAGATGCCGCCAAGCCTTCAGACGGCATTGCCT
GCCCGCTCCGACCGAACAACAACCATCTTTGGGAGAACCTTATGCCCGAACAAAACCGCA
TCCTCTGCCGCGAACTGAGCTTGCTGGCATTCAACCGCCGCGTGTTGGCGCAGGCGGAAG
ACCAAAACGTCCCCCTTTTGGAACGCCTGCGCTTCCTGTGCATCGTTTCATCCAACCTCG
ACGAGTTTTTCGAAGTCCGTATGGCGTGGCTGAAGCGCGAACACAAACGCTGCCCGCAGC
GCAGGCTGGACAACGGCAAAATGCCGTCTGAAACCATCGCCGACGTTACCGAAGCGGCGC
GCTCCCTGATACGGCACCAGTACGACCTGTTCAACAACGTCCTTCAGCCCGAGCTGGCAC
AAGAAGGCATCCATTTTTACCGCCGCCGAAATTGGACAGACACACAGAAAAAATGGATTG
AAGACTATTTCGACCGCGAATTGCTGCCGATCCTGACCCCCATCGGACTCGACCCTTCCC
ACCCCTTCCCGCGCCCGCTGAACAAATCGCTCAACTTCGCCGTCGAACTCGACGGCACAG
ACGCGTTCGGCAGGCCTTCGGGGATGGCGATTGTGCAGGCACCACGCATCCTGCCGCGCG
TTGTTCCCCTGCCGTCCGAACTGTGTGGCGGCGGACACGGCTTCGTCTTCCTCTCCTCCA
TCCTGCACGCCCACGTCGGAAAACTCTTCCCGGGCATGAACGTCAAAGGCTGCCACCAGT
TCCGCCTGACGCGCGACAGCGACTTGACCGTTGACGAAGAAGACCTGCAAAACCTCCGCG
CCGCCATTCAAAACGAGTTGCACGACCGCGAATACGGCGACGGCGTGCGGCTCGAAGTCG
CCGACACCTGTCCCGCCTACATCCGCGACTTTCTGCTCGCGCAATTCAAACTGACCGCCG
CCGAACTCTATCAGGTCAAAGGCCCGGTCAACCTCGTGCGCCTCAACGCCGTCCCCGACC
TAGTCAACCGCCCCGATTTGAAATTTCCCACACACGCCGGGCAGACTGAAAGCCTTGG
GCAAAACCGCGTCCATATTCGATTTGGTGCGCCAATCGCCCATCCTGCTGCACCACCCCT
ACCAATCGTTCGACCCCGTTGTCGAAATGATGCGCGAAGCCGCCGCCGACCCCGCCGTGC
TTGCCGTCAAAATGACGATTTACCGCACCGACCACGCGTTCCGAACTCGTCCGCGCCCTGA
TGAAGGCGGCACTCGCCGGCAAACAAGTAACCGTCGTCGTCGAACTGATGGCGCGTTTTG
ACGAAGCCAACAACGTCAACTGGGCGAAGCAGCTCGAAGAGGCGGGCGCGCACGTCGTGT
ACGGCGTGTTCGGCTACAAAGTCCACGCCAAAATGGCACTGGTCATCCGCCGCGAAGACG
GCGTGCTCAAACGTTACGCCCATCTCGGCACGGGCAACTACCACCAAGGCACATCGCGCA
TCTACACCGACTTCGGCCTCATTACCGCCGACGAACAAATCACCGCCGATGTGAACATAT
TGTTTATGGAAATCACAGGTTTGGGCAAACCCGGGCGGCTGAACAAACTCTACCAAAGTC
CGTTTACCCTGCACAAAATGGTTATCGACCGCATCGCACGCGAAACCGAACACGCAAAG
CCGGCAAACCGGCGCGGATTACCGCCAAGATGAATTCGCTCATCGAACCGACCGTCATCG
AAGCCCTGTATCGGGCAAGCGCGGCAGGCGTACAAATCGATTTGATTGTGCGCGGTATGT
GCACCTTGCGCCCGGGTGTAAAAGGCTTGTCCGAAAACATCCGCGTCCGCTCCATCGTCG
GCAGGCAGCTCGAACACGCGCGCGTGTATTACTTCCATAACAACGGCACGGACGATACCT
TTATCTCCAGCGCGGATTGGATGGGGCGCAACTTCTTCCGCCGCATCGAAACCGCCACGC
CGATTACCGCGCCCGAACTCAAAAAGCGCGTTATACATGAAGGACTGACCATGGCACTGG
ACGACAACACCCACGCGTGGCTGATGCAGCCCGACGGCGGCTATATCCGCGCCGCACCTG
CCGAGGGCGAATCCGAAGCCGACCTGCAAAACGATTTGTGGACACTGCTCGGAGGCTGAC
```

-32-

```
CCGCACCGCCCCAATCAAAAACCATGCCGTCTGAAACCTTTCCGTTTCAGACGGCATGGT
TTTACAGCAATCTAAACAGGGCGGACCGGAGTCAAAAACACACCTTCGCCATTCCTGCAC
AAGCACTTCCCCTATACGCTCCCAACCCCAAGCCGCCGCATTCCAGACGGCATTATAGTG
GATTAAATTTTAGGGGCTGTACTAGATTAGCAGATATGTTACCCTCGAAATATGAAGATA
```
5 ```
ACGCACTGCAAATTAAAGAAAAAAGTACAGAAAGAACTGCTCCGTTTTTTGTGCTGGAAG
TTACCGCCCGTTCTGCCGCCGATATTTTGGGTATCCATCCCAATTCGGCAGCACTGTTCT
ACCGTAAAATCCGCACGGTTATCAACCATCATTTAGCCTTGGCTGCCGATGAGGTTTTTG
AGGGCCCTGTCGAGCCGGACGAAAGCGATTTCGGCGGACGGCGTAAAGGCAGACGTGGTC
GCGGTGCGGCAGGAAAAGTGGTTGTCTTCGGCATTCTGAAACGCAACGGACGGGGCTATA
```
10 ```
CCGTTGTCGTAGATAATGCCAAGTCTGAAACGTTACTCCCTGTCATCAAGAAGAAAATCA
TGCCGGACAGCATTGTTTATACCGATAGTCTGAGCAGCTGCGACAAGTTGGACGTGAGCG
GTTTTATCCATTACCGCATCAACCATTCCAAGGAGTTTGCAGACCGTCAGAACCACATTA
ACGGCATTGAGAATTTTTGGAATCAGGCAAAACGCGTCTTGCGAAAATTATAGTGGATTA
ACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGAAACCGATTCA
```
15 ```
CTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTA
CTGGTTTTTGTTCATCCACTATACCTTTCCGACAGCCGAACAAAACCCCGAATCCGTCTG
CACGGTTCGGGGTATATCTCCAATACGGGCATCGTGTTCCGGAAAACCGTCAAATCCGCA
TCGGCATCACAATATATTTGAAATTCGGATTGTTCGGCACGGTAAACAGCGTCGAGCGGT
TGGCATCGCCGAAGGCAAGCTGCATATCGTCGGAATGGATGTTGCGCAACACGTCCATCA
```
20 ```
GATAGCCGATATTGAAACCGACTTCGAGTTCGCCGCCCTGATAGGCGATTTCGATTTCTT
CGCGCGCTTCTTCCTGCTCGTTGTTGCTGCACACAACGCTCAACAGGCCGGGTTGCAAAA
ACAATCGCGCACCGCGGAATTTTTCATTGGCAAGAATCGATGCACGTTCCAACGCGCCCA
ACAATTCTGCCCTCGACAACACGAAAATCTTGTCGTTGTCCAAAGGAATCACGCGGTTGA
AATCGGGGAATTTGCCGTCGATGACCTTGCTGACGATGGTCGTGCCGTTGCATTGGAAAC
```
25 ```
GCACCTGTTTGTCCAGCAGCTCGATTTGAATCGGATCGTCGGGGTTGTTCAACAGTTTGA
ACAGTTCCAGCACCGTTTTGCGCGGCAAAATCACTTCGGCGCGCGGCAAATCCGCATCAA
TCGCGCAGGCTGCATAGGCAAGGCGGTGTCCGTCGGTCGCCACAAGGCGCAACTGGCTGC
CCTCAACCTGCATCAGCAGACCGTTGAGATAATAGCGGATGTCCTGCACCGCCATGCTGT
ACTGCACTTGCGACAGCATGGTTTTGAAACGCTCCTGCTCCAGCGAGAAAGTCGCGCTGA
```
30 ```
TGTCCTCGCCGACATTCATCATCGGAAAATCGGCGGCAGGCAGGGTCTGCAGGGCAAAAC
GCGATTTGCCCGCCTTCAGCGTCAGACGGCTGTCGTCCCAATCCAGCGACACCAGCGCAC
CGGCAGGCAGCGCGCGCAAAATATCCTGAAATTTCTTGGCATTGGTGGTGATGCGGAAGT
CGCCCGCGCCGCCCTCGGGACCCGCAGTGTCGATTTGGATTTCCAAATCGGTTGCCAAGA
GTTTGGTCTGACCGCCTTTTCCCTCAATCAGGACGTTGGACAGGATGGGCAGGGTGTGGC
```
35 ```
GGCGTTCGACGATGCCGGTAACGGCTTGCAACGGCTTGAGCAGGCTGTCGCGCTCGGCTT
GTAAAATCAACATGTTCGCTCCTTTAAATCGGTTTGTATAGTGGATTAAATTTAAATCAG
GACAAGGCGACGAAGCCGCAGACGGTACAAATAGTACGGAACCGATTCACTTGGTGCTTC
AGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTAAAG
TTAATCCGCTATATCTTTACCCTTCGGACGGCATGGGCAATATCATGTCGTCTGAAAACG
```
40 ```
TTTTCCATCAGTTTTGAATCAGAATCAGCAGCTTTTCATAATCCTGAGCCAATTCCGGAT
CTTCTTCGCGCAGTTTCGCCACTGCCCTGATGCCGTGCATAACGGTCGTATGGTCGCGCC
CACCAAACGAATCGCCGATAGACGGCAGGCTCAAAGTAGTCAGTTCTTTGGTCAGGCTCA
TCGCCACCTGGCGCGGACGGGCAATGTTTCGTGTCCGTTTCTTACCGAGCACATCGCTGA
TTTTGATGCGGTAATATTTCGCCACCGCATCGATGATGATGTCGGCGGTGATGACTTTGT
```
45 ```
GCTTCTCGGCAATAATGTCCTGCAAAGCGGTACGCGCCAAATCGATGTCGATGACGGGAC
GGTTCATAAAGCGGCTGCTCGCTCCGACACGATTAAACGCGCCTTCAAGCTCGCGCACGT
TGGAACGGATCAGATTGGCAATGAACAGCGCGGCTTCGtCTTCGATACTGATGCCCGCCG
CTTCCGCCTTTTTCTGCAAAATGGCGATGCGCATTTCCAATTCGGGCGGCTCGAGTTCCA
AAGTCAGTCCCCATGAAAAACGGGATTTGAGGCGGTCGTCCATGCCTTCGATTTTCGCAG
```
50 ```
GCAACACATCGCAAGTGAGGATGAGCTGTTTTTTCTCGTTGTGGAAATGGTTGTACAGAT
AGAAAAACTCTTCCATCGTACGGTCTTTGCCTTTGATGAACTGGATGTCGTCGATAATCA
GCAGGTCGTATTGCTTGTATTGCTGCTTGAACACGTCGTAAGTGTTGTTGCGAACCGCCT
TCATAAAGCTGCGGATATAGTCATCCGAATGCATATAGCGCACTTTGGCATCGGGACGGT
TTTTCAGCAGCTCGTTGCCGACCGCCTGCACAAGGTGGGTTTTGCCCAAACCCGTGCTGC
```
55 ```
CATAGAGGAAGAACGGGTTGTAACTCTGCCCCGGGCTTTCCGCAATCGCCTGCGCCGCAG
CCGCCGCAAGGCGGTTGCCCTTACCTTCTACCAACGTATCAAACGTGTAATCCGGAGACA
GGTTGGTCTGCTCGTAACGCGCCTCTTCCGCATCGCGCTGCACGTCCGTCCGTGCTTTGG
```

-33-

```
       CAACTGCCACCGATTCCGGCCGGGAAGCAGACCCGGCAGCCTGACGCGGCTCGTGCGGCA
       GGTTTTTCATACGTTCCGCCAAAATATCCGCCGCCGTTTTCGACGCAGCGGGTTTGACAG
       GCTCTTCAGACGGCAGCTCGTCCAACAGAACCTCCTGCACGGGCATTCCCTCCGACACCG
       CATGCAAGGACGGCTCGGCAGGTTCGACAGCACCTTCAACCGCCGCCATCTCATAACGCA
  5    CGCCTTCTCCCGGTTTGAATACGAAGGCGGAACGGCCGGCAGCCAACTCTTCCCTCACCG
       CTTCTATTTTTCCGGCAAACTGGCTCTTGAGCATATTGCAGGCAAACTGGTTCTTGCCGT
       ACACCACCCATACGCCACCCTCCTCACCAACGGTAAGGGGCGCAATCCATTGCGCAAACT
       GCCCTTGAGGCAACATATCGTGAAGACGGCGGAGGCACAGCGGCCAAAACTCTGCTAATG
       TCATGGATAGGCTCGAATCGGTAAAAATGAAATCGAAAACAAAGAAAATATAATATTTTC
 10    AAAAGGAAAACAAATCTGTTGAACGCACATCGGTTCAAAACGCGACTGCCCGATTATACC
       GACTCACGAATATTTTATCCACAACCCGTGCAAAAATTTATCCACAGAAAGGCGGCGGAA
       ATCCGCAGGCAATCGGGCAATCTTCCTGCAAAGTTTCTATATTGATTGACAAAAGCGGCA
       AATTGGAGTGTAATTCACGGTTTAATTATCTACCCATTCTATTTTAGGAAACATCATGAA
       ACGCACTTATCAACCTTCCGTTACCAAACGCAAACGCACCCACGGCTTCCCTGGTGCGCT
 15    CCAAAACGCGCGGCGGCCGCGCAGTATTGGCCGCACGCCGTGCCAAAGGCCGCAAACGCC
       TGGCGGTATAATTTTGGACTACCGCTTCGGAAGGCAGTACCGCTTGTTGAAAACGGATGA
       TTTTTCATCCGTTTTTGCATTCAGAAACCGCCGCAGCCGCGACCTGCTGCAAGTTTCGCG
       CTCAAACGGCAACGGGCTGGGCCATCCCCGCATCGGTCTGGTGGTCGGCAAAAAAACCGC
       CAAACGCGCCAACGAACGAAATTATATGAAGCGCGTTATCCGCGACTGGTTTAGATTGAA
 20    CAAAAACCGGCTGCCGCCGCAGGATTTCGTCGTGCGCGTCCACCGTAAATTCGACAGGGC
       TACCGCAAAACAGGCAAGGGCGGAACTGGCACAACTCATGTTCGGCAACCCCGCAACCGG
       ATGCAGGAAACAGGCATGATCAGAACGGTACTCTGCAGGCAAGGTTCAGACGGCAACGGG
       TTTCCCATACAAGGAACATCCCGATGAACTTCCTATTGTCCAAACTCCTGCTGGGACTGA
       TACGGTTCTACCAATATTGCATCAGCCCGCTGATTCCGCCGCGCTGCCGTTATACGCCGA
 25    CCTGTTCGCAATACGCGGTCGAAGCGGTCAAAAAATACGGCGCATTCAAAGGCGGCCGGC
       TCGCCATCAAGCGCATTGCACGCTGCCACCCTTTCGGCGGACACGGACACGACCCCGTTC
       CCTGACCCGACGCAATATTCAAATTGCACGCTTTCCTTTTATTTCCCATCGGTTTCTATA
       TAATGCCGTCTGAAGCTTCGGGCAGGCGGCACGACCGCCGGGTATGAAGCCCGCCCTTAT
       TCCCCGTCTATCGGAACACGCAACCTGCGGCATTTCCGACCATTCAkGAAACTCTTATGG
 30    ATTTTAAAAGACTCACGGCGTTTTTCGCCATCGCGCTGGTGATTATGATCGGCTGGGAAA
       AGATGTTCCCCACTCCGAAGCCCGTCCCCGCGCCCCAACAGGCAGCACAACAACAGGCCG
       TAACCGCTTCCGCCGAAGCCGCGCTCGCGCCCGCAACGCCGATTACCGTAACGACCGACA
       CGGTTCAAGCCGTCATTGATGAAAAAAGCGGCGACCTGCGCCGGCTGACCCTGCTCAAAT
       ACAAAGCAACCGGCGACGAAAATAAACCGTTCATCCTGTTTGGCGACGGCAAAGAATACA
 35    CCTACGTCGCCCAATCCGAACTTTTGGACGCGCAGGGCAACAACATTCTAAAAGGCATCG
       GCTTTAGCGCACCGAAAAAACAGTACAGCTTGGAAGGCGACAAAGTTGAAGTCCGCCTGA
       GCGCGCCTGAAACACGCGGTCTGAAAATCGACAAAGTTTATACTTTCACCAAAGGCAGCT
       ATCTGGTCAACGTCCGCTTCGACATCGCCAACGGCAGCGGTCAAACCGCCAACCTGAGCG
       CGGACTACCGCATCGTCCGCGACCACAGCGAACCCGAGGGTCAAGGTTACTTTACCCACT
 40    CTTACGTCGGCCCTGTTGTTTATACCCCTGAAGGCAACTTCCAAAAAGTCAGCTTTTCCG
       ACTTGGACGACGATGCCAAATCCGGCAAATCCGAGGCCGAATACATCCGCAAAACCCCGA
       CCGGCTGGCTCGGCATGATTGAACACCACTTCATGTCCACCTGGATTCTCCAACCTAAAG
       GCAGACAAAGCGTTTGCGCCGCAGGCGAGTGCAACATCGACATCAAACGCCGCAACGACA
       AGCTGTACAGCACCAGCGTCAGCGTGCCTTTAGCCGCCATCCAAAACGGCGCGAAAGCCG
 45    AAGCCTCCATCAACCTCTACGCCGGCCCGCAGACCACATCCGTCATCGCAAACATCGCCG
       ACAACCTGCAACTGGCCAAAGACTACGGCAAAGTACACTGGTTCGCCTCCCCGCTCTTCT
       GGCTCCTGAACCAACTGCACAACATCATCGGCAACTGGGGCTGGGCGATTATCGTTTTAA
       CCATCATCGTCAAAGCCGTACTGTATCCATTGACCAACGCCTCTTACCGCTCTATGGCGA
       AAATGCGTGCCGCCGCACCCAAACTGCAAGCCATCAAAGAGAAATACGGCGACGACCGTA
 50    TGGCGCAACAACAGGCGATGATGCAGCTTTACACAGACGAGAAAATCAACCCGCTGGGCG
       GCTGCCTGCCTATGCTGTTGCAAATCCCCGTCTTCATCGGATTGTATTGGGCATTGTTCG
       CCTCCGTAGAATTGCGCCAGGCACCTTGGCTGGGTTGGATTACCGACCTCAGCCGCGCCG
       ACCCCTACTACATCCTGCCCATCATTATGGCGGCAACGATGTTCGCCCAAACTTATCTGA
       ACCCGCCGCCGACCGACCCGATGCAGGCGAAAATGATGAAAATCATGCCGTTGGTTTTCT
 55    CCGTCATGTTCTTCTTCTTCCCTGCCGGTCTGGTATTGTACTGGGTAGTCAACAACCTCC
       TGACCATCGCCCAGCAATGGCACATCAACCGCAGCATCGAAAAACAACGCGCCCAAGGCG
       AAGTCGTTTCCTAAATGCCGCAGCATGAAAAATGCCGTCTGAAACCTGTTCAGACGGCAT
```

-34-

```
TTTTATTGCCCACCCCCTATCGGGGCGGAAATCTTCAACCCGCATACATCACAAAAATCG
TCGGGCGTTTTTTCAGATTGGGCATTTCTTTTCTTTTTCGCCACTGCACGATTGTTTGAC
TGATGATTTCCTGTGTCGGCAAGGTCAAATCCGTAGCCGTGCATAAACGCGTTTCAGGAT
GCAGGTTTTCCACCGCATCGGCAAGCAGCGCATCATTGCGGTAAGGCGTTTCAATAAAAA
TCTGCGTCTCGCCGCACTGGCGCGAACGCTGTTCCAAAGCCCGAAAAGCCTGAATCCGCT
CGTTTTTTTCAGACGGCAGATAGCCTTTAAACGCAAAACTCTGCCCGTTCGCACCCGAAG
CCATCAAAGCCAGCAGCAGGCTGGAAGGCCCGACCAGCGGACGCACTTCAAAACCGTGTT
TATGCGCCAATGCCACCAAATTCGCACCCGGATCGGCCACAGCCGGGCAACCCGCCTCAC
TGACAATGCCCATACTGCGCCCTTCTTGCAAAGGTTTCAGCAATTCCGGCAAAGTCTTCA
AATCCGTATGTTCATTCAACGTTTGCAGATTCAGCTCGCGGATAGGCGTAGTCACGCCCA
AATGTTTCAAATGCGCACGCGCCGTTTTTTCCGCCTCCACGACAAAATCCGTCAGCCCGA
CAATCGCCTGTTGTTCATGCGGCAACAGGCACGGCGTGTCAGGCGTACCCAAAGGCGTAG
GAATCAAATACAAAACAGGAGACATCATTCCCTCACTCATCGGTTAAAAATGCCGTCTGA
GCCTTTCAGACGGCATAAACGGGCAGTTACAGAACCTCCACGCCCTCATTTTTCAAGAAA
TCGACCAGACGGAAAACCGGCAAACCGATTAAAGCATTCGGATCGGTACTCTCAATCCTT
TCAATCAGCAATGCACCCAAATCCTCACTCTTCAGCGCACACGAACAATAAACCGCATCA
GGCTCGCGCTCCAAATAGCGGAGGATATGCAACTCGTCCAACTGCCTCATCACGACCACC
GTCTTATCGATATGCCGCCGCATCCTGCCCGTAACCGTATTCAACAGCACGATCGCGCTG
TAAAACTCAATCTCCCTGCCGCTCAAGTGCATCAGCATCTTTTGCGCATTGGCAAGGTTC
ATCGGCTTGCCCCACTGCCTGCCGTCGCACCACGCCACCTGGTCCGCACCGACAATCAAC
GCCTCTGGGAAACGCCCGGTCAACGACCGCGCCTTACCCTCGGCAAGGCGCAATGCCGTC
TGAGGGGCGGATTCCCCCAACATCGGCGTTTCGTCAAAATCGGGGGACGCCGCCTGAAAG
GCAATGCCGAGCCTTTCCATCTGTTCGCGGCGGAAAACCGAACTCGTACCCAAAATCAAA
GGCAGTTCCAAACCCATCCCATCCTCCTTACCGTTGAAAACACGCCCGAAGGGGCAGTAA
AATCCAGCCATGCGCCGAAACACGGATACCCGCCTTCGGCGTACCGCAACATTTTTCTTA
AAAATATTGACGTTAGAACATCTAAATTATATCATATCCCGTTTATGTCAGACCCTAATT
TGATTGACTTGGAAATTTTTGCCGCCGAAGGGCAGAACCTGCAAGGCAGTTTTCTGCTGG
AAGAATTGGATGAACGCGTCAGTTCGCACGATTATCCCGCCGACAGGCAGACCAAAATAT
CGTTTACACTGACCGGCGGTCGCGACCGGCTGCAACGCCTGTTCCTCGACCTGAACGTCA
AAGCCGATATGCCCCTGATTTGCCAGAGATGTATCAAACCCATGCCGTTCATGCTTGATG
AAAGCAGCCGTATCGTCCTGTTTTCCAACGAAGAGTCCTTGGACGAATCCATGCTTGCCG
ACGAAGAACTCGAAGGCATACTGATTGAAAAAGAACTCGACGTGCGCACATTGGTAGAAG
ACCAAATCCTGATGTCCCTGCCCTTTTCGCCGCGACACGAAGACTGCGGCGACAATGGGA
CACTGGAAGAAGTCAATCGGGACAAACCCAACCCCTTTGCTGTTTTGGCAGGTTTGAAAA
GCAATTGATTAGGACACAGTTTATTTATCTAGGAGCTTGAAATGGCCGTTCAACAAAACA
AAAAATCCCCTTCCAAACGCGGTATGCACCGTTCGCACGACGCGTGACCGCGCCTGCAC
TGTCTGTCGACAGCACAACCGGCGAAGTACACCGCCCGCACCACATCTCCCCCAACGGTA
TGTACCGCGGCCGCAAAGTGGTCAAAGCCAAAGGCGAATAATCCCTATTCGACTGACTGA
AAAAGCCAGAACATTGCCATGCAATTACTGGCTTTTTTTGCATTGGACGCACCATCCGTC
CAAACTTTCGCCATACGTCAACACACAGGGGCAAAGCGTTCCGTATAATACCCCGTGAAA
ATATTCCAAAAGCCCCAACCACCAAGGAAATTCCGATGAAACAGAAATCTGGTACACCT
ACGATGACATCCACCGCGTCATCAAAGCATTGGCAGAAAAAATCCGGAACGCCGACATCA
AATACGATGCCATGATTGCCATCGGCGGCGGCGGCTTTATTCCGGCACGTATGCTGCGCT
GTTTTCTGGAAATTCCGATTTATGCCGTAACCACCGCCTATTACGACAGCGACAACGAAG
GACAGGTTACCGAAGAAGTCAAAAAAGTCCAATGGCTCGACCCCGTTCCCGAAGCCCTGC
GGGGCAAAAACGTACTCGTCGTCGATGAAGTGGACGACAGCCGCGTAACCATGGAGTTCT
GCCTGAAAGAACTGCTCAAGGAAGACTTCGGTACGATCGGAGTCGCCGTACTGCACGAAA
AAATCAAAGCCAAAGCAGGCAAAATCCCCGAAGGCATTCCCTATTTCAGCGGCATCACCG
TAGAAGACTGGTGGATCAACTATCCGTGGGACGCACTCGACATCGACGAACACAACCGCC
TTGCCGAGGCCGGCCGAGGCTGACCCTTTCAGACGGCATATTTTCCGAACCGATGCCGTC
TGAAGCCCGCACGACCCCTGCCGCAGACCGAAAACCTACCGGAGAAACCCTATGATTACA
TTGGCCGTAGATGCCATGGGCGGCGACCAAGGACTTGCCGTTACCGTACCCGGCGCAACC
GCATTCCTCCAAGCACACCCCGATGTCCGCCTGATTATGACCGGCGACGAAACGCAACTG
CGCCAAGCCCTGACCGCGGCAGGCGCACCGATGGAACGCATCGACATCTGCCATACCACC
CAAGTCGTCGGCATGGACGAAGCCCCGCAATCCGCCCTGAAAAACAAAAAAGACTCCTCC
ATGCGCGTCGCCATCAACCAGGTTAAAGAAGGCAAAGCCCAAGCCGCCGTATCCGCAGGC
AACACGGGTGCGCTCATGGCAACCGCACGTTTCGTCCTCAAAACCATTCCCGGCATCGAA
```

-35-

```
CGCCCCGCCATCGCCAAATTCCTTCCTTCCGACACCGACCACGTTACCCTTGCACTCGAC
CTTGGCGCGAACGTCGACTGCACGTCCGAACAGCTCGCCCAATTTGCCGTTATCGGCAGC
GAACTCGTCCACGCACTCCATCCTCAAAAAGGACAGCCGCGCGTCGGGCTGGTCAACGTC
GGCACGGAAGACATCAAAGGTACGGACACCGTCAAACAAACCTACAAACTGCTGCAAAAC
AGCAAACTCAACTTTATCGGCAACATCGAAAGCAACGGCATCCTCTACGGCGAAGCAGAT
GTCGTCGTCGCCGACGGCTTTGTCGGCAACGTCATGCTCAAAACCATCGAAGGCGCGGTC
AAATTCATGAGCGGAGCCATCCGCCGCGAATTCCAAAGCAACCTGTTCAACAAACTTGCC
GCCGTTGCCGCCCTACCCGCCCTCAAAGGGCTGAAAAACAAACTCGACCCGCGCAAATTC
AACGGGGCCATCCTGCTCGGGCTGCGCGGCATCGTGATTAAAAGCCACGGCGGCACAGAC
GAAACCGGTTTCCGCTATGCCCTCGAAGAAGCCTACCACGAAGCCAAGTCCGCCGGCCTT
TCCAAAATCGAACAGGGCGTAGCCGAACAACTCGCCGCACTCGAAACTGCCAAAGCCGTC
CAAAACGAAAATGTCGGCGGTCTGTAACACACACGATGCCGTCTGAACGCCCCGCCCCT
TTCAGACGGCATCCGCCCGCACCAAACCTGCGGGCGCGGACGGCGATGCGCCTGTCCGGC
ACTTCCCAAATATCGCCTTGTAAAATAAGGAGTATTTGAAAAATGAAGACATTAGAAAAA
CGGATGAAAGCTCTAGACAAACGGATTATGAAGTTCGGAAAATCCCTTGAAGGCAGGCTT
GATGCCCGTCTGATTGAATCCGCATTGGATTATATTCATTATTCGGAACGTTTTTTGGCT
TTTGAAATCCTGTGTACTTATATCGAAGATTTCGATGTCCGGCTGACGGAACAAGAATCC
CGGGAAATTTCTTTTATCAACAAGGAATTTGAGATAGAAAGCACGTCCGATTAACCAATA
AAGCCAATGGGTTGATAAACATGAAAACATCGACGGTCGTTTTTGGCGGATTTTTTATGG
CAGACAACGGAGAGCGAATCCAAATCCCCGTTTTGGAAAATCCTGACATTAGGGAAATCA
ATCACTTTTTTTCCGTATCAAATTTTGAGAAAAAAACCGGCGTCCTTGTTTTCAGAATCA
TCCCCGAGCCGGAATTTGGCAATACCGAATTAACTGTCTATTTTAAAAAAGGATATTATA
GTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTGCCGTACTGGTTTTTGTTAATC
CACTATATCAGACGAAAACAAACACCCGCGCCAATAGCCTGACGGCAACCCGGCAATCAA
AATGCCGTCTGAAGCAGCTTGGGCTTTCAGACGGCATTTCCTTCGCTTAAAACAGCGTAT
CGGCAACCCCGCCCTGCCTGTCCACGGCAATCTGCATCTGAAAACCATCTGTATCCCAAA
CCACACCCCCATCCCTGTTTCCATCATGTGCACCCTGTCCGTATTGGGCAATCATCTGTT
TTTCGCTTACAATAGCCGAATCTGAACCAACTCTCTAAAAAGGCCGTTCCCATGCAGTAT
GCAAAAATTTCCGGCACAGGCAGCTATCTTCCCGCCAACCGCGTCAGCAATGACGACCTT
GCCCAAAAGGTAGATACCTCTGACGAGTGGATTACCGCGCGCACGGGCATCAAATTCCGC
CATATTGCAGCCGAAAACGAAAAAACCAGCGATCTTGCCGCCGAAGCGGCGCACCGCGCG
CTGGATGCAGCCGGATTAGACAGCGGCGAAATCGATTTGATTATCGTGGCAACGGCAACG
CCGGATATGCAGTTTCCGTCTACTGCGACCATCGTGCAACAAAAATTGGGCATCACCAAC
GGCTGCCCCGCGTTTGACGTACAGGCGGTGTGCGCCGGCTTTATGTACGCGCTGACCACG
GCAAACGCCTACATTAAAAGCGGTATGGCGAAAAACGCGCTGGTCATCGGCGCGGAAACC
TTCAGCCGCATTGTAGACTGGAACGACCGCACAACCTGCGTATTGTTCGGCGACGGCGCG
GGCGCGGTGGTTTTAAGCGCGTCGGACACGCCGGGCATCATCCACAGCAAACTCAAGGCC
GACGGCAATTATCTGAAACTCTTAAACGTCCCCGGGCAAATCGCCTGCGGCAAAGTTTCC
GGTTCGCCGTACATTTCGATGGACGGTCCCGGCGTGTTCAAGTTTGCCGTCAAAATGCTG
TCCAAAATCGCCGATGACGTTATCGAAGAAGCAGGTTACACCGCCGCTCAAATCGACTGG
ATTGTTCCCCATCAGGCAAACCGCCGCATTATCGAATCGACCGCGAAACATTTAGGTTTG
AGTATGGACAAAGTCGTCCTGACCGTCCAAGACCACGGCAACACATCCGCCGCATCGATT
CCGCTGGCTTTGGATACGGGCATCCGCAGCGGACAAATCAAACGCGGTCAAAACCTGCTG
CTCGAAGGCATCGGCGGCGGTTTCGCGTGGGGCGCGGTGCTGTTGCAATATTGAACCCGA
TGCCGTCTGAAACAGGCTTTCAGACGGCATTTCCCATATCATGAAGCGGCAGGCTTTCTT
CAAACTGATGGCGTGTGCGGCATTTCTGTCTGCCGTTTCGCTGCGCCTCCCCGTATTGGG
CGCGTGTTACGCAATATTGTCCCTCTATGCGTTTGCACTTTACGGCATCGACAAACGGTG
CGCCATACGGGGGCAACGCCGCATTCCCGAACACCGCCTGCTGCTGCCTGCATTGCTCGG
CGGCTGGGTGGGCGCGTATTTCGGCAGCATGACATTCAAACATAAGACAGCGAAAAAGCG
TTTTGTTGTGCTGTTCCGTCTGACTGTTTCAGGTAATGTCTTGGCGACCCTCATCCTGAT
TTATAGTGGATTAAATTTAAACCAGTACGGCGTTGCCTCGCCTTGCCGTACTATTTGTAC
TGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATTATTTTGTCCCG
CCTGAATTTTTCGTAAAACTCGGGCAGAATACCTGATTATCCAACCAAACAAAGGAATAC
TATGTCTTTTGCCTTCTTTTTTCCCGGACAAGGTTCCCAAAGCCTCGGTATGATGAACGG
CTTTGCCGAACACGCCATCGTCAAAAAACACCTTTGCCGAAGCCTCCGCCATATTGGGGCA
GGACTTGTGGGCGATGATAAACGGCAGCGATGCCGAAATCATCGGTCAAACCGTCAACAC
CCAGCCCATTATGCTCGCCGCCGGCGTTGCCGTTTACCGCGCCTATTTAGAAGCGGGCGG
```

-36-

```
CAAAACGCCTGCCGCCGTTGCCGGACACAGCCTCGGCGAATACACCGCACTCGTTGCCGC
CGGCGCATTGAATTTTGCCGACGCGGTCAAACTCGTGCGCCTGCGCGCCGAACTGATGCA
GTCCGCCGTACCGCAAGGCGTGGGCGCAATGGCGGCGATTCTCGGCTTGGAAGATGAGCA
GGTTAAAGCCATTTGTGCCGAAGCCGCCCAAAGCGAAGTGGTCGAAGCCGTCAACTTCAA
CTCACCCGGACAAATCGTGATTGCAGGCAACGCCGCCGCCGTCGGACGCGCCATGGCTGC
CGCCAAAGAAGCCGGTGCCAAACGCGCCCTGCCGCTGCCCGTGTCCGTACCTTCCCATTG
CAGCCTGATGAAACCCGCCGCCGACAAACTTGCCGAAGCCCTGAAAACCGTTGAAATCAA
GCAGCCGCAAATCCGCGTTATCCACAACGCCGACGTTGCCGCCTACGATGATGCCGACAA
AATCAAAGACGCGCTCGTCCGCCAGCTTTACAGCCCCGTACGCTGGACGGAAACCGTCAA
CGCCCTCGTTTCAGACGGCATTGCCGAATCCGCCGAATGCGGCCCGGGCAAAGTGTTGGC
GGGCTTGGCAAAACGCATCAACAAAGCCGCCGCGTGCAGCGCACTGACCGATGCCGGACA
GGTTGCCGCCTTTATCGAAGCGCACTGACTTCGTTCTGCAAAAAGCAGCCTGCCCTCTTC
AGGCTGCTTTTCATGTCCGAACGACGGCAGCCCCATATTTACGCTATAATCCATCCCGAC
CAAACCACCGACAGCGGCTGCCGTTGCAGTTCCCGCCCTACCGATATGATAGAAAAACTG
ACTTTCGGACTGTTTAAAAAAGAAGACGCGCGCAGCTTTATGCGCCTGATGGCGTACGTC
CGCCCCTACAAAATCCGCATCGTTGCCGCCCTGATTGCCATTTTCGGCGTTGCCGCCACC
GAAAGCTACCTTGCCGCCTTCATCGCCCCCCTGATTAACCACGGCTTTTCCGCACCTGCC
GCGCCGCCCGAGCTGTCTGCCGCCGCCGGCATCATTTCCACCCTGCAAAACTGGCGCGAA
CAGTTTACCTATATGGTTTGGGGGACGGAAAACAAAATCTGGACCGTCCCGCTCTTCCTC
ATCATCCTCGTCGTCATCCGTGGCATCTGCCGCTTTACCAGCACCTATCTGATGACTTGG
GTCTCCGTGATGACCATCAGCAAAATCCGCAAAGATATGTTTGCCAAAATGCTGACCCTT
TCCTCCCGCTACCATCAGGAAACGCCGTCCGGCACCGTACTGATGAATATGCTCAACCTG
ACCGAACAGTCGGTCAGCAACGCCAGCGACATCTTCACCGTCCTCACGCGCGACACGATG
ATCGTTACCGGCCTGACCATCGTCCTGCTTTACCTCAACTGGCAGCTCAGCCTCATCGTC
GTCCTGATGTTCCCCCTGCTCTCCCTGCTCTCGCGCTACTACCGCGACCGTCTGAAACAC
GTCATTTCCGACTCGCAAAAAAGCATAGGCACGATGAACAACGTGATTGCCGAAACCCAT
CAGGGACACCGCGTCGTCAAGCTGTTCAACGGGCAGGCGCAGGCGGCAAACCGGTTCGAC
GCGGTCAACCGCACCATCGTCCGCCTCAGCAAAAAAATCACGCAGGCAACGGCGGCACAT
TCCCCGTTCAGCGAACTGATCGCCTCGATCGCCCTCGCCGTCGTCATCTTCATCGCCCTG
TGGCAAAGCCAAAACGGCTACACCACCATCGGCGAATTTATGGCATTCATCGTCGCGATG
CTGCAAATGTACGCCCCCATCAAAAGCCTTGCCAACATCAGCATCCCTATGCAGACGATG
TTCCTCGCCGCCGACGGTGTATGTGCATTTCTCGACACCCCGCCCGAACAGGACAAGGGC
ACGCTCGCACCGCAGCGTGTCGAAGGGCGCATCAGCTTCCGCAACGTCGATGTCGAATAC
CGTTCAGACGGCATCAAAGCCCTCGACAACTTCAACCTCGACATCAGACAAGGCGAACGC
GTCGCCCTGGTCGGACGTTCCGGCAGCGGCAAATCCACCGTCGTCAACCTGCTGCCCCGC
TTTGTCGAACCGTCTGCCGGCAACATCTGCATAGACGGTATCGACATCGCCGACATCAAA
CTCGACTGCCTGCGCGCCCAATTCGCCCTCGTCTCCCAAGACGTATTCCTGTTTGACGAC
ACCCTGTTTGAAAACGTCCGATACAGCCGTCCCGACGCGGGCGAAGCCGAAGTCCTGTTC
GCCCTCCAAACCGCCAACCTGCAAAGCCTGATTGACAGCTCCCCGCTCGGACTGCACCAG
CCCATCGGATCGAACGGCAGCAACTTATCCGGCGGACAGCGGCAACGCGTCGCCATTGCC
CGCGCCATTTTGAAAGACGCGCCGATATTATTATTGGACGAAGCCACCAGCGCATTAGAC
AACGAATCCGAACGCCTCGTCCAACAGGCGCTCGAACGCCTGATGGAAAACCGCACCGGC
ATCATCGTCGCCCACCGCCTGACCACCATCGAAGGGGCCGACCGCATCATCGTGATGGAC
GACGGCAAAATCATCGAACAAGGCACACACGAACAACTGATGTCCCAAAACGGTTACTAC
ACGATGTTACGCAATATCTCAAACAAAGATGCCGCCGTCCGGACGGCATAAACAAAATGC
CGTCCGAAATGGTACAATCGCCCCGACCCTTTCAGACGGCATCATATCCGCCGACCCATC
CGATTATCTTCAATCACTGTAAAACCCATTATGACCCAAGACAAAATCCTCATCCTTGAC
TTCGGTTCGCAAGTTACCCAGCTCATCGCCCGCCGCGTGCGCGAAGCCCACGTTTACTGC
GAGCTGCATTCTTTCGATATGCCTTTGGACGAAATCAAAGCCTTCAACCCCAAAGGCATC
ATCCTCTCCGGCGGCCCCAATTCCGTTTACGAATCCGACTATCAAGCCGATACCGGTATT
TTTGATTTGGGCATTCCGGTTTTGGGCATCTGTTACGGCATGCAGTTTATGGCGCACCAC
TTGGGCGGCGAAGTGCAGCCCGGCAACCAGCGCGAATTCGGTTATGCGCAAGTTAAAACC
ATAGACAGCGAGCTGACACGCGGCATTCAAGATGGTGAGCCAAACACACTCGACGTATGG
ATGAGCCACGGCGACAAAGTGTCCAAACTGCCCGACGGTTTCGCCGTCATCGGCAACACC
CCGTCCTGCCCGATTGCCATGATGGAAAACGCCGAAAACAATTCTACGGCATCCAGTTC
CACCCCGAAGTTACCCACACCAAACAAGGCCGCGCCCTGTTGAACCGCTTTGTCTTGGAT
ATTTGCGGCGCACAACCGGGCTGGACGATGCCGAACTACATCGAAGAAGCCGTTGCCAAA
```

```
ATCCGCGAACAGGTCGGCAGCGACGAAGTGATTTTAGGTCTGTCCGGCGGCGTGGACTCT
TCCGTAGCCGCCGCGCTGATTCACCGCGCCATCGGCGACCAACTGACCTGCGTGTTCGTC
GATCACGGTTTGTTGCGCCTGAACGAAAGCAAAATGGTGATGGATATGTTCGCCCGCAAC
TTGGGTGTGAAAGTGATACACGTCGATGCCGAAGGGCAGTTTATGGCGAAACTCGCCGGC
GTAACCGACCCCGAGAAAAAACGCAAAATCATCGGTGCGGAATTTATCGAAGTATTTGAT
GCCGAAGAAAAAAAACTTACCAACGCCAAATGGTTGGCACAAGGCACGATTTACCCTGAC
GTAATCGAATCCGCAGGTGCAAAAACCAAAAAAGCCCACGCCATCAAATCGCACCACAAC
GTCGGCGGCCTGCCTGAAAACATGAAGCTCAAATTGCTTGAGCCTTTGCGCGATTTGTTC
AAAGACGAAGTACGCGAATTGGGTGTGGCTTTGGGCCTGCCGCGCGAAATGGTGTACCGT
CATCCGTTCCCGGGTCCGGGTTTGGGCGTGCGTATTTTGGGCGAAGTGAAAAAAGAATAT
GCCGACCTGCTTCGTCAGGCAGACGATATTTTCATTCAAGAATTGCGCAATACTACCGAT
GAAAACGGTACATCTTGGTACGACCTGACCAGCCAGGCATTCGCCGTGTTCCTGCCCGTC
AAATCTGTCGGCGTAATGGGCGACGGCCGCACATACGATTACGTCATTGCCTTGCGTGCC
GTGATTACCAGCGACTTTATGACCGCGCATTGGGCGGAACTGCCGTATTCCTTGTTGGGC
AAAGTGTCCAACCGCATCATCAACGAAGTCAAAGGCATCAACCGCGTGGTTTATGATGTG
AGCGGCAAACCGCCTGCCACCATCGAGTGGGAATAAACAGCAAACATGGCTGCCCCGTCC
GGCGCAGTCCTTCGATTATCGGAAAAAAGGAAAAAATATGAGCACACAAGATTTAAACGG
CAAAATCGCTTTGGTAACAGGCGCATCGCGCGGTATCGGTGCAGCAATTGCCGACACGCT
GGCGGCAGCCGGTGCCAAAGTCATCGGTACGGCGACCAGTGAGAGCGGTGCGGCGGCGAT
TAGCGAGCGGTTGGCGCAATGGGGCGGCGAAGGCCGCGTATTAAATTCCGCCGAACCTGA
AACCATCGAAAGCCTGATTGCCGACATCGAAAAAGCGTTCGGCAAACTCGATATTCTGGT
CAACAACGCCGGCATCACCCGCGACAACCTCCTGATGCGCATGAAAGAAGAAGAGTGGGA
CGACATCATGCAGGTCAACCTCAAATCCGTGTTCCGCGCTTCTAAAGCCGTTTTGCGCGG
TATGATGAAACAACGTTCCGGCCGCATCATCAACATCACATCCGTCGTCGGCGTGATGGG
CAATGCCGGTCAAACCAACTATGCCGCGGCAAAGCAGGCTTAATCGGTTTCTCCAAATC
CATGGCGCGCGAAGTCGGCAGCCGGGGCATTACCGTCAACTGCGTCGCCCCTGGCTTTAT
CGATACCGACATGACACGCGCCCTGCCGGAAGAAACCCGCCAAACCTTTACCGCCCAAAC
CGCCTTGGGCAGATTCGGCGACGCGCAAGACATCGCCGATGCGGTTCTGTTCCTCGCTTC
CGACCAAGCAAAATACATCACCGGCCAAACGCTGCACGTCAACGGCGGTATGCTGATGCC
TTAACAGACAACTTTTTCAACCATGCCGTCTGAAGCCCTTTCAGACGGCATTTGCATTCT
CAGGCAAAATGAACACACACCACACCCCGCCCTGCCCATGCGGCTCAGGCACAAGCTGAG
ACCTTTGCAAAATTCCTTTCCCTCCCGACAGCCGAAACCCCAACACAGGTTTTCAGCTGT
TTTCAGCTGTTTTCGCCCCAAATACCGCCTAATTCTACCCAAATACCCCCTTAATCCTCC
CCGGACACCTGATAATCAGGCATCCGGGTCACCTTTTAGGCGGCAGCGGGCGCACTTAGC
CTGTTGGCGGCTTTCAAAAGGTTCAAACACATCGCCTTCAGATGGCTTTGCGCACTCACT
TTAATCAGTCCGAAATAGGCTGCCCGGGCGTAGCGGAATTTATGGTGCAGCGTACCGAAG
CTCTGTTCGACCACATATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGC
TCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCGAGTGAATCGGTTCCGTACTATTTG
TACTGTCTTCGGCTTCGTCGCCTTGTCCTGATTTTGTTAATCCACTATACATCATCGCT
ACTACCGTTCCGGCGCAACAGGCATTCCTCGATGCCGCCGAACTGATGCAATGGAGTATA
GAAACCGAAGGGCTGGGCTTGAACGTCATCTCGCACAAGATACTCGGCAAAGACCACGCC
CAAGTCGAATTTGAAGCCTACTTCCGAGACGGACAACACCGATCCGCGCATCACGAACTG
TCCGGCTTCGTCAACATCGGCGGACAATGGTATTTTATCGATCCCACCGTTCCGCATCCT
GCGATGAAACAACCCTGCATTTGCGGATCAGGCAAAAAATTCAAAGCCTGCTGCGGCAAA
TATCTGAAACCTGTCGCATAAAAATGCCGTCTGAACGTTCAGCGGCATTTTCAACGTGC
AAAAAAAACCATTCATACCAAGGGTAAGTATGAATGGTCAATACATTGCGGGAAAACGTC
TTACTTGCTGCACTGCCGAAAAGGGGAGAAACGGCAGCGGTAATCAGCGGAAAGGATTGTA
CCCGAATTAATATTAAGAAACGTTAATCGCGAAAATATATTAACAAACCTGTTGAAACCT
ATTGGTTTTCCCGTATCCACCCGACCCAGCGTTCAAACAGCTTCGGTTCGAGCGCGGCAA
CGACCGAGCGTTTGAACACGTGTTCACCACTCCAAAACCCGTCGCCTTCCAAAGTCGTCA
GCCTGCCGCCCGCCTCCTCGAAAATCAACGCGCCGGCGGCATAATCCCACAGCTTCTGCC
CGCCGTGAACATAAACATCATAACGCCCGCACGCCAGATAACACCAATCCAACGTACTGC
TGCCCATACTCCGTATCGTTCCAAAAGGCGCGAGCGTACTCATACGGCTGGAAAGTTTGC
CCGAACGCAGATATTTGATTTCCACGCCCGCAATCGCCTCATTGAGTTTTTTATCCACGA
GGCGCAGGGGCAGACGCGTCCCGTTTAAAAACGCCCCCTGCCCGCGTTCGGCATAAAAAC
ATTCGCCGCTGACTGGGTTGTAGATTACGCCCAACTCGGCGCGCCCGTTGCGGACAAACG
CCACCGATACCGCAAAATGCGGCAGCCCGTTGACAAAATTGTTCGTCCCGTCTATCGGAT
```

```
    CGACAATCCACAGCCCCTTTTCCCCCGAATATTGTTCCCACAAAGCCGACTGTTCCTGCC
    GCGACATTTCCTCACCCAACATCGGACTGTCGATTAAAAGCGGCAACGCGGCGGCAAAAG
    CCGTCTGCGCGGCAATGTCCGCCTCGCTCAACATCGAACCGTCTTCCTTGCGGTGAGACG
    GCGTATTCAAAAAACGCGGCATAATTTCGGTTTGCGCGATATGGCGCACGACTTTCTGCA
5   AACGGTGTAACACTTCCTACTGTCCTCATATTTTGAACTTGCGGCGCGCGAACGTATAAT
    GTCCGCTTCCATCACGCCGCTGCGACGGATTATAACCGTCCGAACCGCCAAAAACTATGC
    CCCGATTCCACCTGCCCGAAAACCTTTCCGTCGGACAAACCGTCGCCCTGCCCGACAACA
    TCGTCCGCCACCTCAACGTCCTGCGCGTCCGCCCCAACGAAAACATCACCCTCTTCGACG
    GCAAAGGCAAGGCACACGCCGCACGGCTGACCGTTTTGGAAAAACGCCGCGCCGAAGCCG
10  AAATCCTGCACGAAGACACAACCGACAACGAGTCCCCGCTCAACATCACACTGATACAAT
    CCATCTCCTCCGGCGATCGCATGGATTTCACCCTGCAAAAAAGCGTCGAACTCGGCGTAA
    CCGCCATACAGCCCGTCATCAGCGAACGCTGCATCGTCCGCCTCGATGGGGAACGCGCCG
    CCAAACGCCTCGCACGCTGGCAGGAAATCGTCATCTCCGCGTGCGAACAAAGCGGCAGGA
    ACACCGTTCCCCCCGTACTGCCCATCATCGGCTACCGTGAAGCACTCGACAAAATGCCGT
15  CTGAAAGCACCAAGCTGATTATGAGCATCAACCGCGCCCGCAAACTCGGCGACATACGCC
    AACCGTCCGGCGCAATCGTCTTTATGGTCGGGCCCGAAGGCGGCTGGACAGAACAGGAAG
    AACAACAGGCATTTGAAGCTGGCTTTCAGGCGGTTACACTCGGCAAACGGATTTTACGCA
    CAGAAACCGCCCCACTCGCCGCCCTCGCCGCCATGCAGACGCTTTGGGGCGATTTCGCAT
    AAACAGAAATGCCGTCTGAAACCCGTTCAGACGGCATTTTGCAGCCGATTAAGATAGTAG
20  GTTCAAATAAGATTTCCCGTGTCGTCATTCCCGCGAAAGCGGGAATCTAGAAACGAAAAA
    CTACAGAGATTTATCCGAAACAACAACCCTCTCCGCCGTCATTCCCGCAAAAGCGGGAAT
    CTAGAAACGAAAAACTACAGGGATTTATCCGAAACAACAAACCCTCTCCGCCGTCATTCC
    CGCGCAGGCGGGAATCTAGAAACGAAAAACTACAGGGATTTATCCGAAACAACAAACCCT
    CTCCGCCGTCATTCCCGCGCAGGCGGGAATCTAGAAATTTAACGTTGCGGTGATTTATCG
25  GAAATGACTGAAACTCAACGGACTGGATTCCCGCCTGCGCGGGAATGACGAGATTTTAGG
    TTTCTGTTTTTGGTTTTCTGTTCTCGCGGGAATAACGGAATTTTAAGTTTTAGGAATTTG
    TCGGAAAAACAGAAATCCCCCCGCCGTCATTCCCGCAAAAGCGGGAATCTAGAAACGAAA
    AACTACAGGGATTTATCCGAAACAACAAACCCTCTCCGCCGTCATTCCCGCGAAAGCGGG
    AATCTAGAAATTTAACGTTGCGGTGATTTATCGGAAATGACTGAAACTCAACGGACTGGA
30  TTCCCGCCTGCGCGGGAATGACGAATTTTAGGTTTCTGTTTTTGGTTTTCTGTTCTCGCG
    GGAATAACGGAATTTTAAGTTTTAGGAATTTATCGGAAAAACAGAAATCCCCCGCCGTC
    ATTCCCGCGAAAGCGGGAATCTAGAAATTTAACGTTGCGGTGATTTATCGGAAATGACTG
    AAACTCAACGGACTGGATTCCCGCCTGCGCGGGAATGACGAATTTTAGGTTGCTGTTTTT
    TGGTTTTCTGTTTTGCGGGAATGACGAATTTTAGGTTTCTGTTTTTGGTTTTCTGTTCT
35  CGCGGGAATAACGGAATTTTAAGTTTTAGGAATTTGTCGGAAAAACAGAAATCCCCCCAC
    CGTCATTCCCGCAAAAGCGGGAATCTAGAAATTTAACGTTGCGGTGATTTATCGGAAATG
    ACTGAAACTCAACGGACTGGATTCCCGCCTGCGCGGGAATGACGAAGTGGAAGTTACCCG
    AAACTTAAAACAAGCGAAACCGAACGGACTAGATTCCCGCCTGCGCGGGAATGACAGTGT
    ATCCATTTCTAATTTTAATCCGCTATATTTTACACAAACTATTTGAACGATATGACCCGC
40  CTGCCGTAAGCTTTCTCAAGCTCCGCCTGCCTTTGACGCTCCATTCTTTTCTTCTTTTCC
    CTACCGAATTTACCCAAAGCACGCTTCAAGTCAAACATCACCTTCAACGAACGGCGGTGT
    CTTCTTTCTTGTTCCCTATCTTTTTCCAAATCGCTACCCAACATACTGTTTTTACTGAGG
    AACTTGGCATAATGCAATTCTTGGGTACATAAGGCGGGATTAACCTGATAAACAGGCATC
    CCCTCCTTATCAAAGAAATAAGTAAACATCATCCAATCTACCGCTTTAATCCACTCTGCC
45  GGCAAAACGGCAAACCTTTCCAAGAAAAACCGCATCGCCTCACGCGAAATGATATAGCCA
    GCCGTCCCCCAATGTTCGCTCTCCAGCAAAGGAAATGACCGATTCTCATAATTCAGGACT
    TTATCCGGTCTGACAATAACTTTCGCAAACATCGTTTCCAAACGAACGATAAAGGCAGAA
    TCCTTATCAAAACGCTCTTCCAACCAAGTATCTTCGGCAAGGAACTTTTCTGCGTCTTTG
    CCAAGCAGGACATCATCCTCAAATACGGCAACATAGGGCAGACCTTCATCCAATGCCTGT
50  TTCCACAATACGGCGTGGCTCATAAAGCAGGCTTTTTCCACTTCGCTCAACAGGTGCTGT
    TTTGCCAATCCCGGCACCAATTCCGCCATCATCCGATTCAGTTCTTCAGACGGCATCAGT
    GCGTCGAAAAACTGAAACGGGATGCCGCGCACGCCGAAGGTTGCGGCAATGTGCGCCCTG
    CGTTCTGCGGCGGAAGCTAAGCTGATAACATGGTTTTGCATAATTTATCCTGTTTTTTGT
    CTGTTGGATAAAGCGGCGTTTTTCAACGGTTTTTCAGCAATCGGCGCAAAATGCCGAAGT
55  ATTGCCTCAAGGTAAACAGCCGCCGCATCCTGCCGTCTGCTGCAAATACGATGTCCATCT
    CTCCTCCTTTTATTGGAAAGGCACAATGAACTGTTCGCGCCTTTGCCGGCGTTTTTCCCT
    TTCCCTGCTGATTTTGGTCAAGGCGCGGATCAGGCGGTGTTTGAATGTGTTGGCGGGGGA
```

```
     ATCGCGCCTTTGCTGTTTGCGGTTCAGGAGGCGGTCGTGTTCGATCAGGCTGCCCAATGC
     GCTGTTTTGGTCGTGAAACTTGGCATAATGCAGCTCTTGGGCGCACAAGGCGGGATTGAG
     CTGGCAAACCGGCATTCCTTCCCTGTCGAAAAAATCGCTGAACATCATCAGATCGACGGG
     GTGCAGCCCTTCGGGCGGCAGGGCGGCAAACCTGTCCAGGAAAAACCGCATCGCTTTTCG
5    GGAAATGATATAGCCCGCCGTCCCCCAGTGTTCGCTTTCCAACAGCGGAAAGGCGCGCCC
     GCAGTAATCCGCCACGCCGGAGGGCGAGGTCAGGACGTGCATAAACATCGTTTCCAAGCG
     GACGATAAAGGCGGTATCCGGGTCAAAGCGTTCTTGCAGCCAAGCGTCTTCGGCAAGGAA
     TTTTTCCGCACCTTCGCCGAGTAAAACGTCGTCCTCAAATACGGTGATATACGGCAGACC
     TTCGTCCAATGCCTGCTTCCACAATACGGCGTGGCTCATAAAGCAGGCTTTTTCCACTCC
10   GCTCAAATAGGGGTGCGCCGACAAGCCGGGGACGAGTTCCGCCATTGCCTGTTCCAGCCT
     TTCAGACGGCATCAGTGCGTCGAAAAACTGAAACGGGATGCCGTGCCTGCCGAAGGTATC
     GGCAATGTGCGCCCTGCGTTCTGCGGCGGAAGCTAAGCTGATAACGTGGTTTTGCATAAT
     TTATCCTGTTTTTTGTCTGTTGGATAAAGCGGCGTTTTTCAACGGTTTTTCAGCAATCGG
     TGCAAAATGCCGAAGTATTGCCTCAAGGTAAACAGCCGCCGCATCCTGCCGTCTGCCGCA
15   AAATCCAGCCACGCGCCGGCGGGCAGCGTGTCCGTCCGTTTGAAGCATTGGTACAAAAAC
     CGGCGGGCGCGTTCAAAATCTTCTTCCGGCAAATGTTTCTCCAGCAATTCATACGCTACT
     GCTTTTATTTGGCGGTATTCAAGGCTGTCGAACCGGGTTTTAAAACCCATAGACTGCAAA
     AAATCGTTTCTGGCGGTTTTTTGGATGCCTTGCGCGATTTCGTGTTGGCGGATGCTGTAT
     TTGGATGAAACCTGATTGGCGTGAGGCGGTATTTGACCAAGGCTTCGGGATAATAAGCC
20   AGCCTGCCCAATTTGCTGACATCGTACCAAAATTGGTAATCTTCCGCCCAATCCCGCTCG
     GTGTTGTAACGCAAACCGCCGTCAATGACGCTGCGCCTCATAATCATCGTGTTGTTGTGT
     ATGGGGTTGCCGAAAGGGAAAAAGTCGGCAATGTCTTCGTGTCGGGTCGGTTTTTTCCAA
     ATTTTGCCGTGTTCGTGGTGCCGCGCCAGCCGGTTGCCGTCCTTTTCTTCCGACAAAACT
     TCCAGCCACGCACCCATCGCGATGATGCTGCGGTCTTTTTCCATCTCACCCACGATTTTC
25   TCAATCCAGTCGGGGGCGGCAATATCGTCTGCATCGGTGCGCGCAATATATTCCCCCCCC
     CCCCCCGACTTTGCCAATTCATCCAGCCCGATGTTTAAAGAGGGAATCAGACCGGAATTG
     CGCGGCTGCGCGAGGATGCGGATGCGGCCGTCCTGTTCTTGGAAACGCTGGGCAATGGCA
     AGCGTACCGTCCGTCGAGCCGTCATCGACAATCAAAATATCCAAGTTGCGCCAAGTTTGA
     TTCACGACGGCGGCTAATGATTGGGCGAAATATTTTTCTACGTTGTAGGCGCAAATCAAT
30   ACGCTGACTAAAGGCTGCAATTTATTCTCCCGATAGGCACGATGCCGTCTGAAGGCTTCA
     GACGGCATTTGGACTGTACAACGGTTACTCGCCCAAAAGCGCGATATCCGCTACCGCGTT
     CATTTGTTCTGCCAAGCGGTTCAGCAGGTTCAGGCGGTTTTGTTTCACGGCGGCATCTTC
     CGCCATCACCATCACGCCGTCGAAGAAGGCATCGACTTGCGGTTTGACGGAAGCCAGTTC
     GGACAAGGCGGTCTGGAAATTGCCTTCGGCAACGGCGGCGGCAATTTTCGGCTGCAAGCC
35   TTGTGCGGCGGCAAAGAGGGCTTTTTCTTCGTCCTGTTGCAGCAAGCTTTCGTTAACCGC
     GCCCAACTCGGCATCGGCTTTTTTCAGCAGGTTTTGCACGCGTTTGTTGGCAGCGGCGAG
     CGCGGCGGCTTCGGGCAGTTGTTTGAACGCGGCGACAGCCTGCAGTTTGGCGGTCAAATC
     GTCCAAACGGCGCGGCTGCTTGGCAAGTACGGCGGCAACGATGTCTTGCGGATAATCGTT
     TTGCAGCAATACGGCAAGGCGCGCCTGCATGAAGTCGGCGGTTTCAGACGGCGTTTTTTC
40   GTTGAGCAAACCTTGCGGGAAGCTGTTGAAGGCCGTCTGAATCAGTTCGTTTACGTCCAA
     ACCGTACTGCATCAGCATACGCAAAATACCCAATGCGGCGCGGCGCAGGGCGTATGGGTC
     TTTGTCGCCGGTCGGAATCAGGCCGATACCCCAAATGCCGACCAAGGTTTCCAGTTTGTC
     GGCAAGCGCAACGGCGGCGGCAATTTTGCCCTCAGGCAGGTTGTCGCCGGCAAAACGCGG
     TTGGTAGTGTTGCTCGACGGCTTCGGTAATTTCTTCGGTTTCGCCGTCCAAGCGGGCGTA
45   GTATTTGCCCATCGTGCCTTGCAGTTCGGGGAACTCGCCGACCATTTCGGTTACTAAGTC
     GGCTTTTGCCAAACGCGCGGCGCGTTCGGCTGCGGCGGCATCCGCGCCCAAAGCCTTGGC
     GATATGGGCGGCGATGCTTTGCAGGCGTTCGATGCGTTCGGCTTGCGAACCGATTTTGTT
     GTGATAAACCACGTTCGTCAGTTTGGGCAGGCGGCTTTCCAAAGTCGCTTTTTGGTCTTG
     TTTGTAGAAGAACTCGGCATCAGACAGGCGCGCGCGCAAGACACGTTCATTGCCTTGGAT
50   GATGTGTGACGGATCTTCGGTTTGCAGATTGGACACCAGCAGGAAGCGGTTCATCAGCTT
     GCCGTTTTGGTCGAGCAGCGGGAAGTATTTTTGGTTTTGCTGCATCGTCAGAATCAGGCA
     TTCTTGCGGTACGGCGAGGAAGTGTTCTTCAAAACCGGCTTCCAATACCACAGGCCATTC
     GACCAGCGCGGTTACTTCGTCCAACAAGGCTTCATCGGCGGCGGCGGTCGCGTTCAGACG
     GCGTGCCTGCCCTTCCAATACCGTCTGAATCGCGGCTTTGCGCTCGGCAAACGAAGCGAC
55   GACTTTGCCTTGCTCGCGCATTTGTGCGGCGTAGCTGTCGGCGTTTTCAATGGTAATTTC
     GCCGTCGGAGAGGAAGCGGTGTCCCAAGGTTTTGTTGCCGCTTTGCAGACCCAAAACGCT
     GACGTTCACAATGTCGCCGCCGTGCAGTACAACTAGCCCGTGAACGGGGCGCACAAAGGT
```

```
AAACGTGCTGCTGCCCCAACGCATTACTTTGGGAATCGGCAGCTTCTTAACCGCTTGATT
GATAATGTCTTCCAAAAGTCCGCCCAACGGTTTGCCGATTTGGACGTATTCGTAGGCGTA
CACGTCCTGCTTGCCGTCGTGGACGATGGTCAAGTCTTCGATTTTCGCGCCCGCACCGCG
TGCGAAACCTTCCAAAGCCTTGGTTGGCGCACCGTCTTTCATGGCATTCGCTACGGCAGG
GCCTTTTTTCACAATTTTTTGATCAGCCTGAACGGCTTTGACGTTTTTGACTTGAACCGC
CAAACGGCGCGGCGAGGCATAAGCCGTAAATTCGGCTGCGCCGTCAACCAGTTGCGCTTT
TTCCAAGCCTTCGGCAACGGAAGCGGCGAAATGGTTGCCCAGATTATTCAGGGCTTTGGG
CGGGAGTTCTTCGGTAAGGAGTTCGATTAAAAGGGTTTGGGTCATCATTCGGCTTTCTTT
GAATTGGTTAATCTGCCTGTTTATAGGTTTCGCTGTAATTTTCCCAGCCGTCATCCCCA
TAAAAACCGTCAACCAGCGGGGTGGCGTACAAAGTGGCAACATCTTCGCGGTCTGCCAGC
CAAGAGATAATGGCTTTTTTCTCGGTTTCTCCCAAGCTTCGGGCACCGGATTTTTGAAAC
AGGCACGAAAAATCGCCGCAATCGCCCCCCGCCATTTCAAAGCCGTTTGCCGCAAGATA
CGCAATCAGCTCGTCCATAAAGCGGTCGAACGCTTCGGCATCGTCCTCAGCTTGGTGCAA
ACTGCCTTGAACGCCGAAAATCAATGTTTGAAACTCGCCCAAATGCAGCTTTTTATGCTG
GCGGCGGTTCATTTTGTGCAGGCGTTTCCTGCTTGGGGTGCGGAAATAGACAGGCATGAT
TTTCCTAAAAAATATAATGGCTTCCGGACGGCTGCCTTATCGTGCCGCCCGAACGTAAAA
AATCGTCGCCCCCTTAGGCGGCGTTTGCCTTCATTAAAGGGAAGCCCAGTTTTTCGCGGC
TTTCAACATATTTTTGCGCCACGGCGCGGCTCAATGCACGAATACGTCCAATATAAGTTG
CCCGCTCAGTTACGGAAATCGCGCCGCGTGCGTCTAAAAGGTTGAACGTATGCCCCGCTT
TGAGGACAAGCTCGTAGGCAGGCAGGGCGAGGGCGGCGTTTTCTTCGGCAAGCAGGCGTT
TGGCTTGCGCTTCGTAGTCGTTGAACTGGCGCAGCAGCCAGTCGGCATCGCTGTATTCGA
AGTTGTAGGTGGATTGCTCGACTTCGTTTTGGTGGTACACGTCGCCGTAGGTGACGGTGT
TGCCGTCGAGCGTTTTTGCCCAAACGAGGTCGTAGACGTTTTCTACACCTTGCAAGTACA
TCGCCAAGCGTTCGATGCCGTAGGTGATTTCGCCGAGTACGGGCGTGCAGTCGATGCCGC
CGACTTGTTGGAAATAGGTAAACTGGGTTACTTCCATGCCGTTGAGCCAGACTTCCCAGC
CCAAACCCCACGCGCCGAGGGTGGGGTTTTCCCAGTCGTCTTCGACAAAGCGGATGTCGT
GGACTTTGGGATCGATGCCCAATTCGCGCAGAGAGTCGAGATAGAGGTCTTGGATATTGG
CGGGAGCGGGCTTGAGGGCGACTTGGAATTGGTAATAGTGTTGCAGGCGGTTGGGGTTGT
CGCCGTAGCGGCCGTCTTTGGGGCGGCGGCTGGGTTGGACGTAGGCGGCAAACCAAGGCT
CGGGGCCGAGTGCGCGCAGGCAGGTGGCGGGATGGGATGTGCCGGCACCGACTTCCATGT
CGAAGGGTTGGATGACGGTGCAGCCTTTGTCTGCCCAGAATGTTTGCAGTTTGAAGATGA
TTTGTTGGAAGGTAAGCATGGCTTATGATTCGATAAAATAAAGGGTTTATTTTACTGTTT
CCATTGCTGTTTGGATAGGTTTATCTCAAAGACAGACTGATTTGAAAACACGGCATACAT
GATATAGTGGATTAAATTTAAACCAGTACAGCGTTGCCTCGCCTTAGCTCAAAGAGAACG
ATTCTCTAAGGTGCTCAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGG
CTTCGTCGCCTTGTCCTGATTTTTGTTAATCCGCTATATGTTTCGGTTAGGCGGCAGGCT
GCCCTATTGAATACCTTAAAGCAGGCTATGCCTGCCAACGCCATATCCAAACACAGTCTT
TAATTTAAATCCGGAAAATAAAAAGCACGACCAAACGGTCGTGCTTTTCCAAACCAAACA
AGTTTATTTCTTGTGCGAACGGATATAGTCCAAAGTTTTGAGCTGTGCAATCGCAGCAGC
CAATACTTTATGCGCTTCCGCCAAAGCCTTATCGTCTTTAGCTTGGGAAATGCCCGCTTC
TGCGGCTTTTTTCGCCTCTTCCGCACGTGCCCGATCCATCTCCGCACTGCGGACGGCAAC
ATCCGCCAAGACAGTTACTTTATCAGGCTGTACTTCCAAAACACCGCCGGAAACAGCAAC
CAAAACCTCTTTATCCTCGCCCGGAACGGTCAAACGCAAAGCCCCCGGCCGCACCAAACT
CATAATCGGCTCGTGTCGCGGATAAATACCGAGTTCGCCCTGTACAGTCGGAACAACGAT
AAATGTTGCCTCGCCTGAATAGATTTTCTGCTCGCTACTTACCACCTCAACTTGCATGAT
GCTCATGCCGACCTCCTTAGTTTAAGGTTTTCGCTTTCTCTACTGCTTCTTCAATGCTGC
CGACCATATAGAATGCCTGCTCGGGCAGATGATCGTATTCGCCGTTCAAGATGGCTTTGA
AGCCGGCAATGGTATCGCGCAGGCGACATATTTACCCGGAGAACCTGTAAACACTTCGG
CAACGTGGAACGGTTGGGACAGGAAGCGTTGGATTTTACGCGCACGCATTACGGTCAGTT
TGTCTTCATCAGACAATTCGTCCATACCCAAGATGGCGATGATGTCGCGCAATTCTTTGT
ATTTTTGCAGGGTGGACTGCACACCGCGCGCCACGTCGTAGTGCTCTTGACCCAATACCA
TCGGATCCAGTTGGCGCGAAGTAGAATCAAGCGGATCGACTGCCGGGTAAATACCCAAAG
AGGCAATATCGCGGCTCAATACGACGGTTGCGTCCAAGTGGGCGAACGTTGTTGCCGGAG
ACGGGTCGGTCAAGTCGTCCGCAGGTACATATACGGCTTGGATGGAAGTAATAGAACCGG
TTTGGGTAGAGGTAATACGCTCCTGCAAACGACCCATTTCTTCTGCCAATGTCGGTTGGT
AGCCCACTGCAGACGGCATACGACCCAACAATGCGGATACTTCGGTACCAGCCAGGGTGT
AACGGTAGATGTTGTCCACGAAGAACAATACGTCGCGGCCTTTGCCGTTTTCGTCTTTTT
```

```
     CGTCACGGAAGTATTCCGCCATGGTCAAACCGGTCAATGCGACGCGCAAACGGTTGCCCG
     GAGGTTCGTTCATCTGACCGTAAACCATTGCCACTTTATCCAATACGTTGGAATCTTTCA
     TCTCGTGGTAGAAGTCGTTACCTTCGCGGGTACGCTCACCCACGCCTGCGAACACGGACA
     AGCCGCTGTGCGCTTTGGCGATGTTGTTGATCAATTCCATCATGTTCACGGTTTTACCCA
 5   CACCGGCACCGCCGAACAGACCTACTTTACCGCCTTTGGCAAACGGACACAGCAAGTCAA
     TCACTTTAATGCCCGTTTCGAGCAATTCGGTTGTGGAAGACAGTTCGTCAAACTTAGGGG
     CAGCTTGGTGGATGGCACGGCTCTTGTCGGTATCGATCGGACCTGCTTCGTCAACAGGCG
     TTCCCAATACATCGACAATGCGTCCCAACGTACCTTTACCTACCGGCACAGTAATGGGCG
     CACCGGTATTGCTCACAGTCATGCCGCGTTTCAAACCGTCCGAGCTGCCCATCGCAATGG
10   CACGGACTACGCCGTCGCCCAAAAGCTGTTGGACTTCCAAAGTCAGACCGTTTTCGTCTA
     ATTTCAAAGCGTCGTAAACGCGCGGAATCATGTCGCGTGGAAATTCCACGTCAACAACCG
     CACCGATAAATTTGTACGATTTTGCCTTGGCTCATTATCGTATCCTAATTTCCGTACAGGA
     TTCAGACGGCATCAGACAGCCGCCGCACCTGCTACAATTTCTGACAATTCCGTGGTAATC
     GCAGCTTGACGCGATTTGTTATATACCAAACGCAACTCTTTGATGGCATTGCCTGCATTG
15   TCTGTTGCAGCTTTCATGGCAACCATGCGGGCTGCCTGTTCGGATGCCATATTGTCGCTC
     AACGCCTGATAAACCACAGACTCTAAATAGCGGCGAACCAGATATTCCAACACTGCAAGT
     GCAGTCGGTTCGTAGCGGTATTCCCAGCTGAACGGTGATTTGGGAGCTGAATCGCCAATC
     ACGTTCTCACCGATAGGCAGCAATACTTCCATTCTCGGTTCTTGACGCATGGTATTGACA
     AAACCCGAATACACCAGATGGATTCTGTCAATTTCATGTTTCTCATACCGTTGGAAGAGT
20   TCTGTCAAAGGTCCGAGCAGCATTTCCATTTTTGGGGTATCGCCCAAATTTACGGCACTG
     GCAACCACATTCAGACCAATGCTCTGACACGCCATCAGACCTTTACTGCCAAAGCATACG
     ATTTCCTCTTCAATACCTTGATTCCGATACTCTTGAACTTGTGCCAAAAACTTTTTCAGC
     ACGTTGGCGTTCAAACCGCCACACAAACCCTTATCAGACGTAATCAAAATAAAACCGACA
     CGTCTGATTTCCCGATGAGATTCCAGTAACGGAATACCATGATCGGTATTGGTTTGCGCA
25   AGATGGCTCATCACCATACGCACTTTTTCGGCATACGGACGCGCCAAACGCATCCGTTCC
     TGAGTCTTCCGCATTTTAGAGGTTGACACCATCTGCATCGCTTTAGTGATCTTTTGGGTA
     TTCTGAACACTGCGGATTTTGGTGAGAATCTCTTTTCCTACTGCCATTTCAGACTCCTTT
     CACTTCAAGCCTTATGCCTGATAGGCGTAAGAAGATTTGAAGGATTTCATGGCTGCTTCA
     AGCGTTTTCTCGCTCTCGTCGGACATTGCACCTGAAGCATTGACGGCTTCCAAAACTTCC
30   GGATGTTGGGTACGGACAAAGCTCAAAAATTCAGATTCAAAAGCCAGAGCTTTGGCAACC
     GGAACATCAGAATACGAACCGTTGTTGATTGCCCAAAGGGTCAAAGCCATTTCAGCCGTA
     TTCAACGTACTGAACTGTTTCTGTTTCATCAGTTCGGTTACGACTTCGCCATGCTCCAAT
     TGTTTGCGCGTAGCTTCATCCAAATCGGATGCAAATTGCGAGAACGCCGCCAATTCACGA
     TATTGTGCCAACGCCAAACGGATACCGCCACCCAGCTTTTTAATCACTTTGGTTTGTGCA
35   GCACCGCCTACGCGGGATACGGAAATACCGGCATTGATTGCAGGACGGATACCGGCGTTG
     AAGAGGTCGGTTTCCAAGAAAATCTGACCGTCGGTAATCGAAATGACGTTAGTCGGAACG
     AAAGCAGATACGTCGCCCGCTTGGGTTTCGATAATCGGCAACGCGGTCAGAGAACCGGTT
     TTGCCTTTTACTTCGCCGTTGGTCAATTTCTCCACTTCGTGTTCATTGACACGTGCCGCA
     CGTTCCAACAGACGGGAGTGCAGGTAGAACACATCGCCGGGATAGGCTTCGCGGCCGGGC
40   GGACGGCGCAAAAGCAGGGAAATTTGACGGTAAGCCACAGCCTGTTTGGACAAATCGTCA
     TAAACAATCAAGGCATCTTCGCCACGATCGCGGAAGAATTCACCCATCGTACAACCGGAG
     TAAGGTGCGATATATTGCAATGCCGCCGCTTCAGATGCAGTTGCAGCAACCACGATGGTA
     TGCTCCATCGCGCCATGCTCTTCCAATTTGCGGACCACGTTGGCAATAGAAGATGCTTTT
     TGACCGATAGCGACATAGATACAGATAACACCCGTACCTTTTTGGTTGACGATGGCATCC
45   AATGCTACGGCCGTTTTACCTGTCTGACGGTCGCCAATAATCAACTCACGCTGACCGCGA
     CCGACAGGAACCATAGAGTCAATCGCCTTCAGACCGGTTTGCATCGGCTGGTCAACCGAT
     TTGCGCGCAATCACGCCCGGTGCGATTTTTTCGATAGGGGCGGTCAAAGTTGTATTAATC
     GGGCCTTTGCCGTCGATAGGCCGACCCAATGCATCAACGACGCGTCCGACCAGTTCGCGT
     CCGACCGGCACTTCCAAGATACGACCGGTACAGGTAACCGTGTCGCCTTCTTTAATGTGT
50   TCGTACTCGCCCAACACTACGGCGCCGACGGAGTCGCGCTCCAGGTTCATCGCCAAGCCG
     AAAGTGTTACCCGGGAATTCGAGCATCTCACCTTGCATTGCATCTGACAAACCATGGATG
     CGAACGATACCGTCAGTTACCGAAATTACCGTACCACAGGTACGCACTTCGGCATTTACA
     GACAGATTTTCGATCTTGGCTTTAATCAAATCGCTAATTTCAGCAGGATTAAGCTGCATG
     AAAACTCTCCTAATTCGTCATAGTCGTGTACAAGGCACTCAATTTGCCTTGTACAGACAA
55   ATCCAAAACCTGATCACCCACTTCAACTTTTATGCCGCCAATCAGCTCCGGTTCGATTTC
     GACAGAGATTTTCAGCTCGCTGTCGAAACGCTTATTCAGCATTTGCACCAACTCGCCGAC
     CTGTTTGTCGGTCAACGGATAGGCACTGTAAATGACGGCAGATTTGATATGGTTGAATGA
```

-42-

```
     TAAGGTCAAGTCTTGATATTGAGCATATACTTCCGGCAATATCGACAAACGTTTCTGCCC
     GGCCAAGACGATAACAAAGTTTTTCAACTCCTTGTCTTTCAAACCGACCAAATCGATGAG
     GATATCTGCTTTTTCTGAAGCATTCGTTTCAGGACGGTCAATCAATGAAGCCACCTTCCC
     TTCCTGAACAACCGCCGCAAGTTTTTCCAGTCCGCCCAACCAAGACTCAATTTGGTTTTT
5    TTCCTGAGCCAGACCGAACAATGCCTTTGCATAAGGTCTGGCAATCGTTGCGAACTCTGC
     CATAAGATTACAGCTCCTGTTTCAGGGTATCGAGCAGTTTTGCGTGTTTGGAAGCATCGA
     CTTCGCTGCGCAAAATAGATTCGGCACCTTTGACAGCCAACACGGCAACCTGCTCGCGCA
     GGGATTCGCGTGCGCGGAACAATTCCTGCTCCACATCGGCCTTTGCCTGAGCTGCAATGC
     GCGCCGCCTCGGAAGAAGCCTGTTCTTTGGCTTCTTCGACAATTTTGGCGGCACGTTTTT
10   CGGCGTTGGCAACCATTTCGGAAACCTGATTACGCCCTTCTGCCAAGAGTTCTGCAACCT
     TTTTTTCAGCCTGCTCAAAATCGCTTTTACCACGCTCGGCGGCAGCCAAGCCTTCGGCGA
     CTTTTGCGGCACGCTCATCCAAAGCTTTTGCAATCGGCGGCCACACGAATTTCATGGTAA
     ACCATACCAAACCGAAAAAGACGATGATTTGAGCGAATAATGTTGCATTGATATTCACGT
     TACTTAACCTTCGTACTGGGGTTAATCAAACAGGCTGCGCCTGTACGGAACGGACGAATC
15   CGTCCTGATTATGCACCTGCAAACGGGTTAACGAAGGCGAACAGCAGTGCAATGGCGACA
     CCAATCAAGAATGCGGCATCAATCAAACCGGCAATCAGGAACAGTTTGGTTTGCAGCGGA
     CCGATCAGTTCGGGCTGACGGGCAGAAGACTCCAAATATTTAGAACCGACCATTGCGATA
     CCGATAGAGGCACCCAATGCACCCAATGCAACGATCAAACCACATGCGATAGCAATCAAA
     CCCATTTTAAACTCCTTAAAGAAACAAAGGTTAAACTACAAAAACAAACTACTTAGGAAA
20   ATCAGTGCGCATCATGTGCCTGTCGATATAGACGAACGCCAACGCCATGAAAATAAACG
     CCTGCAGGGTAATCACCAAAATATGGAAAATCGCCCATGCCAAACCGGCAATAATGTGGA
     ATACAAACAGAATCGGATCCATGACTTCGACGCTGCCGGAAGCCGCCCAAGCACCGCCAA
     GCAAGGCTATCAACAAGAATACCAATTCGCCCGCATACATATTGCCGAACAACCGCATAC
     CGTGGGATACGGTTTTAGAAAGAAACTCGACCAAATTCAACAGAAAGTTCGCAGGTGCGA
25   GTTTTGCACCGAACGGCGCGCTGAACAACTCGTGAAACCAGCCACCCAATCCTTTGATTT
     TGATGTTGTAATAGATACAAATCAGCAACACGCCGACAGCGAGTGCCAAAGTGGTGTTCA
     AATCGGCAGTCGGTACGACGCGCAGCAGGGCGTGATGGTTGCCGGTAATGCCCTGCCATA
     CCATCGGCAGCAAATCGACCGGCAGCATATCCATCGCGTTCATCAGAAAAATCCAGACAA
     ACAGCGTCAGACCCAACGGCGCGACGGCTTTTCTAGACTTTTCGTTGTGAATGATGCTCT
30   TACACATATCGTCCACAAACTCAAACAAGATTTCCACTGCGGCCTGGAAACGTCCGGGAA
     CGCCTGCCGTCGCTTTTTTTGCACCGCGCCACAACAGAAAGCTGCCGATTACGCCCAACA
     GGACGGCAAAAAGACGGCATCAAGGTTAATAAACGAAAAATCAGCAATGTTTTTCAGTC
     CCTGACCCTGAGTAACATCCGACAAACTGGTCAAGCTCTGCAAGTGGTGCTTGATGTAGT
     CGGCAGCGGTAATGGTTTCACCTGCCATAATCTTTCACTCTCAACAATACTAAAAAAACC
35   AAATGGCTGACACCGAGCAGCCCCATCAGAAACGGGGCGAACACCAGCGATTGATGCCAT
     ATTGCAAATACGGCAAGCATGGCAACAACAGCGACAGCACTACTTTTAAAATCTCTCCGAAG
     ACGAACATCCTGCTTTGCAGGAAGGGGTTTCCCCTGAAAAGTTTTAAAAGTAAAACTGCA
     ACAAACGTGGGAAGCAGGTAGGACAAACCGCCACCGACCGCCGAAAGGAATCCGGCAAAA
     CCCCATACAGCAAAGGCAACTGCGGCGCATATGGACAATACGGCGGATTGTAGGATGATA
40   ATCTGCTTCATAAAGGGAATGTTTCCGCCTCGGATTTGGGGCGCGGCTAATATAATTTAG
     AAGCCTTATTACGTCAAGCGACAGTTAATCTTTGTGAAACAACGTATCCCAATCCGCCGC
     GCTCGCCGCCTGAATAACGGCGACAGGTGTCATTCTAACACACATTACATATAATTACAG
     GATATTAAGGAGTTTGTCCGCAATTTCTTTACATTTTTAATGTTCTTACGTGATTTGTTT
     GCTTTACGTGGAAATAATAAAAAATCAACGCGAAATTGTAGCAGTTTATCGGTCGGATTG
45   TCGGCAGTTTGGGGAATTTGCTCAATAAATAAAAGGTCGTCTGAAAATATTTTCAGACGA
     CCTTTTCCGAATAAAGGATTAGCAACTGCCTGCCGCTTTAAGCAAAGCATTGCATTGACT
     TTTGCCTTTGTGCGTTCCGCCTCCCAAACAAATTGCATCGGAAGTGGTAACGCCGATTGT
     GCTGATTACACTGGTAACATAGCATTGGCTCACGCGCTTACCCACAGTTGCGGTAAAGTT
     GATGCGTATGCCTTCATTGTTGCGGTTGCTGATTTTTACGGCATTTGGGCTGACGCCCAA
50   GGCAAACGCGGCACGTTCCTGAAGTTTCTAGTCGGAAACGGTTACATTATTGATTGAGCC
     GCAACCTGCTAATGCCAACGCAACGAACGCAGCCGAAACGATGATGCGTGTGTTCATAAT
     TTCCTCGAAAATTAAAAATGAAAACAGGAAAACGATTCTTACGTGAAGCAGAAAAAATGT
     CAATAGAATTATATTTCCCACTTAAAATCTGGAAAGCTATTCTCTATATTTCAGACGGTA
     TATCCCGCAAAATTAAGGCCGGTAATCTATGCCCAACTGCTCCAGCAGGTGGCCGAACGT
55   TTCAGGCGTATCGAAATACAGGACAATCCTGCCTTTTTTGTGGTTGGCGGTTTTGACTTC
     AGCGTTGACACCCAGTTTTTCAGTCAGCAAATCATTCAGGCGGCCGATGTCGGCGGCGGC
     AGTCTTTTTGGGCTCGGGACGTTTGTTTTGAAGGGCGGCCTGGCTGCGGCGTTCGACTTC
```

GCGCACCGACCAGCCGTTTTTGACGGCCTTTTGCGCCAATTCGAGCTGTTCGACGAGTTT
TCGGAGAGGACCATGCGCGGGCGTGCCCCATTTC

5   The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 5>:

gnm_5

```
     CAGACATTACCGTGTACAACGGCCAACACAAACGAAGCAGCACAAGCCGTTGCAGATGCC
     TTTACCCGGGCTACCGGCATCAAAGTCACACTCAACAGCGCCACACGCGACCAGCTTGCC
     GGTCAAATCAAAGAAGAAGGCAGCCGAAGCCCCGCCGACGTATTCTATTCCGAACAAATC
10   CCGGCACTCGCCACCCTTTCCGCCGCCAACCTCCTAGAGCCCCTGCCCGCCTCCACCATC
     AACGAAACACGCGGCAAGGGCGTGCCGGTTGCCGCCAAAAAAGACTGGGTGGCACTGAGC
     GGACGTTCGCGCGTCGTCGTTTACGACACCCGCAAACTGTCTGAAAAAGATTTGGAAAAA
     TCCGTCCTGAATTACGCCACGCCGAAATGGAAAAACCGCATCGGTTACGCCCCCACTTCC
     GGCGCGTTCTTGGAACAGGTTGTCGCCATCGTCAAACTGAAAGGCGAAGCGGCCGCATTG
15   AAATGGCTCAAAGGTCTGAAAGAATACGGCAAGCCTTACGCTAAAAACTCCGTCGCCCTT
     CAAGCGGTTGAAAACGGCGAAATCGATGCCGCCCTCATCAACAACTACTACTGGCACGCT
     TTTGCGCGTGAAAAAGGCGTACAAAATGTCCACACCCGCCTGAATTTCGTCCGCCACAGA
     GATCCCGGCGCACTCGTTACCTATTCCGGCGCAGCCGTGTGTTAAAATCCTCCCAAAACAAG
     GATGAGGCGAAAAAATTCGTCGCCTTCCTCGCCAGCAAGGAAGGACAGCCGCGCCCTGACC
20   GCCGTCCGTGCCGAATATCCTTTGAATCCGCACGTGGTATCCACTTTCAATTTGGAACCC
     ATCGCCAAGTTGGAAGCACCCCAAGTGTCCGCCACCACTGTTTCCGAAAAArAACACGCC
     ACCCGGCTGCTTGAGCAAGCCGGTATGAAATAAGCCGTTTTCGGATTGTCAAACGGGTGG
     ACATTTATACTGTCCGCCCGTTTTGCCGATAAAAAACACTATGTCTCCTAAAAAAATACC
     CATTTGGCTTACCGGCCTCATCCTACTGATTGCCCTACCGCTTACCCTGCCTTTTTTATA
25   TGTCGCTATGCGTTCGTGGCAGGTCGGCATCAACCGCGCCGTCGAACTGTTGTTCCGCCC
     GCGTATGTGGGATTTGCTCTCCAACACCTTGACGATGATGGCGGGCGTTACCCTGATTTC
     CATTGTTTTGGGCATTGCCTGCGCCCTTTTGTTCCAACGTTACCGCTTCTTCGGCAAAAC
     CTTTTTTCAGACGGCAATCACCCTGCCTTTGTGCATCCCCGCATTTGTCAGCTGTTTCAC
     CTGGATCAGCCTGACCTTCCGTGTCGAAGGCTTTTGGGGGACAGTGATGATTATGAGCCT
30   GTCCTCGTTCCCGCTCGCCTACCTGCCCGTCGAGGCGGCACTCAAACGCATCAGCCTGTC
     TTACGAAGAAGTCAGCCTGTCCTTGGGCAAAAGCCGCCTGCAAACCTTTTTTTTCCGCCAT
     CCTCCCCCAGCTCAAACCCGCCATCGGCAGCAGCGTGTTACTGATTGCCCTGCATATGCT
     GGTCGAATTTGGCGCGGTATCCATTTTGAACTACCCCACTTTTACCACCGCCATTTTCCA
     AGAATACGAAATGTCCTACAACAACAATACCGCCGCCCTGCTTTCCGCTGTTTTAATGGC
35   GGTGTGCGGCATCGTCGTATTTGGAGAAAGCATATTTCGCGGCAAAGCCAAGATTACCA
     CAGCGGCAAAGGCGTTGCCCGTCCTTATCCCGTCAAAACCCTCAAACTGCCCGGTCAGAT
     TGGCGCGATTGTTTTTTTTAAGCAGCTTGTTGACTTTGGGCATTATTATCCCCTTTGGCGT
     ATTGATACATTGGATGATGGTCGGCACTTCCGGCACATTCGCGCTCGTATCCGTATTTGA
     TGCCTTTATCCGTTCCTTAAGCGTATCGGCTTTAGGTGCGATTTTGACTATATTATGTGC
40   CTTGCCCCTTGTTTGGGCATCGGTTCGCTATCGCAATTTTTTAACCGTTTGGATAGACAG
     GCTGCCGTTTTTACTGCACGCCGTCCCCGGTTTGGTTATCGCCCTATCCTTGGTTTATTT
     CAGCATCAACTACACCCCTGCCGTTTACCAAACCTTTATCGTCGTCATCCTTGCCTATTT
     CATGCTTTACCTGCCGATGGCGCAAACCACCCTGAGGACTTCCTTGGAACAACTCCCAAA
     AGGGATGGAACAGGTCGGCGCAACATTGGGGCGCGGACACTTCTTTATTTTCAGGACGTT
45   GGTACTGCCGTCCATCCTGCCCGGCATTACCGCCGCATTCGCACTCGTCTTCCTCAAACT
     GATGAAAGAGCTGACCGCCACCCTGCTGCTGACCACCGACGATGTCCACACACTCTCCAC
     CGCCGTTTGGGAATACACATCGGACGCACAATACGCCGCCGCCACCCCTTACGCGCTGAT
     GCTGGTATTATTTTCCGGCATCCCCGTATTCCTGCTGAAGAAATACGCCTTCAAATAACA
     GCTTGAGGAAGTACCGCCATGACCGCCGCCCTGCACATCGGACACCTGTCCAAAAGTTTT
50   CAAAACACCCCAGTTTTAAACGACATTTCGCTCAGCCTCGACCCGGGCGAAATCCTCTTT
     ATCGTCGGCGCGTCCGGCTGCGGCAAAACCACCCTTTTACGCTGCCTTGCCGGTTTTGAA
     CAACCCGATTTTGGCGAAATTTCGCTTTCCGGCAGAACCATCTTCTCGAAAAATACCAAC
     CTCCCCGTCCGCGAACGCCGTTTGGGTTATGTCGTACAGGAAGGTGTGCTGTTCCCCCAC
```

-44-

```
CTGACCGTTTACCGCAACACCGCCTACGGGCTGGGCAACGGCAAAGGCAAGACGGCGCAA
GAGCGGCAGCGCATCGAAGCTATGTTGGAATTGACCGGCATTTCCGAACTTGCCGGACGC
TATCCGCACGAACTTTCGGGCGGACAGCAACAGCGCGTCGCCCTCGCCCGCGCCCTCGCA
CCCGATCCCGAACTGATTTTGTTGGACGAACCCTTCAGCGCGCTGGACGAACAGTTGCGC
CGCCAGATTCGCGAAGACATGATTGCCGCCCTGCGCGCCAACGGCAAATCTGCCGTTTTC
GTCAGCCACGACCGCGAAGAAGCCCTGCAATACGCCGACCGGATTGCCGTGATGAAACAG
GGGCGCATCCTCCAAACTGCAAGCCCTCACGAATTGTACCGACAACCTGCCGACCTTGAT
GCCGCCCTGTTTATCGGCGAAGGCATCGTGTTCCCCGCCGCGCTCAACGCCGACGGCACC
GCCGATTGCGGATTGGGCCGCCTGCCCGTTCAAAGCGGCGCACCCGCAGGCACACGCGGC
ACACTGCTCATCCGTCCGGAACAGTTCAGCCTTCACCCCCATTCCGCACCCACCGCCTCC
ATTCACGCCGTGGTTCTCAAAACCACGCCCAAAGCGCGGCATACCGAAATCAGCCTCCGG
GTCGGACAAACCGTCCTCACGCTCAACCTCCCTTCCGCCCCCACCCTGTCAGACGGCATT
TCCGCCGTCCTCCATTTGGACGGTCCCGCCCTGTTCTTCCCCGGAAATACCCTCTGAAAG
GCGGCAGCATCCACAAGCCTGCGGATATTTATCTTGTTGGAAACAGAATTTGTTTGCTAT
ATTCAACCTGCGCGCCTCAAGCCAAACACGGCACGCACGGCACGCAGGCAGCCGTTTCTG
CCTATATGCCGCCCCTTCCAACCACATATGCCGCACACCGCAGCATACGAAAGGATATAT
CATGGCAAAAGTACTCATCGTACCCGTATCTGCCGGACTGGACGCCTCCGCCGCCGCACA
AGCCTTTGCAAAAGCACTGGACGCACAAATTTTCCAAGCCGTTGACGCAACCGCCGAAAC
CCTGCTCGCGCAAGGCAAAAGCGACGACTGGTTCGACGCACTGGTCGGCAAAGTTGCCGC
ACTCGATGCCGCCAACCTCGTCATCGAAGGCATCGCGCCCGATGCCGACAAAATCTACCT
CGCAGGCAAAAACGTCGAACTGGCATTGTCCCTTGACGCGGCAGCCGTCTTCGCCGTCCG
TTCCGACAACGCCGATGCCGACGAACTGGCAAATCGGGTGAACCTTGCCAAACAGTTCTT
CGCCGCCGCGCCGGGCGTATTGGAAGGTTTTGTCGTGGACGGCGCGGCAGCCTCCGTTGC
CGAAGCGGCAGCCGAAAAAACCGGCCTGACCTTCTTCGGTTCGAGCGACGCGCTGAAAGA
CGTATCCGTATTGGCAGGCCGCGAAGCAAAACGCCTGTCGCCGGCGCAATTCCGCTACAA
CCTGATCGACTTCGCCCGCCAAGCCGACAAACGCATCGTCCTGCCTGAGGGCGCAGAACC
CCGCACCGTCCAAGCCGCCGCCATCTGCCACGAAAAAGGCATTGCCCGCTGCGTCCTGCT
TGCCAAACGCGAAGAAGTCGAAGCCGTTGCCAAAGAACGCGGCATCAGCCTGCCCGACTC
TTTGGAAATCATCGATCCCGCCTCATTGGTCGAACAATACGTCGAGCCGATGTGCGAACT
GCGCAAATCCAAAGGCCTGACACCCGAAGACGCGCGCAAGCAACTGCAAGACACCGTGGT
ACTCGGTACGATGATGATGGCGCAAAATGATGTGGACGGTTTGGTATCCGGTGCGGTTCA
CACCACCGCCAACACCATCCGCCCCGCTTTGCAACTGATTAAAACCGCACCGGGCGCAAG
CCTCGTGTCCAGCGTATTCTTTATGCTGCTGCCCAACCAAGTCCTCGTCTTCGGCGACTG
CGCGGTTAATCCGAACCCGACCGCGCAACAGCTTGCCGACATCGCCATCCAGTCTGCCGA
TTCCGCAAAAGCCTTCGGCATCGACCCGAAAGTGGCGATGATTTCCTACTCCACCGTCAA
CTCCGGCAGCGGCCCCGATGTCGATACCGTCATCGAAGCAACCAAACTTGCCCGGGAAAA
ACGCCCCGACCTCGCCATCGACGGCCCGCTGCAATATGATGCGGCAACCGTGCCGGGTGT
GGGCAAATCCAAAGCTCCGGGCAGCCCGGTGGCAGGACAGGCAACCGTTTTGGTCTTCCC
CGACCTGAACACCGGCAACTGCACCTATAAAGCCGTCCAACGCAACGCCCAACGTCTTAAG
CGTCGGCCCGCTGCTGCAAGGCCTGCGTAAACCGGTCAACGACCTCTCCCGCGGCGCACT
GGTAGAAGATATCGTGTTTACCATCGCGCCCTGACTGCCGTTCAGGCAAAACAAATGGAAGG
CTGACAAACGGCTTTCCGGGTTTAAACCCTATGCCGTCTGAAGACAGACTCCCGTTTTCA
GACGGCATTTTTATCAGCACGGCACATTTGTTTGTTAAAAATCGCAGCCATATTGCAAAAA
AAGAGGAGGAAGCCATGCAAACCGCCATTATCGATTACGGTATGGGCAACCTGCATTCCG
TATTGAAATCCGTCCGGACGGCGGGGCAGCTTGCCGGAAAAAATACCGAAATCTTTTTAA
GCGGCGACCCCGACCGCGTGTCCCGCGCCGACAAAGTCATTTTTCCCGGTCAGGGCGCGA
TGCCCGACTGTATGGCGGCATTAAAACGAGACGGTTTGGACGAGGCAGTCAAAGATGCCT
TAAAAAACAAACCGTTTTTCGGAATCTGCGTCGGCGCGCAACTTTTATTCGACCACAGTG
AAGAAGGAAACACCGACGGCTTGGGCTGGTTCGGCGGCAAAGTCAGACGCTTTGAGCGCG
ACCTCCGCGACCCGCAGGGATGCCGTCTGAAAGTCCCGCATATGGGCTGGAACACCGTGC
GCCAAACCCAAAACCACCCGCTGTTTAAAGATATTCCCCAAGACACGCGTTTTTACTTCG
TCCACAGCTACTATTTCGCCCCCGAAAATCCCGAAACCATATTGGGCGAAAGCGACTACC
CGTCCCCGTTTGCCTGCATCGTCGGCAAAGACAACGTATTCGCCACGCAATTTCACACCG
AAAAAAGCCACGATGCCGGGCTGACGATGTTGAAAAACTTTTTAAACTGGTAAGCCGGAC
ACGGCCCCGCACAAGGAGAAAAATTATGCTGCTGATACCCGCCATCGATTTGAAAGAAGG
ACGCTGCGTCCGCCTGAAACAAGGGCTGATGGAAGAGGCGACCGTCTTTTCCGATTCGCC
CGCCGAAACCGCGCTGCACTGGTTCAAACAAGGCGCGCGCCGCCTGCATCTGGTAGATTT
```

```
GAACGGCGCGTTTGCCGGCGTTCCGCAAAACCTGCCCGCCATCAAAGACATCCTTGCCGC
TGTCGCCAAAGACATCCCCGTACAGCTCGGCGGCGGCATACGCGATTTGAAAACCATCGG
ACAATATTTGGATTTGGGCTTAAACGACGTGATTATCGGCACGGCGGCGGTCAAAAACCC
CGACTTCGTGCGCGAGGCGTGCAAAGCCTTCCCCGGCAGGATTATTGTCGGGCTGGATGC
CAAAGACGGTATGGCCGCCATCGACGGCTGGGCAACCGTAACCGGGCATCATGTAATTGA
TTTGGCAAAACGCTTTGAAGACGACGGCGTCAACAGCATCATCTACACCGACATCGGGCG
CGACGGTATGATGAGCGGCGTGAACATCGACGCGACGGTCAAACTCGCCCAAACCGTCCG
CATTCCCGTCATCTCCTCCGGCGGACTGACCGGCTTGGACGACATCCGCGCCCTGTGTGC
CGCCGAAAAACATGGCGTAGCAGGCGCGATTACCGGCCGCGCGATTTACGAGGGTAGCAT
CGATTTTGCCCAAGCGCAGCAACTGGCAGATTCCCTCGACTAAAGGCATCCGATTATGGC
ACTGGCAAACGCATCATCCCCTGTCTCGACGTAAAAGACGGGCGCGTCGTCAAAGGCGT
GAACTTCATCGGTTTGCGCGACGCGGGCGACCCCGTCGAAGCCGCCAAACGCTACAACGG
CGAAGGCGCGGACGAATTGACCTTCCTCGACATCACCGCCTCATCCGACAACCGCGACAC
CATCCTGCACATCATCGAAGAGGTTGCCGGACAAGTCTTCATCCCCCTGACCGTCGGCGG
CGGCGTACGCACCGTTGCCGACATCCGCCGCCTGCTCAATGCCGGCGCGGACAAAGTCAG
CATCAACACCGCCGCCGTTACCCGTCCCGATTTAATTGACGAAGCCGCCGGATTTTTCGG
TTCGCAAGCCATCGTCGCCGCCGTCGATGCCAAAGCCGCCAACCCCGAAAACACACGCTG
GGAAATCTTTACCCACGGCGGGCGAAATCCGACCGGTTTGGATGCGGTGGAATGGGCGGT
CGAAATGCAAAAACGCGGCGCGGGCGAAATCCTGCTCACCGGTATGGACAGGGACGGTAC
GAAACAGGGTTTCAACCTGCCGCTGACCCGCGCCGTTGCCGAAGCCGTCGACATCCCCGT
CATCGCCTCCGGCGGGGTCGGCAATGTCCGGCACCTGATTGAAGGCATAACCGAAGGCAA
AGCCGATGCCGTACTTGCCGCCGGCATTTTCCATTTCGGGGAAATCGCCATCCGCGAAGC
CAAACGCGCTATGCGCGAAGCCGGCATCGAAGTGCGCCTCTGACCGCCTCGACTATGCCG
TCTGAAAGGAAATATGGATAAAAAACCTGCTTGAAGCCGTCAAATTTGACGAAAAAGGTTT
GGTTTGCGCCATCGCCCAAGATGCCGAAACCAAACGTATTTTAATGGTGGCGTGGATGAA
CGCCGAAGCCCTGCAAAAAACCGTCGAAACCGGCTTTGCCCACTATTACAGCCGTTCGCG
CCAAAAACAATGGATGAAGGGCGAAGAGTCGGGACACACGCAAAAAGTCCGCGCACTGCG
CCTCGACTGCGACGGCGACGCCATTGTGATGCTCATCGCCCAAAACGGCGGCATCGCCTG
CCACACCGGGCGAGAAAGCTGCTTTTACAAAGTCTGGCGTGGCAGCGCGTGGGAAACCGC
CGATGCCGTCCTGAAAGACGAAAAAGAGATTTACGGCAGCACGCACTGACCGCCTCCAAC
ATTGAATTATCAGGCATTTTTTTGTACAATTTCGCCGTCTCAAACACTGTCCGGGCCGTC
TGAAAAGCGGCCTGAACCTTTTTGCAAAGAAAACCATGTCCCAAGAAATCCTCGACCAAG
TGCGCCGCCGCCGCACGTTTGCCATCATCTCCCACCCTGACCGCAGGTAAAACCACGTTGA
CTGAAAAACTCTTGCTGTTTTCGGGCGCGATTCAGAGCGCGGGTACGGTAAAAGGCAAGA
AAACCGGCAAATTCGCCACTTCCGACTGGATGGAAATCGAGAAGCAGCGCGGCATTTCCG
TGGCATCAAGTGTGATGCAGTTCGATTACAAAGACCACACCGTCAACCTCTTGGACACGC
CGGGACACCAAGACTTCTCCGAAGACACCTACCGCGTTTTAACCGCCGTGGACAGCGCAT
TAATGGTCATCGACGCGGCAAAAGGCGTGGAAGCGCAAACCATCAAGCTCTTAAACGTCT
GCCGCCTGCGCGATACACCGATTGTTACGTTTATGAACAAATACGACCGCGAAGTGCGCG
ATTCCCTGGAACTTTTGGACGAAGTGGAAAACATTTTAAAAATCCGCTGCGCGCCCGTTA
CCTGGCCGATCGGTATGGGCAAAAACTTCAAGGGCGTGTACCACATCCTGAACGATGAAA
TTTATCTCTTTGAAGCTGGCGGCGAACGCCTGCCGCACGAGTTCGACATCATCAAAGGCA
TCGATAATCCTGAATTGGAACAACGCTTTCCGTTGGAAATCCAGCAGTTGCGCGACGAAA
TCGAATTGGTGCAGGCGGCTTCCAACGAGTTTAATCTCGACGAATTCCTCGCCGGCGAAC
TCACGCCCGTATTCTTCGGCTCTGCGATTAACAACTTCGGTATTCAGGAAATCCTCAATT
CATTGATTGACTGGGCGCCCGCGCCGAAACCGCGCGACGCGACCGTACGTATGGTCGAGC
CGGACGAGCCGAAGTTTTCCGGATTTATCTTCAAAATCCAAGCCAATATGGACCCGAAAC
ACCGCGACCGTATTGCCTTCTTGCGCGTCTGCTCCGGCAAATTCGAGCGCGGCATGAAGA
TGAAACACCTGCGTATCAACCGCGAAATCGCCGCCTCCAGCGTGGTTACCTTCATGTCGC
ACGACCGCGAGCTGGTTGAAGAAGCCTACGCCGGCGACATTATCGGCATCCCGAACCACG
GCAACATCCAAATCGGCGACAGCTTCTCCGAAGGCGAACAACTGGCGTTCACCGGCATCC
CATTCTTCGCACCCGAACTGTTCCGCAGCGTACGCATCAAAAACCCGCTGAAAATCAAAC
AACTGCAAAAAGGCTTGCAACAGCTCGGCGAAGAAGGCGCGGTGCAGGTGTTCAAACCGA
TGAGCGGCGCGGATTTGATTTTGGGCGCGGTCGGCGTGTTGCAGTTTGAAGTCGTTACCT
CGCGCCTCGCCAACGAATACGGCGTAGAAGCCGTGTTCGACAGCGCATCCATCTGGTCGG
CGCGCTGGGTATCGTGCGACGACAAGAAAAAACTGGCTGAATTTGAAAAAGCCAACGCGG
GCAACCTCGCCATCGACGCAGGCGGCAACCTCGCCTACCTCGCCCCCAACCGCGTGAATT
```

-46-

```
TGGGACTCACGCAAGAACGTTGGCCGGACATCGTGTTCCACGAAACACGCGAACATTCGG
TCAAACTGTAAAAAGCAATCGGCGATAAAATGCCGTCTGAACCCGAAAAAAGGCTTTCAG
ACGGCATTTTTGCCTGCAACTCAAATGCACCGATCAAAATCAAGACGCATCGGATACCGT
TATCGGGCATCCCGTCCTCATGAATTTAGGGCTGACGCAAGAACGCTGGCCGGACATCGT
GTTCCACGAAACGCGCGAACATTCGGTCAAACTTTAAAAAACAATCGGCAATAAAATGCC
GTCTGAACCCGAAAAAAGGCTTTCAGACGGCATTTTTGCCTGCAATTCAAACGCAGACGG
TCAAAATCAAGGCGCATCGGATACCGTTATCGGATGCGTCCCATCCGCATGAATTTGGGG
CTGACGCAAGAACGCCGATGTGATTTCACATCCCGTACTGTTTCGACAGCTTCACATAAT
GCGCGGCGGAATATTTCAAAAAGGCTTTTTCCTCATCGGTCAGCACGCGCACCTGTCTGA
CCGGCGAACCGACATAAAGATAGCCGCCCGCCAAGCGTTTGCGCGGCGGAACGAGGCTGC
CCGCGCCGATCATCACTTCGTCCTCAATCACGGCATCGTCCAGAACCGTCGTCCCCATGC
CGACCAGGACGCGGTTGCCGATACGGCAGCCGTGCAGCATCACTTTGTGCCCCACGGTAA
CGTCTTCGCCGATAACCAGCGGCGATCCTTCGGGTTTGGCGGCGGTTTTGTGGGAAACGT
GCAAGACGCTGCCGTCCTGTATATTGCTGCGCGCGCCGACGGTGATGCTGTTCACATCGC
CGCGCAACACGGCGCACGGCCACACGGAAACATCTTCGGCAAGCGACACTTCGCCAATGA
CGACGCAGGCTTCGTCTATCATACAGGTTTCGTGGATTTCGGGCGTGCGGTTTTGGAAAG
TTCGGATTGCGTTCATTTTTCCTCCTTCGGTAAGGTATATATTGTTAAAGGATTTATTAA
ATATTCCCCCTGATTGCTTTTAAAATCCTGCCTGTAATATCGACCCCGAGTAATGTGATT
ATCGGGAATATCAGCTTATATATCAATTTATTGGACTTTAACAGCATAAACCTTAAATGA
TACGCCCTTCTTTTTATATCAGCATCACACTCTATATTTTTACTCGTCATTATAAAAAGC
AAAACGAGATATTCGTAGGAAAGAAAAGAATAAAGATAACTCGATATATCCCTATTAAAT
TCCATTTCCGCATTTTTCTCCAAAATATATAATAATGACTTTATACTTTTTTCCGAAACA
GTTCCCGTAATAGAATCTTTTCTTCCCTGCCGATAATAGTAATAACAACCGTCCAAATAA
GAAAAGTTGTTGCCGCATTAAATAACCTCATTGACCATTCGATATCTTCAGAATAAATT
CCCCTTTCAAAAAACAGTTTTTCTCTAATAATCAATTCTCTTTTTATAATCTTATTCCAC
GCCGAACCCGGAAATTTTCTAAATCGGCATAATCCTTTCAAAACTTCGACTTTGGATTGA
TTGAGTATTTTTTCAGGCTGATAATCTTCGCCAAAATATGAAACACTTCCCTTATCATAT
TTAACCGCATTTAAAAACACCACATCCGGCATATCAGTATCATCTTTACTAAGAAAATCC
AGCAAAATCTGACAGTTAATAAAATCATCCGAATCAATAAAGACTATATATTTTCCGTTT
GAATTTTTTATTCCGGTATTTCTCGCCTCCGACAACCCTTGGTTATCCTGATATATAT
TTGATATTTGGTGTCCGGTGTTTGTTGTTTGTTGTTTGTTGTTTGTTGTTTGTTTGTTTGT
TGTTTGTTGTTTGTTTGTTGTTTGTTGTTTGTTGTTTGTTTGTTTGTTTGTTTGTTTGTT
TGTTTGTTGTTTGTTTGTTGTTTGTTGTTTGTTGTTTGTTTGTTTGTTGTTTGTTGTTTGTT
GTTTGTTGTTTGTTGTTTGTTGTTTGTTGTTTGTTGTTTGTTGTTTGTTGTTTGTTGTTT
GTTGTTTGTTGTTTGTTGTTTGCTGTTTGATATTTTATCTATATATTTGTAACATATATC
TTCACTTCCGTCTTTTGACCCGTCATTCACAAGGATAAGTTCGACATTTTCATTACTTAA
TATAGATTCTATGGAACTTAAACACGCTTCCAAATAACTTTCGACATTATAAATAGGAAC
TACGATACTTAAATCCATATCTTTCTCATTTTACTAAATCATTTTAATCTTAACCCAATC
ATAACCGGCAGGAGGGGAAACGCCCCCCTGTTTGATAACGGACGCGCCGTTTCCTGCCGC
CCGAAAGGTTTCAGACGGCAGGGATTCCGGTTATTTGCCCGCTTTGAGCCCTTGCCACAG
CTTCACGCCCAGTTTGACGGATTCTGCGGATTGGGCGATACGATGAAACTTTTTTCCAT
CAGTTCTTTGTTCGGGAAAATCGATGCGTCGGAGGTGTATTTTTCATCCATCAGCTCGCG
CGCGGGACGGCTGGCGGGCGCGTAGGTAACGAAGCTGCCGTTTTTCGCCGCCACCTCGGG
CCGGAGCGTGTAGTCGATATAGCGGTGGGCATTGGCAACGTTTTGCGCGTCGCGCGGAAT
CATAAAGGAATCCACCCACACGCCCACGCCGGTTTTCGGGGTCAATACTTTGATTTCCAC
GCCGTTTGCGGCTTCTTCGGCACGGGTTTTGGCAATGTTCAAATCGCCGCCGTAACCGAT
GGCGGCACACAGGTTGCCCGCCGCCATATCGTCGATATAGCCGGAAGAGCTGAAGCGTTT
CACGTCGCCCCGGACGGCTTTCATCATATCGACGGCGGCTTTGATGTCTTCGGGATTCTC
ACTGTTGGGGTCTTTGCCCAAATAGTGCAACGCCAAGGAATCTGTTCGATTGCGCTGTC
GAAATAGCTGATGCCGCAGGATTTGAGTTTGGCGGTGTATTCGGGTTTGAACACCAAATC
CCATTCGTTTTCGGGCAGCTTGTCCGTACCCAATGCTTTTTTCACCTGCTGGGTATTGAT
TGCCAAGGTATTGATGCCCCAGAAATAGGGGACGGCGTATTCGTTGCCCGGATCGACGGC
TTCCATCATTTTCAGCAAATCTTTATCGATGTTGCCGTAATGGGGGATTTGCGCCTTGTC
GATTTTCTGATACGCGCCCGCTTTGATTTGCCGGCCGACGTTGGCGATGGACGGCGCGGT
CAGGTCGTAGCCGGATTTGCCGGTCAGGACTTTTGCCTCCAGTGTTTCGTTGCTGTCGTA
ATAATCGGAACGCGTCTTGATGCCGGTTTCTTTTTCAAAGGCGGCAACGGTTTCGGGATC
GACATAATCCGACCAGTTGTAGATGTTGAGTTTGCCCGATTGTTCGGCTTCGGGCTTGGC
```

-47-

```
GGAGGGGGTTTGGGCGGCGGTATCGCTTCCGCCGCCGCACGCAGTCAAGGCGAGGCTCAG
GATTGCCGCCGCCACCAGTGTTTTTTTTCATGGTTTTCGACCTTTCGTTCAAAAATAAAAA
ACATTGCAGGGACGGACGGGCCGCCTGCATCGGAAGCTGTGGGGGCGGCCGGTCGGCTTT
CTTGGCCCTTGGTGCAGCAAGGTTTGCATTAAACGGCAAAAACAGCCGGGGCGCAACCGT
TAATTTTCACCGGTTTGCCGTTCCGGTGCCCGATCGGGCGGTAATGCGGGACATTGTTCC
GCCTGCGTAAAAATGCCGTCTGAAGCCTCGGCGGCTTTCAGACGGCATCGGGGCGGACGG
CATCAGTTGCTCAACACGTCCACGCCTTTGGGCGGGGTAAACTTGAACGCGCCGCGCGAG
AGTTGGGGATTGGTATTCAAACCGCCGAAACTGATGGAGGTTTGGTTGCCGAAGCTGTCT
TTAAGCTGCATGGCGGCGAGGTTGCCGCCTTTGAAGCCGATGCGGATGTATTGGTAGCCG
GCGTTGTTGCGTTTGGGCGTTGCCAGCACATAATCGATGCCGTTGGACGAACCGTCCTCT
TTCAGCGTGTAGCTGCTTTCGAGGGCGGTTTTGTTCGACAGGATGGCGGCGGGGCTGCCG
CCTATGGCCTGGTCTTGGGACGACTTGGTCACTTGTGCCAGATCAACATCGTAGAGCCAA
ACGGTTTGACCGTCGCCGACGATGGTTTGCCTGTAAGGTTTGGTGTATTCCCATTTGAAA
AGGCCCGGTCGCAGGATTTTGAACGTGCCGTGCGCGGTTTGGGTTTTCTTTTTGCTTTGG
ACGTTTGGGTGAAGCTGCCGCTGATACCGTCGGCATCGTTGTTGAATTGCTTAAGCGCG
TCTACCGCGCCCGCCTGTGCGGAAGCGACGGCGACGGTCAGGGAGCAAACGGCGAGGAAT
TGGAACAGGTTGTGCGGTTTCATCATTATTTTTCCTTGTCGGGATGAGTGTGGCGTAAAG
TATCGGCGCAGCAAAACAATCATACGGGCGGCGTTACGGGCGGTTTGCATTTTGCAAACC
GCGTTTTCCGAGGGCTGATTTTTTGCCCACCGGAAAAGGCGGCGCGCCACGCTGCCCTTT
AATGTGTGCCGCGTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGAC
AGTACAAATAGTACGGAGCCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCT
TTGAGCTAAGGCGAGGCAACACCGTACTGGTTTTTGTTAATCCACTATATTTGACGGTTT
GGGCGCGGAATGCCGAATCGCGGAGATTATATGCCTCATCTTGTTTTTTTTAAACGCTAT
AATATTTGTTTTCCGAACACGGCGGACTTGAGATGAAACCCGATATTTATGCTTTGCTGG
AACGCGCCCTGCTTTCGGGCGACCCAGATGAAAAAGGACGGCTGACGGATGAGGCGTTTG
CCGCCGTTCAAAATGCGGACGGGGCGGAAACAAACGCACCGCCGGCGGACTTCCCCCGCG
CGGGACGACCGGACAAGCCTGTTTTGGTCGCGCCGTCGCAGCTGACGCCACGCAAAATGA
ACACAACCGAAGGCTATGCGGCGATGCTGCACGCGATTGCGCATATCGAATTCAACGCCA
TCAATCTGGCTTTGGACGCGGCATACCGTTTCCGCACGCTGCCGTTTCAGTTTGTCCGCG
ACTGGGTGAAAGTGGCGAAGGAAGAGGTGTACCATTTCCGCCTGATGCGCGAAAGGCTGC
GCGCTTTCGGCTTCGATTACGGCGATTTTGAAGCACACAATCATTTATGGGATATGGCAT
ACAAAACCGCCTACGATCCTTTGTTGCGTATGGCTTTAGTGCCGCGCGTTTTGGAAGCGC
GCGGGCTGGACGTTACGCCCGGCATACGCGCGAAGGTGGCGCAGCGCGGTGATTCGGAAA
CCTGCGGCGTGTTGGACATCATTTACCGCGACGAAGTGGGACACGTCGCCATCGGCAACC
GGTGGTATCAACACCCTTTGCCGCGAACGCGGTTTGGAGCCTGTCGCCCTGTTCCGCAGCC
TGATTGCCCGTTACGATATGTTTATCTTCCGGGGCTATGTGAACATCGAAGCGCGCGAAA
AAGCAGGCTTCAGCCGCTTTGAATTGGATATGTTGGAAGATTTCGAGCAGGGTTTGAAAC
AAAATAAACATGCCGTCTGAAACCCTTCGTCCCGCACTTTATAAAAAAGGAACACACATG
ATACAAGCCGTATTGTTCGACCTCGATGGCACGCTCGCCGACACCGCCCTAGACCTCGGC
GGCGCACTCAACACCCTGCTCGCCCGCCACGGACTACCTGCAAAAAGCATGGACGAAATC
CGCACCCAAGCCAGCCACGGCGCGGCAGGACTGATCAAGCTCGGCGCAGGCATCACCCCC
GACCATCCCGACTATGCCCGATGGCGCACCGAATACCTTGACGAATACGACAGCCGCTAC
GCCCAAGACACCACCCTCTTCGACGGCGTAAACGAACTCATCGCCGAACTCGGAAAACGC
GGCATCAAATGGGGCATCATCACCAACAAACCCATGCGCTTCACCGACAAACTCGTCCCC
AAACTCGGCTTCATCATCCCACCCGCCGTCGTCGTCAGCGGCGACACCTGCGGCGAGCCC
AAGCCCAGCGTCAAACCCATGCTGTATGCGTGCGGACAAATCCACGCCGACCCGCAACAC
ACACTCTACGTCGGCGACGCGGAACGCGATATACAGGCGGGGCGCAACGCCGGTATGACG
ACCGTCCTCGCCGAATGGGGCTACATCGCTCCCGAAGACGATACCGGCTCATGGCAGGCG
GATTTCCACATCCGCACGCCACTCGATCTGCTCGAATGTCTGGACAAAATACAGCCCTGA
AAAATATCCGCCCCACAAACATATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGC
CTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGCTCCGTAC
TATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATAAAAC
TGCCGTCTGAAACCTGATTTCAGACGGCAGTTCCGCCTTCAAACCGAATCAAAGCCCGTC
AAAACCTGCGTTTGAGCTTGCACGCCTGAAGGATGTGTACCGCCAATTCCTCAACCGACT
TATCCGTCGTATTCGCAAACGGAATCCCATGCCGTCTGAACATACTCTGCGCGTCCGCCA
CCTCGCTGCGGCATGTATCGATTTTGGCATAAGTTGAATTCGGGCGGCGCTCTTGGCGGA
TGGCCTGCAAACGTTCCGGCTGGATGGTCAACCCGAACAGCTTATCCCTATAAGGCTTGA
```

```
CCATACGCGGCAGATCGGCCGATTCCAAATCGTCGGGAATCAGCGGATAGTTTGCCGCAC
GGATGCCGTATTGCAGGGCGAGGTAAAGGCAGGTCGGCGTTTTGCCCGAACGCGATACAC
CCATCAAGATTACATCCGCTTCCTGAAGGTTCTTATCGCTGACCCCGTCGTCGTGGTTCA
AAGAAAAATTGACCGCTTCCATACGCGCATCATAACGCTTCGTATTACCGATACTGTGAT
GCCCCTGCCCGGATGCCGTGGCTTCGGTATTGAGTTCCTTCTCCAACAGTCCCAAAAAAG
TCTCAAAGAAATTAATCTGAAAAGCATCCGCCCCTTTGATAATCCGACGGATTTCGTCAT
CAACCACACTGACAAACGCAATCGGACGCTGACCGTTTTCCTGCCGGCTCCGATTGACCT
TCTCCACCACCGCGCGCGCCTTTTCCGGCGTATCGACAAACGGATGCGTATGGCGTTTGA
ACGACAGATTGCCAAACTGGTTCAGCAACGCCTCGCCGATATTCTCAGCAGTCAGACCGG
TACGGTCGGAAATGTAAAACACATGGCGCGGACTGCTCATCTTCCATCCTTAAAACACAG
GTTTAAAATCCCATCATAACAGCAGCAGCAGACACAAGGAAAGCACCCGCAGCACACCTA
CCTCGGATTACACCCAAACAGACACAATATAATTTTGAAATAAAATTATTTATATAAAGT
ATTTTTTGGCAGAAAATTTTAAAAAATAAACAAAAAAATCAAACAGAAAAAACATTAACC
TATTCAAACCACCTGTTTTACAAAGAAAATACCCAAAAAAAGAAGTATACCGGCTGTAAG
TTTCAAACCGCTACACACGCCGAAACCGCAATTTTTCAGACGGCATCATGATTTTAAAAC
GGATAAAACACATGACAGCAGAGGAACGAATCGCTTAAAATAAGCACGCGGATTTGTTTC
TTTTTTAACATATTTTGGATTGGACACACAAATGGCCGACAACTACGTAATCTGGTTTGA
AAACCTGCGTATGACAGATGTTGAACGCGTGGGCGGTAAAAACGCCTCGCTGGGCGAAAT
GATCAGTCAGCTGACCGAAAAAGGCGTTCGCGTCCCCGGCGGCTTTGCCACCACGGCCGA
AGCCTACCGCGCATTCCTCGCACACAACGGTCTGAGCGAACGCATTTCCGCCGCACTGGC
AAAATTGGATGTCGAAGACGTTGCCGAACTGGCACGCGTCGGCAAAGAAATCCGCCAATG
GATTTTGGATACGCCTTTCCCCGAACAGCTCGATGCCGAAATCGAAGCGGCATGGAACAA
AATGGTTGCCGATGCCGGCGGTGCGGACATTTCCGTTGCCGTACGTTCTTCCGCAACTGC
CGAAGACCTGCCGGACGCATCATTCGCTGGACAACAGGAAACCTTCTTGAACATCAACGG
CTTGGATAACGTTAAAGAAGCGATGCACCATGTATTCGCTTCCCTGTATAACGACCGTGC
CATTTCTTACCGTGTCCACAAAGGCTTCGAACACGACATCGTCGCCCTTTCCGCCGGCGT
TCAACGCATGGTGCGTTCCGACAGCGGCGCATCAGGTGTGATGTTCACCCTCGACACCGA
ATCCGGCTACGATCAAGTCGTCTTTGTTACCTCCTCTTACGGTCTGGGCGAAAACGTCGT
ACAAGGTGCGGTCAACCCGGACGAATTTTATGTGTTCAAACCCACGCTCAAAGCGGGCAA
GCCCGCCATCCTGCGTAAAACCATGGGTTCAAAACACATCAAAATGATTTTTACCGACAA
AGCAGAAGCCGGTAAATCCGTAACCAACGTCGATGTCCCCGAGGAAGACCGCAACCGCTT
CTCCATTACCGACGAAGAAATTACTGAGTTGGCGCATTACGCACTGACCATCGAAAAACA
CTACGGCCGCCCGATGGATATCGAATGGGGACGCGACGGCTTGGACGGCAAACTCTACAT
CCTGCAAGCCCGTCCCGAAACCGTAAAATCCCAAGAAGAGGGCAACCGCAACCTGCGCCG
CTTCGCCATCAACGGCGACAAAACCGTATTATGCGAAGGCCGCGCCATCGGTCAGAAAGT
CGGTCAGGGCAAGGTGCGCCTGATTAAAGATGCTTCCGAGATGGATTCCGTCGAAGCCGG
CGACGTACTCGTTACCGACATGACCGATCCCGGATTGGGAACCCGTGATGAAACGTGCTTC
TGCCATCGTTACCAACCGCGGCGGCCGTACCTGCCACGCCGCCATCATCGCGCGTGAATT
GGGCATTCCTGCCGTTGTCGGCTGCGGCAATGCAACCGAATTGCTGAAAAACGGTCAAGA
AGTTACCGTATCCTGTGCCGAAGGCGATACCGGCTTTATCTATGCCGGTCTGTTGGACGT
ACAGATTACCGATGTCGCCTTAGACAATATGCCTAAAGCACCTGTAAAAGTCATGATGAA
CGTCGGCAATCCCGAACTCGCATTCAGCTTCGCCAACCTGCCCAGCGAAGGCATCGGCTT
GGCGCGTATGGAATTTATCATCAACCGCCAAATCGGTATCCACCCCAAAGCCTTGTTGGA
ATTTGACAAACAAGACGACGAATTAAAAGCGGAAATTACCCGCCGTATCGCCGGTTACGC
GTCCCCTGTCGACTTCTACGTCGATAAAATCGCCGAAGGCGTGGCGACATTGGCCGCATC
GGTTTATCCGCGTAAAACCATCGTCCGTATGTCCGACTTCAAATCCAACGAATACGCCAA
CCTGGTCGGCGGCAACGTATACGAACCGCATGAAGAAACCCGATGTTGGGCTTCCGTGG
TGCGGCGCGTTATGTCGCCGACAACTTCAAAGACTGTTTCGCCTTGGAATGCAAAGCCTT
GAAACGCGTCCGCGATGAAATGGGGTTGACCAACGTTGAAATCATGATTCCGTTCGTCCG
CACTTTGGGCGAAGCCGAAGCCGTTGTCAAAGCCCTGAAAGAAACGGCTTGGAACGCGG
CAAAAACGGCCTGCGCCTGATTATGATGTGCGAGCTGCCGAGCAACGCGGTATTGGCGGA
ACAATTCCTGCAATACTTCGACGGCTTCTCCATCGGCTCGAACGACATGACCCAACTGAC
CCTCGGTCTCGACCGCGACAGCGGCTTGGTATCCGAATCGTTTGACGAACGCAACCCTGC
CGTCAAAGTGATGCTGCACCTTGCCATCTCCGCCTGCCGCAAGCAGAACAAATATGTCGG
CATCTGCGGTCAAGGCCCGTCCGACCATCCGGACTTCGCCAAATGGCTGGTTGAGGAAGG
CATTGAAAGCGTTTCCCTGAACCCGGATACCGTCATCGAAACTTGGCTATATTTGGCGAA
TGAATTGAACAAATAATCAATGCCCATACCCCCGAGCCTGAAAAGCGCGGGGGGTATTTTT
```

```
   TTCCAAGCAGCTCCGCTCAGACGGCATTTCCTGCCGATGCCCCGTCCGCGATAATATTTG
   ACACCCACGCGCCGACTGCCTACAATTCCCCCTTCCCCGAGCAACCGGCAACGGTCAGCT
   TCTTCTTTCAGACGGCATCTGCCTGTCTTTTTCCTCTTCAAAATACATCATTATTATGCA
   CGTCTCCGAATTACAAACCCTGCACATTTCCAAACTCTTAGAATTGGCGGAAGAACACGG
5  CATCGAAACGCCAACCGATTCCGCAAACAAGACCTCGTATTTGCCATCGTCCGCCAGAT
   GATGAAAAAAGGCGAGGGTTTCACCTGCTCCGGCACGCTTGAAATCCTGCCCGACGGCTT
   CGGCTTCCTCCGCAGCGCGGACACGTCCTATCTTGCCGGCCCCGACGACATCTATGTCTC
   GCCCACCCAAATCCGCCGCTTCAACCTGCATACGGGCGACACCATCGAAGGAAGCGTGCG
   CGTCCCAAAAGACAACGAACGCTATTTTGCCCTGGTCAGGCTTGATACCATCAACGGCGA
10 CCACCCGGAAGTATGCCGCCATAAAATCCTGTTTGAAAACCTGACCCCGCTGTTTCCGAC
   CGAACAGTTGAAGCTGGAACGCGACTTAAAGTCCGAAGAAAACCTGACCGGACGTGCCAT
   CGACCTGATTTCCCCTATCGGCAAAGGTCAGCGCGCCCTCTTGGTTGCCCCGCCCAAAAG
   CGGTAAAACCGTGATGCTGCAAAACATTGCCCACGCCGTTACCGCAAACTATCCCGAAGT
   CGAACTCATCGTCCTCTTGATTGACGAACGTCCCGAAGAAGTAACCGAAATGAGCCGCTC
15 CGTCCGTGGCGAAGTAGTCTCCTCCACCTTTGACGAGCCGGCTCAACGCCACGTCCAAGT
   TGCCGAAATGGTGCTTGAAAAAGCCAAGCGTATGGTGGAACACAAAAAAGACGTGGTCAT
   CCTGCTGGATTCGATTACCCGCCTTGCCCGCGCCTACAATACCGTCGTGCCTACCTCGGG
   CAAAATCCTGACCGGCGGTGTCGATGCCAACGCGCTGCATCGTCCCAAACGTTTCTTCGG
   CGCGGCGCGCAACGTGGAAGAAGGCGGTTCGCTGACCATCATCGCCACCGCATTGGTTGA
20 AACCGGCAGCCGTATGGACGATGTGATTTACGAAGAATTCAAAGGCACCGGCAATATGGA
   ATTGCACCTTGACCGCCGTATGGCGGAAAAACGCCTCTTCCCCGCCATCAACATCAACAA
   ATCCGGCACGCGCCGCGAAGAGCTGCTTGTCCCAAACGACCAGTTACAACGTATGTGGCT
   CTTACGCAAGTTCCTGCACCCGATGGACGAAATCGAGGCAGCCGAATTTTTAATCGGGAA
   AATCAAAGCCTCTAAAAACAACGACGATTTCTTTGAACTGATGCGCGGCAAATAAACGCG
25 CCGCCCGCATTAATGCGAAATGCCGTCTGAAGCCTGAAAATCGGGTTTCAGACGGCACTT
   TCATTCACACGGTCGGCGCAGCTCCTCCCTCCCCCCGTTAACGGCGCAACCGTCGGCAGT
   GTCCGTGTCCGCTTGCCGAAAGCGCGGCCTTTGCAAAGCCGGCTTGAACGCATCCGTACC
   GGCAATGAAAACCGATGCGGGAACTTGATTCAAGGTTGCGCCGAACCGCACTCATTTTTG
   TATAAATTTGGGGCTGTCCTAGATAACTAGGGAAATTCAAATTAAGTTAGAGTTGCCCCT
30 ATGAGAAAAATTCGTCTAAGCCGGTATAAACAAAATAAACTCATTGAACTGTTTGTCGCA
   GGTGTAACTGCAAGAACAGCAGCAGAGTTAGTAGGCGTTAATAAAAGTACCTCAGCCTAT
   TATTTTCATCGTTTACGATTACTTATTTATCAAAACAGTCCGCATTTGGAAATGTTTGAC
   GGCGAAGTAGAAGCAGATGAAAGTTATTTTGCTGAACGACAAAACCATATCAATGGAATT
   GGGAACTTTTGGAACCGGGCAAAACGTCATTTACGCAAGTTTGACGGCATTCCCAAAGCG
35 CATTTTGAGCTGTATTTAAAGGGGTACGAACGACGTTTTAACAACAGCGAGATAAAAGTT
   CAAATTTCCATTTTAAAAACAATTAGTAAAATCGAGTTTATCCTAGTTATCTAGGACAGCC
   CCATAAATTTTTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAA
   AGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACT
   GTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATTTCCAATTAAAAA
40 TTTTTAATATATTAATCAATAAATTAATTTTATAAAATAAAAATATTGTCAACAATATTT
   TGCCTTATCGCCCAAACCTCTGTATATTTTCCTACAGTAAATTGTTGACAATCCATACGC
   CCACATATGCGCCGCCCTAAGGATAAATCCTCCCGCCGGACAACGGGTGCAAGGGATCGGA
   TGCGATATTTCCATATTCAAACAAGGGATTGGCGGCACATCGGCAAAATCCCCGCGCCGC
   CCCGGTCCGGCAGGGCTTGCGTCCCTCCCGGACAAGCCCCGACCCCGCCTTTCCGAAAGA
45 CGGGCTCAACCATTAAGGAAACTTTAGTCAAAATGAAAAAACACATATGGGCGGCATCTT
   TGCTGCCGGCATCCCTATCGGCAGAACCTTTAAACTGGTGGAAGCCTTATTCCGCCGTCA
   ATTCGGGCGATACCGCCTGGGTGATGACTGCGGCTGCCTTGGTACTGTTGATGACGCTTC
   CCGGGCTGGCTTTATTCTACGGCGGTATGGTGCGGAAAAAAAACCTGCTCTCGACGATGA
   TGCACAGCTTTTCCATCGCGACATTGGTGGGCATCCTTTGGGTCGCCGTCGGCTATTCTT
50 TAGCGTTCACGCCGGGAAATGCCTTTATCGGCGGTTTGGGGCGCGTATTTTTAAGCGGGA
   TGCAGATAGACGCTACCGCACAGATGCTGACCGTGTCGCCCAATGCGCCGACTGTTCCCG
   AACCGGTATTTATGTTTTTTCAGATGACGTTTGCCATTATTTCGACCGCCATTATTACCG
   GCGCGTTTGCCAACGGATGAAATATTCGGCAATGATGCTGTTTTCGGGCATATGGTTTT
   TATTGGTTTATGTGCCGGGCGCGCATTGGGTGTGGGGCGGCGGCTTTATGAGCAAGGGCG
55 GCGTATTGGATTATGCCGGCGGTACGGTGGTGCACATCAATGCCGGTATCGCGGGACTCG
   TCGCCGCCTTGGTTTTGGGCAGGCGCATAGGCTACGGGCGCGAGGCGATGCCTCCGCACA
   ATATGGCGATGACACTGATCGGCGCGGCAATGTTGTGGTTCGGCTGGTTCGGCTTTAACG
```

```
CCGGATCGGCGCTTGCGGCAGACGCGGCGGCGGGTATGGCGATGGCGGTAACGCAGGTGT
CGGCCGTATTCGGCGCGGCAGGCTGGCTTGCCTGCGAAAAAATAGCGGGACACAAACCTT
CCGCTTTGGGGCTGGCTTCCGGCGCGGTTTCCGGTCTGGTCGGCATCACCCCTGCCGCCG
GCTTTACCGGCCCGTCGGGCGCGGCCGCCATCGGTATATTGACTGCCGCCGCGTGCTTTG
TGTCCGTCACCGTCGTCAAACACAATTGCGTTACGATGATTCTTTGGACGCTTTCGGCA
TACACGGATTCGGCGGGCTGGTGGCGGAATATTGACCGGCATCTTTTTCGACAACCGCA
TTTTCGGCGGGGATGCGGCAGTTTGGCAGCAGTTGTGGATACAGGTAAAAGACGGGGTCG
TTATGGCGGCATACAGCGGGCTAATGAGTTGGGCGATTTTGAAGGTCGTGGGGAAAATCT
GCGGCGGCCTGCGCGTCGGCAAGGATGTCGAACGCGAAGGTTTGGATCTGAATATCCACG
GCGAACGCGTGGAATAAGGGCGGCTATGCCGTCTGAAGCCTGAAAATCGGGTTTCAGACG
GCATTTTTCACGTTTGCCGCCGATGGATAAACATATAGTGGATTAACAAAAATCAGGACA
AGGCGACGAAGCCGCAGACAGTACAGATAGTACGGAACCGATTCACTTGGTGCTTCAGCA
CCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAAT
CCACTATACTGCCTGCGACGCTTAACGGCTGTCTTTCCACTGATAATATTTCGAGCCGAG
GAAAGAACCGAGTTTGCGCAAAAACGGTTGCAGGATAATATTCGGCTGGCGCAACCGCTC
AAACGGCTTCAGACGGCATTCGTCCCCTAAAATTGCTTCGGCAACCGCCAGACCTGCAAT
GCCTGTTATCGCCATCCCGTGTCCGGAATAACCTTGCGCATAAAAAACATTCGGGGCTAA
ACGTCCGAAATGCGGGACAAGGTTGGCGGTAATGTCGCACTCCCCGCCCCACGAATATTC
GATTTTGACATCGGCAAGCTGCGGAAAAACTTTAAGCATATCTTGGCGGACAAGCTCGGT
CATACGCTCAGGATTGTCGATAAACTCGTTATCCTTACCGCCGAAAAGCAGTCTGCCGTC
CGCGCTGAGGCGGTAATAATCCAAATATGGCGGTTGTCGCATACTGCCATATTGTTACG
GATAAGCCCTTTTGCGCGCGCCCCCAAGGGTTCGGTCGCAATAATAAAGGTGCTGACAGC
AATCGCCTTGCGTTCCAAAGGCCGGAATATCGGGTTCAAACCTGCATAAGTATTGACAGC
ATAGACCACATTTTTGCACTCGACGCTGCCTTCGGGCGTGTAAACCAGCCAACCGTTTTG
ATGCGGTTCGATGCACGTCATCGGGGATTGCTCGAAAATCTGCGCACCGGCTTCGGCAGC
GGCACGAGCGATGCCCAAAGTGTAAGTGAGCGGATGCAGGTGTCCGGATAAGGGGTCGAA
TTGTGCCCCTTGGTACATATCGCTGTCAAGCTGCTGTTTCAACTCGGCTTTATCCCAAAG
TTGATAATGACTCGCACCGTAATGCCGTTGGGCGTGTTCATGCCACTGCTGCAACTCTTC
CCAATGCTGCGGACGGACGGCAACCGTGGCATAACCGCGCTGCCAATCACAATCGACGGC
ATGTTTGCGGACGCGTTCGTCCACCAGTTCGACCGCCTGCAAAGACTGTTGCCAAAACCA
TTGCGCCTGCTCCAAGCCGACCTGTTTTTCAATTTCCCCCATACCGCCAGGCGTAATCGCT
GATAACCTGCCCGCCACTCCGTCCCGACGCGCCGAAACCGATACGCGCGGCTTCCAACAC
AACCGTTTCATGTCCCTGCTCCGCCAAGGGCAATGCAGTGCACAAACCACCCAATCCGCC
GCCGATGATACAGGTATCGGTTTTCAGACGGCATTGAAGTTTCGGATAAACAGTATGAGG
ATTAACCGAACTGAAATAATAAGAAGGCAGATATTCTTGAAAATCAGGGCGAATCATTGT
GTTTGCTTTATCAGGTGTATTTTCGGACGGAATGATACAGGCTGTCGGGCCATATCGTCC
AAACAGAAAATCGGTTGAAGAAAACAGGCTGACCCAGTCATGCGGTCAGCCTGCCTTATT
AATTAATTTGCTTTCTCGGCAGCCAATTTTTCCTGGCGGTAGGCTTCTGCCGCTTCTCGG
TCACGCTTGGTTGCCTGCCTCATCATCCAATAATTGACGATGATGACCAATGTTCCGATG
ATGCCGATTAGGATGGTCGCCAAGACATTCATCTGAGGATCGAGACCCAACTTGATTTTG
GAGAAAATCACCTGCGGCAATGTGGATGAACCGGGGCCGGAGAGGAATGAGGTAATCACC
AAATCATCCAAAGACAGGGTAATGCCGAGCAGAAAGCCTGAAGCGATGGCAGGGGCAATC
AAAGGCAAAGTGATGACAAAAAAGATTTTCAGCGGGCGCGCGCCCAAATCCATTGCGGCT
TCTTCGAGCGACTGGTCAAGCTCAACCAGACGCGAACGGATAACAACGGTAATGTACGCC
ATACACAGCGTCGTATGTCCGAGGAAGATGGTGAAAAAGCCACGATCGAAGTAGAGATGT
TGTAACCATTCGCTGCCCTGCAAAAATATCTGTACCTGAATAATCAGCAGCAGCATAGAC
AGACCGGTAATCACGTCGGGCATCACCATAGGTGCGGAAATCATGCCAGCGAACAAGGTA
CTGCCGCGAAAACGTTTAATCCGCGCCATCGCATAGCCTGCCAGCGTGCCCAAAACGACG
GCGGCAAGCGAAGACACAACGGCAATCCGCAGCGACAGCCAAGCGGCTTCCAAGATGGTG
TCGTTTTCCAGCAATGCGCCGTACCACTTGGTCGAAAGCCGCCCCAAACGGTTACCAGC
TTGGATTCGTTAAACGAATAGATGACCAAAACAACCAGCGGGATATACAGAAACGCCAGC
GACAGTGCCAACATCAGTTTCAAGAACCAAGATAATTTGGATTTCTGCATTATTTGGCTC
CTTCTTCCAATTCGCGGTTTTCATAATGCTGAAACAGGGCAATCGGCACGACCAGCAGCG
CGACCATCACGACGGCGACGGCGGAAGCCAGCGGCCAGTTGTTTTGATCGAAGAACGCCT
GCCACAAGACTTTACCAATCATCAGGTTTTCCGAACCGCCGACCAGCTCGGGAATGACGA
ACTCGCCGACAGCAGGGACGAAAACCAGCATGGAGCCTGCAATAATGCCGGTTTTCGACA
AAGGCAGGGTAATCGTCAAGAACGATTTGACCGGCCCCGCGCCCAAATCGGAAGCCGCTT
```

-51-

```
CAAGCAGGCGGTTGTCGAGTTTCACCAGTTGCGTGTATAGCGGCAGAATCATAAACGGCA
GATAGGCGTAAACCATCACCAAATTGAGCGAAAAGGCATTGTAGAACAAATCCAAAGGCT
CGCTGATAATACCCATTTTAATCAACAGGTTGTTTACAATGCCGTTATGCCCGAGCAGAC
CCATCCACGCATAGACGCGCAACAGGAACGATGTCCAAAAGGGCAGCATAATGGCAAGCA
GCAAACCATTGCGGACAGAAGGATTGGCACGAGAAATCGCATAGGCGGTCGGATAACCGA
CCAACAGACAAATTACCGTCGTAGTCAGCGCAGTCTTAATTGAAGACCAATAAGTCATCA
GATAGATATTGCTGTTTTCACCGTCGCCGAACGGATTGAGCGTACTCCAAAAATTTTGGA
AGATGTCTGCATAATTTTGGTAGCTGACAGCAATATTCAGACGACCCAAATCCTCATCTA
TCGTCGTTAAAGGAGTAAACGGCGGGATGGCGATTTCTTGTTCGGCAAAGCTGATTTTCA
GCACGATGGCGAACGGAATCAGAAACAGCACCAAAAGCCAAATATACGGTACGGCAATCA
CCGCACGCTGCCCCGGACGGCGGAACAGTTTGTTTTTCAGTTTATTAAGGTTCATTGCAT
TCCCCTTAAATCAACGGAACAACGGAGTCGGTTGGTTTTCCGGCCAGCTGATATAGACGG
TTTCGTCCCAAGTCGGCGGTGTAATGTTGCGCACATACCAGTAAGGGGCGGGGACTTGGC
TTTTGACGACGCGCCCGTTGCCGAGCTTGATATGGTAAATGGCGAAGCTGCCCAAATAGG
CGATTTCTTTTACCGTGCCTTTCGCCCAGTTGTAGTCGCCCAAATATTCGGGTTTTTCTT
TATATAAATCAATATCCTCTGGTCGAATACTAACCCAAAGGTCCTGCTCGCTCGGACCAC
CCAAACCGTGATCGATGCGGACGTGGTTTTCCAAACCTTCGCATTCGATAACGGCATAGT
CGGCATGATCTTCAATCACCACACCGTCAAAGATGTTGGTTTCGCCGATAAACTCGGCAG
TGAAGCGGCTGTTGGGATAGTCGTACACGTCGCTGGGTGTGCCGACTTGCTGCAACTGAC
CGTCAGACATAATGGCGATGCGGGTCGCCATCGTCATCGCCTCTTCTTGGTCGTGCGTAA
CCATAATACAGGTTACGCCGACTTGTTCCAGCGTATTGACCAACTCAAGCTGGGTTTGTT
GGCGCAGTTTTTTGTCCAATGCACCGAGGGGCTCATCCAGCAGTAGAATTTTCGGACGTT
TTGCCAGACTGCGTGCCAAAGCAATGCGCTGCTGCTGACCGCCGGACAATTGGTGCGGTT
TGCGTTTAGCAAATTTGGTCATCTGAACCAGGCGGAGCATTTCTTCGACGCGCGCGGCGA
TTTCGCCTTTAGGCATTTTGTCCTGTTTCAGACCGAAGGCAATGTTTTGTTCTACGGTCA
TATGCGGAAAAAGCGCGTAACTTTGGAACATCATATTGATGGGGCGATCATAGGGTGCAA
GTTTGGTAATATCCTGACCATCAAGGATAATTTTTCCCTGATTGGGACTTTCCATACCCG
CCAGCATACGCAGCAGTGTAGATTTTCCGCTGCCGGAACTGCCCAAAAGGGCGAAGATTT
CGTGTTGATAAATGTCCAAGTCGATGTTATCGACAGCGTAATTGTCACCAAACTTTTTCA
CCAAACCTTGGATTTTGAGATAAGGTTTGGCTGAAGACGCAGTGGTTGCGGTCATAATGG
CAATACTCCAATAAAAAGACGAGTACCGGCAAAACGGATTTTCGAATGGGTGATAAAAAG
CTGTTTGATTGCTGGCGGGAGTTAAACGTTTGATGCCGTCTGAAACTCTTGTAAAGCGCA
CGGGCAGCATGAAATGGAACAAGATTCCAAAGAACTTTATATTATATTAGTTTATGCGGT
TTTCGGGCAATATAGTGGATTAAATTTAAACCAGTACAGCGTTGCGTTGCCTTGCCGTAC
TATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTAAATTTAATCCACTATAAAT
ATGGATTTGAGCTTGTCGGAAAGCAACAGAAAAGAAACACCGCCCATTTTTCTGGGCGG
TGTCGGAAAGCGTAATTATTTACGCAGACCCAAGCGGGTAATCAACGCGCGATACGTATC
GGGCTGGGTACGGCGCAAGTAGGCCAGCAGGCGGCGGCGTTGGCTGACCATTTTCAACAG
GCCGCGACGGCTGTGGTGGTCTTTGGGGTTGGCTTTGAAGTGGGGGGTCAGGTCGTTGAT
GCGGAAAGTCAACAGAGCGACTTGTACTTCGGAAGAGCCGGTGTCGCCTTCTTTGCGTTG
GAAATCTTTAACGATTTGTGCTTTTTGTTCTACGGTCAGTGCCATAATGAAAACTCCAAA
AATATAAGAATCCCCATAGGGATTCAGACAAGTTTGCCAAGCCTGAAGACAACGGCAAAC
TCCCTATGCCCAAGATAGGACAACGTGGCATTATGACACAATTCCCGCATTTCTGCACAA
TATTTTAAGACCGTGGAAGTAACCGTTAAAAATGCCGTCTGAAGCATTGTCTGCTTGAGA
CGGCAATGTTCAGACGGCATATGCGCTTCAAACCACGATTTCTTCTTTCTTCTTCGGTTC
TTTACCGATATTGTCGCGGCTCAAACCGAACATTAGCAGAAGCGGGCTGGCAACCAATAC
GGAAGAATAAATGCCGAACACGATGCCAATGGTCAACGCCATAGAAAAGCCGTGCAAGGC
CGCACCGCCGAACACCAGCATGGATACGACCATCGCCTCGGTCGAACCGTGGGTAATGAT
GGTGCGGCTCATCGTTGCGGTAATCGCGTTGTCGATGACTTCCGGCACGGCATGTCCGCG
CATCGCCGGCTTGCGGAAGTTTTCACGGATACGGTCGAAGACGACGACGGATTCGTTCAC
AGAATAGCCCAATACGGCAAGGATACCCGCCAAGACGGTCAGCGAAAATTCCCATTGGAA
GAAGGCAAAGCAGCCGAGAATAATCACGATGTCGTGCATATTGGCGATAATGGCAGATAC
GGCAAAACGCCATTCAAAACGCATCGACAGGTAAATAATGATGCCGATAACGACAAAACC
TAAAGCCATCAATCCATTACTTACCAATTCCTCACCGACTTGCGGGCCGATAAATTCGAC
TTGGCGCAAGGTAACGTCGGGACTGTCTTTTTTCAGCAAATCCATAACCTGATTGGACAA
CTGTGCGGAAGTAACACCTTCTTTGTTCGGCAGGCGGATCATGATGTGTTTGTTCGTACC
CAATGCCTGAACCTGTACATCACCTATTTTCAGCGTATCGAGGCGTTCGCGCATCTTATT
```

```
       GACATCCGCACCCTGCTGATATTGGACTTCCATTACCGTACCGCCGGTAAATTCGACAGA
       GAAATTCAGACCTCTGGTAACCAAAAGAACACGGCAGCGATAAACGTAACCAACGAAAT
       GAAGGTCGTCAGTTTGCCGTAGCTCATAAACGGAATATCGCGTTTGATTTTAAAGAGTTC
       CATAGCTTACTCCTTGCCTCCTGCCATTTCGGCTTTCGGCTTCCACACCGAACCAATGGA
   5   AATATTCTGCAATTTGCGTCTGCGTCCGTACCACAGATTGACCAACGCACGGAATACGAC
       GACGGATGAATACATCGAAGTCAGAATACCCAAACAGTGTACGACCGCAAAACCGCGTAC
       CGGGCCGGAACCGAATACCAAAAGCGCGATACCGGCAATCAGCGAAGTCAGGTTCGAATC
       GACAATGGTCGCCCATGCGTGTTGGAAACCGAGATTGATTGCCTGCTGCGGCGGCACGCC
       GGCACGCAATTCTTCGCGGATACGTTCGTTAATCAAGACGTTGGAGTCGATTGCCATACC
  10   CAAAGTCAACGCCAGCGCGGCCATACCCGGTAACGTCAACGTTGCCTGCATGGCAGACAA
       AATACCGATTAGGAACAGTATGTTGGCACTCAATGCAATGGTAGAAAAGAAACCCATCAG
       ACGATAGTAAACCACCATGAATGCAGCAACGATGGCAAAACCCCATAAAGTCGAATGGAA
       GCCTTTTTCGATGTTCTCCTTACCCAAAGACGGACCGATGGTACGTTCTTCGACAATCTG
       CATCGGTGCGGCAAGAGAACCGGCACGCAACAGCAAAGACGTATCATTGGCTTCGGCTGT
  15   CGTCATGCTTCCGGAAATTTCCACGCGTCCGCCGGTAATGGCAGTACGGATAACCGGCGC
       GGTTACAACCTCGGATTTTCCTTGGTCGATCAAAACCATCGCCATGCGTTTGCCGACATT
       TGCGGCAGTCAGTTCGCCGAAAATGCTGCCGCCCGCGCTGTCCAAGCTCAGACTGACGGC
       AGGTGCGCCCATTTGGTCGAAACTCGGTTGCGCATCGTTGATGTTGTCGCCCGTCAGCTC
       GACCTGTTTGCTGATCAGCAGAATTTCGGGACGATCTCCGCCGCTTGAAAGCAGCTCATA
  20   ACCGCTCGGCACGTTGCCTTCCAATGCCTCGCGCAACTTGGCAGGATCGTCCTCCACCAT
       ACGCAATTCCAAAGTCGCGGTACGGCCGATGATGTCTTTTGCCTTGGCAGTATCCTGAAC
       GCCCGGAAGCTGCACGACGATACGGTCTGCACCGGACTGCTGGATGACGGGCTCGGCCAC
       GCCCAACTCGTTCACACGGTTGTGCAGGGTAGTGATGTTCTGTTTGACCGCATCGGAACA
       CACTTTATTGACCGCCTCTTCCGAAAGCGTCAAGACGATATTGCTGCCGTCTGAATTCAG
  25   CGTTGCTTCAGaAACAGCTTGCGCAACTGCGGCAGAGCCTTTTGCACATCACCTGCATCC
       TGCAAAGGGACGGTCAGGCTGTTTCCAGCCTGACGCACCGTGCCGCTGcGGATTTTTTCG
       CGGCGCAGTTCGCGGCGGATGTCGCCCGAATAACGTTCAAACGTTTTCTGCATCGTTGCT
       TTCATATCGACCTGCATGGTGAAATGCACGCCGCCGCGCAGGTCCAAACCCAAAAACATC
       GGATTGGCTTTGATTTTCGCCATCCATTCGGGGCTGTCCGCCAACAGGTTGAGCGCGGTA
  30   ATATACCCTTCGCCCAAAGTGTTTTCGATGACGTCGCCGCGCTTTAAGCTGCGTTTCTGTG
       TCTTTGAAACGCACTTTCAGTGAATTGTCCACAACAAACATCCCGTCGGTCTGAATACCT
       GCGTTTTTCAGCGCGGCATCCACTTTGAATTGAGTCTGTTCGTTGATGATGATGGCTTGT
       CGGTTGGTCGATACCTGCACGGCGGGTGTTTCGCCGAATAGGTTGGGCAGCGAATACACT
       GCGGCAACCGCAATCGTGAACACAATCAGCAGATATTTCCATAAAGGATAACGGTTCATC
  35   ATTGTTCCTTAATGGTTGGAACCCCACCCTTTCGGTGGTGTCGGAATCGGGCTATTTCAG
       AAGAGGCAAAAACCCTTCCCAGCCAGGCAAGACCGGAAAGCGGCATCCTGAATATGCCGC
       CCTGCGTGTCGGAACATGGTCAAGCCTTCGGTTGGAATTCAAAACAAAGTGCCGCATTCG
       GGCTTTCCAGATGCGGCTTGTCGGCACAAATCAATCGACTTTTGCGGCAATCGCATTGCG
       TTCCACTTCGACCTCGATTTTTGTACCCTGTCCGATATCCACGGTAAAAAACTGTTCGCC
  40   GACTCTGGTTACCTTACCCTTGAAACCTGCCGCCAAGACCACTTTGTCGCCGACTTTCAA
       GGCGGCAAGCATTGCCTGATGCGCTTTGAATTTCTTTTGCTGCGGACGCATGATCAGGAA
       GTAGAACACCACCATAATCAACACTAAAGGAGCAAATTGTGCAACAGCTTGATTCATAAT
       TTATCCGTTCTTTCTAATATGGTTGAAAATCGAGAGGGGGTATATAATAACATAAGACCGT
       AAACAATATATCGGGTTTGCCGTCCGTACCGACCGTATACCGCAGCCTGCCCGTCCACAA
  45   ACCCATGTCCTTGACCCGCCTAATCTTGAAATTCTATGCACTGTTGCGCCTTTTTTTGGG
       CAAAAACGCCCGCACCGCATGGATTTCGCATCCCGCCTGTGCCGGGCACGAACCCGGCGC
       AAACCATCCCGATTCGCCCGACCGCATCCTCTGCATCGAGCAGGCATTGCGCCGCGCCGG
       TATTTGGCAGCACCTCCAAACCATAGAGGCGGAAGAAATCAGCGATACGCGCCTCGCACT
       TGTCCACTCGAGCAAATATCTGAACCGTTTGGAATCTTGCCTGCCCCAAAAAGGCAAGAT
  50   TTCCCGCCTGGATAACGACACTGCAATCAGCACAGGATCGCTGTCTGCCGCACGCTTTGC
       CGCCGGTTCGGCAGTTCAGGCAGTCGACATGGTCATGAACCGTAAAGCATGGCATGCCTT
       TTGCGCCGCCCGCCCGCCCGGACACCATGCGGGCAGCGGCAAAGCCGGCGGATTCTGCCT
       GCTGAACAACGTTGCCGCCGGCGTCATGCATGCCATTGCCGAATACCGCCTGAAACGCAT
       TGCCGTCATCGATTTCGATGTCCACTACGGCGACGGTACGGCAGAAATATTCAAAGACGA
  55   TCCGCGCATCCTGTTTTTCAACCTGTTTGAAACCGACCTTTTCCCCTTCCCCGAAAACAA
       CGATATGCCCGACGGCGGCAATATGGTGCACCTGCCCTTGCCGCCAGGAACGGGCAGCCG
       CACATTCCGCGAAGCCGTCCGCAGGCAGTGGCTACCCCGACTTGCCGCATTCAAACCCGA
```

```
   ACTGGTGCTGCTGTCGGCAGGATTCGACGCACACCGTCTAGACGAATCGGGCAGGCTCAA
   CCTGCACGAGGCGGATTTTGCCTGGCTGACACACAAAATCATTCAGACGGCATCGGGCTG
   CCCCGGCAAAATCATATCCGTACTCGAAGGCGGCTACACCCTTGAACCTCTGGCACAATC
   TGCTGCCGAGCATATCCGCGTGCTGGCAGGGCTGGGCAAATCCGATGCCGCAACCGCCTA
 5 TCAGAAAACACTGGACCCAACAAAAAAACGGTTTGCCCAAACCGAAAACCGGACAGGTGCG
   CCAACCTACCCAATCCGACCGTTACGACATATAGTGGATTAACAAAAATCAGGACAAGGC
   GACGAAGCCGCAGACAGTACAGATAGTACGGAACCGATTCACTTGGTGCTTGAGCACCTT
   AGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACACCGTACTGGTTTTTGTTAATCCAC
   TATAAATGCCGTCTGAAGCCGATTCGGTTTTCAGACGACATCATTATTTGACCTGACGCA
10 AACAGAAAGCCTTCCGCGTGCTTAAACACATCTCTTGAGACCTTTGCAAAAATAGTCTGT
   TAACGAAATTTGACGCATAAAAATGCGCCAAAAAATTTTCAATTGCCTAAAACCTTCCTA
   ATATTGAGCAAAAAGTAGGAAAAATCAGAAAAGTTTTGCATTTTGAAAATGAGATTGAGC
   ATAAAATTTTAGTAACCTATGTTATTGCAAAGGTCTCCTCTTGTAGTAAAATATCTAAAC
   AGATTCAACTGGAAACGGTCAAGCTTCTTCACGCCATTCCCATTTCAACCGCCGCCTGCC
15 AGATTCAGACGGTATTCCTACTTGAAAACAAGGAGCGTTACAATGAAAGCAGCACGTTTT
   TACGACAAAGGCGACATCCGCATCGAAGACATCCCCGAACCGACCGTCGCCCCGGCACT
   GTCGGCATCAATGTCGCCTGGTGCGGCATCTGCGGTACTGACCTGCACGAATTCATGGAA
   GGCCCGATTTTCATTCCGCCTTGCGGTCATCCGCACCCGATTTCCGGCGAGTCCGCACCC
   GTAACGATGGGACACGAGTTCTCCGGCGTGGTCTATGCCGTCGGCGAAGGCGTGGACGAC
20 ATCAAAGTCGGCCAACACGTCGTGGTCGAACCCTACATCATCCGCGATGACGTACCGACC
   GGAGAAGGCAGCAACTACCACCTCTCCAAAGATATGAACTTTATCGGCTTGGGCGGCTGC
   GGCGGCGGTCTGTCCGAAAAAATCGCCGTCAAACGCCGTTGGGTGCATCCGATTTCCGAC
   AAAATCCCGTTGGATCAAGCCGCTTTGATCGAACCGCTGTCTGTCGGACACCACGCCTAT
   GTACGCAGCGGCGCGAAAGAAGGCGACGTCGCATTGGTCGGCGGTGCAGGTCCGATCGGT
25 TTGCTGTTGGCTGCCGTGTTGAAAGCCAAAGGCATCAAAGTCATCATCACCGAGTTGAGT
   AAAGCACGCAAAGACAAAGCGCGCGAATCCGGCGTTGCCGACTACATCCTCGACCCGTCC
   GAAGTCGATGTTGTTGCAGAAGTGAAAAAACTGACCAACGGCGAAGGCGTGGACGTGGCA
   TTTGAGTGCACCAGCGTCAACAAAGTGTTGGATACTTTGGTCGAAGCCTGCAAACCTGCC
   GCCAATTTGGTTATCGTATCCATCTGGAGCCACCCCGCCACCATCAACGTCCACAGCGTC
30 GTGATGAAAGAGTTGGACGTGCGCGGCACGATTGCCTACTGCAACGACCACGCCGAAACC
   ATCAAACTGGTCGAAGAAGGCAAAATCAACCTTGAGCCTTTCATCACCCAGCGCATCAAG
   CTGGACGAGCTGGTTTCCAAAGGCTTCGAGCGTCTGATTCACAACAACGAATCCGCCGTT
   AAAATTATTGTGAGTCCAAACCTGTAAGCAAATTACATTTGCAACAGCACAAATGCCGTC
   TGAAACGCTCAGACGGCATTTTCCAACGAAGCGCAACAGGCGTATTGCCCGAGAGCAGCC
35 GTTTAGCCTATCATTCCGAACAAACAGAAACAAACAGAAGGAAAATCATGGGAGATTCCG
   TACTATCCGCCATCCAACAAACCATCACCCAGCGAAAATCTGCCAATCCGTCCGAATCTT
   ACGTCGCACAGCTCTTGCATAAGGGCGAAGACAAAATCCTAAAAAAAGTGATTGAAGAGG
   CGGGCGAAGTGTTGATGGCATCCAAAGACAAAAACCCGTCCCACCTGGTTTACGAAGTTG
   CCGACTTATGGTTTCACACCATGATTCTTCTGACACACCACGACCTGAAGGCGGAAGACG
40 TATTGGACGAACTTGCGCGCCGTCAGGGGCTGTCGGGGCTGGTCGAAAAAGCCGCTCGCA
   CAGAATCTTGAATTTATATTAAAATCCGCACTTTCCCACATTCAATCCGTCTGACCGCTT
   TTCAGACGGCATCGGAGCCGTTATGGACAACTGTATTTTCTGCAAAATCGCCGCCAAAGA
   CATTCCGGCGCAAACCGTCTATGAAGACGGCGAAATGGTTTGTTTCAAAGACATCAACCC
   CGCTGCTCCGGTTCATCTGCTGCTGATTCCCAAAGTCCATTTCGATTCGTTGGCACACGC
45 CGCGCCCGAACATCAGATGCTGCTGGGCAAATGATGTTGAAAGTTCCCGAAATCGCCAA
   AGCGGCAGGACTGGCAGACGGCTTCAAAACCCTGATCAATACCGGAAAAGGCGGCGGACA
   AGAGGTCTTCCACCTGCATATACACATCATGGGTACACCCGTATAAACCGTTATTTCACA
   ATCAACCCCTAATACTTACTTAAGGATACATCATGGGCAGTTTTTCTCTGACGCACTGGA
   TTATCGTACTGATTATCGTCGTTTTGATATTCGGCACCAAAAAACTGCGCAACGTCGGCA
50 AAGACCTCGGCGGTGCGGTTCATGACTTCAAACAGGGGCTGAACGAAGGTACAGACGGCA
   AAGAAGCCCAAAAAGACGATGTAATCGAACACAAAAAAGACGAAGACAAAGCGTAATTTA
   TGTTTGATTTCGGTTTGGGCGAGCTGGTTTTTGTCGGCATTATCGCCCTGATTGTCCTCG
   GCCCCGAACGCCTGCCCGAGGCCGCCCGCACCGCCGGACGGCTCATCGGCAGGCTGCAAC
   GCTTTGTCGGCAGCGTCAAACAGGAATTTGACACTCAAATCGAACTGGAAGAACTGAGGA
55 AGGCAAAGCAGGAATTTGAAGCTGCCGCCGCTCAGGTTCGAGACAGCCTCAAAGAAACCG
   GTACGGATATGGAAGGCAATCTGCACGACATTTCCGACGGTCTGAAGCCTTGGGAAAAAC
   TGCCCGAACAGCGGACACCTGCCGATTTCGGTGTCGATGAAAACGGCAATCCGCTTCCCG
```

-54-

```
ATGCGGCAAACACCCTATCAGACGGCATTTCCGACGTTATGCCGTCCGAACGTTCCTACG
CTTCCGCCGAAACCCTTGGGGACAGCGGGCAAACCGGCAGTACAGCCGAACCCGCGGAAA
CCGACCAAGACCGCGCATGGCGGGAATACCTGACTGCTTCTGCCGCCGCACCCGTCGTAC
AGACCGTCGAAGTCAGCTATATCGATACTGCTGTTGAAACGCCTGTTCCGCACACCACTT
CCCTGCGCAAACAGGCAATAAGCCGCAAACGCGATTTTCGTCCGAAACACCGCGCCAAAC
CTAAATTGCGCGTCCGTAAATCATAAAGAGAGCAATCCGGTGTCCGAAACACAAAACGAA
CAACCCGTCCAACCGCTTGTCGAGCATCTCATCGAGCTGCGCCGCCGCCTGATGTGGACG
GTTGTCGGCATCTTAGTCTGCTTTTTCGGCCTAATGCCGTTTGCCCAACAACTCTATACT
TTTATCGCCGACCCGCTGATGGCAAACCTGCCCAAAGACACCAGCATGATTGCCACCGAT
GTCATCGCACCATTTTTCGTGCCGGTCAAAGTTACCCTGATGGCGGCATTTTTAATTTCG
CTGCCGCATACGCTCTACCAAATCTGGGCATTTGTCGCGCCCGCACTCTACCAAAACGAA
AAACGCCTGATTACGCCGCTCGTCCTCTCCAGCGTCAGCCTGTTTTTCATCGGCATGGCA
TTTGCCTACTTTTTGGTTTTCCCCGTCATTTTCAAATTCCTTGCCAGCGTTACCCCTGTC
GGTGTCAATATGGCGACAGACATCGACAAATACCTCTCCTTCATCTTGGGGATGTTTGTT
GCGTTCGGCACAACGTTTGAAGTCCCCATTGTCGTTATCCTGTTAACCAAAATTGGTGTG
GTAACAACCGGACAGCTCAAACGCGCCCGCCCCTATGTGATTGTCGGCGCGTTTGTCATT
GCCGCCATCATCACGCCGCCCGATGTGATTTCACAAACCCTGCTTGCCATTCCGCTGATT
CTCTTATACGAAGCAGGTATTTGGTTCGGACGCTTTTTCACGCCACGTTCAGAACAGGAT
GGCGACATACGGCCGCCTGCAACAACCTGACACTATGCCGTCCGAACCTCCGCCTCATAC
CGCAACAGATTAAGGAATACCTTTGAATACCCTCTATTTAGGTTCAAACAGCCCGCGCCG
AATGGAAATCCTGACACAGTTGGGCTACCGCGTCATCCAACTGCCTGCCGGCATCGACGA
ATCCGTTAAAGCCGGCGAAACACCTTTCGCTTACGTTCAAAGGATGGCAGAAGAAAAAAA
CCGAACCGCCCTGACCCTCTTTTGCGAAACCAACGGCACAATGCCCGATTTCCCCCTGAT
TACCGCCGACACCTGCGTCGTTTCAGACGGCATCATATTGGGCAAACCCCGCTCCCAAGC
CGAAGCAATCGAATTTTTAAACCGATTGTCCGGCAAACAACATACCGTCCTGACTGCTGT
CTGCATTCATTATCGCGGCAAAACGTCAAGCCGCGTCCAAACCAACCGCGTCGTTTTCAA
GCCCCTGAGTTCGGAAGAAATTTCCGCCTATGTGCAAAGCGGCGAGCCGATGGACAAAGC
CGGTGCCTACGCCGTACAAGGCATAGGCGGCATCTTTATCCAATCTATCGAAGGCAGCTT
CAGCGGCATTATGGGACTGCCCGTTTATGAAACCGTTTCGATGTTGCAGGATTTGGGATA
CCGCTCCCCCTTGTCCGCCCTTAAACCGTAAAGACCGCCGTGAACAGACAAACCGCTTAC
CTCCTTGCCTCTTTCAGCCTGATCGCACTGATAATCCTGTCCCTTTCCTGGGAACTGTGG
ATTGCACCGTTGCGCCCGGGCGGCTCGTGGCTCGCGCTCAAAGCCCTCCCCCCTCTGTCTG
CCGCTTTCAGGCATCTTGAAAAAGAAAATCTATACTTACCAATACAGCTCCATGCTGGTT
CTGATTTACTTTGCCGAAGCCGTCATGCGCCTGTTCGACGCCTATCCCGCAGAACAGATT
TGCGCCGCGCTTTCCGCAGTATTCAGCATCATCTTCTTCATATCCTGCCTGTCGTTCGTC
AAACAATACAAGGAAACAAACAATGCCCGCTGAAACGACCGTATCCGGCGCGCACCCCGC
CGCCAAACTGCCGATTTACATCCTGCCCTGCTTCCTTTGGATAGGCATCGTCCCCTTTAC
CTTCGCGCTCAAACTGAAACCGTCGCCCGACTTTTACCACGATGCCGCCGCCGCAGCCGG
CCTGATTGTCCTGTTGTTCCTCACGGCAGGAAAAAAACTGTTTGATGTCAAAATCCCCGC
CATCAGCTTCCTTCTGTTTGCAATGGCGGCGTTTTGGTATCTTCAGGCACGCCTGATGAA
CCTGATTTACCCCGGTATGAACGACATCGTCTCTTGGATTTTCATCTTGCTCGCCGTCAG
CGCGTGGGCCTGCCGGAGCTTGGTCGCACACTTCGGACAAGAACGCATCGTGACCCTGTT
TGCCTGGTCGCTGCTTATCGGCTCCCTGCTTCAATCCTGCATCGTCGTCATCCAGTTTGC
CGGCTGGGAAGACACCCCTCTGTTTCAAAACATCATCGTTTACAGCGGGCAAGGCGTAAT
CGGACACATCGGGCAGCGCAACAACCTCGGACACTACCTCATGTGGGGCATACTCGCCGC
CGCCTACCTCAACGGACAACGAAAAATCCCCGCCGCCCTCGGCGTAATCTGCCTGATTAT
GCAGACCGCCGTTTTAGGTTTGGTCAACTCGCGCACCATCTTGACCTACATAGCCGCCAT
CGCCCTCATCCTTCCCTTCTGGTATTTCCGTTCGGACAAATCCAACAGGCGGACGATGCT
CGGCATAGCCGCAGCCGTATTCCTTACCGCGCTGTTCCAATTTTCCATGAACACCATTCT
GGAAACCTTTACTGGCATCCGCTACGAAACTGCCGTCGAACGCGTCGCCAACGGCGGTTT
CACAGACTTGCCGCGCCAAATCGAATGGAATAAAGCCCTTGCCGCCTTCCAGTCCGCCCC
GATATTCGGGCACGGCTGGAACAGTTTTGCCCAACAAACCTTCCTCATCAATGCCGAACA
GCACAACATATACGACAACCTCCTCAGCAACTTGTTCACCCATTCCCACAACATCGTCCT
CCAACTCCTTGCAGAGATGGGAATCAGCGGCACGCTTCTGGTTGCCGCAACCCTGCTGAC
GGGCATTGCCGGGCTGCTTAAACGCCCCCTGACCCCCGCATCGCTTTTCCTAATCTGCAC
GCTTGCCGTCAGTATGTGCCACAGTATGCTCGAATATCCTTTGTGGTATGTCTATTTCCT
CATCCCTTTCGGACTGATGCTCTTCCTGTCCCCCGCAGAGGCTTCAGACGGCATCGCCTT
```

CAAAAAAGCCGCCAATCTCGGCATACTGACCGCCTCCGCCGCCATATTCGCAGGATTGCT
GCACTTGGACTGGACATACACCCGGCTGGTTAACGCCTTTTCCCCCGCCACTGACGACAG
TGCCAAAACCCTCAACCGGAAAATCAACGAGTTGCGCTATATTTCCGCAAACAGTCCGAT
GCTGTCCTTTTATGCCGACTTCTCCCTCGTAAACTTCGCCCTGCCGGAATACCCCGAAAC

5   CCAGACTTGGGCGGAAGAAGCAACCCTCAAATCACTAAAATACCGCCCCCACTCCGCCAC
CTACCGCATCGCCCTCTACCTGATGCGGCAAGGCAAAGTTGCAGAAGCAAAACAATGGAT
GCGGGCGACACAGTCCTATTACCCgTACCTGATGCCCCGATACGCCGACGAAATCCGCAA
ACTGCCCGTATGGGCGCCGCTGCTACCCGAACTGCTCAAAGACTGCAAAGCCTTCGCCGC
CGCGCCCGGTCATCCGGAAGCAAAACCCTGCAAATGACCCGCGCCGGCGGATGCGGATAC

10 CGCCCGAAATGTAAAGCTCCATGCAAGACATTGCAAAAAACAGCAAACCGGTAGGGAAAT
ACGCTATCAAAAAACATTGCAGCCGTGTTAAGATAAACCGTCAAACAATCTTTTCACaGC
CCCGCCCGAAACAGGGTCGGGGCATACCCTTACGAAAAGGAAACACCATGAGCCGCGTAT
TACTCGTAGATGACGATGCCCTGCTAACCGAACTGCTGACCGAATACCTGAGCGCCGAAG
GTCTGAACGTCCGCAGCGTTCCCGACGGGGAAGCAGGCGTACAGGAAATCCTGAGCGGGC

15 AGTACGATGTAGTCGTATTGGATTCCATGATGCCCAAAATGAACGGCTTGGATGTCTTGA
AAAACGTACGCGCCCGAAGCACCGTCCCCATCATCATGCTGACCGCCAAAGGCGACGACA
TCGACCGAATCATCGGCTTGGAAATGGGCGCGGACGACTATGTCCCCAAACCCTGCACAC
CACGCGAACTCTTGGCACGCATCAATGCCATCCTGCGCCGCGCACAACACAGCGGCGAAC
AGAACAACGCACCCAACAGCATCTCCGTCAGCGATGTCGTCCTGTACCCCGCCAAACGCC

20 AGGCATCCGTCAAAGACATGCCGCTCGAACTGACCAGCACCGAATTCAACCTGCTCGAAG
TCCTGATGCGCCATGCCGGACAGGTAGTCAGCAAAGAAACCCTGTCCGTCGAAGCACTCG
ACCGCAAGCTGGCAAAATTCGACCGCAGTATCGACGTACACATCTCCAGCATCCGCCACA
AGTTGGGCGATGCCTCTCTGATTCAAACCGTACGCGGCTTGGGCTACCTGTTTGTCAAAA
ACTGAAATAAACAGATAAATGAAACTGTTCCAACGCATTTTCGCCACATTTTGCGCGGTT

25 ATCGTCTGTGCAATCTTTGTGGCGAGTTTTTCTTTCTGGCTGGTGCAGAACACCCTTGCC
GAAAACCAGTTCAACCAACGCCGCACCATCGAAACCACTTTGATGGGCAGCATCATTTCC
GCATTCCGGGCACGCGGGGACGCGGGTGCGCGCGAAATCCTGACGGAATGGAAAGACAGC
CCCGTCTCATCGGGCGTGTACGTTATACAGGGCGACGAGAAAAAAGATATCCTGAACCGG
TATATCGACAGCTATACCATCGAACGCGCCCGGCTTTTCGCCGCCGGACACCCGCATTCC

30 AACCTCGTCCATATCGAATACGACCGCTTCGGCGAAGAATACCTGTTCTTCACCAAAGAC
TGGGACAAACTCCAAGCCCGCCGCCTGCCCAGCCCCCTGTTGATCCCCGGCCTGCCGCTC
GCCCCGATTTGGCACGAACTCATCATATTGTCCTTCATCATCATCGTCGGACTGCTGATG
GCATATATCCTCGCCGGCAACATTGCCAAACCCATCAGAATCTTAGGCAACGGCATGGAC
AGGGTGGCAAACGGAGAACTTGAAACCCGTATCTCCCAACAGGTCGACGACCGCGACGAC

35 GAATTGTCCCATCTTGCCATCCAATTCGACAAAATGGTGGAAAAACTCGAAAAACTCGTT
GCCAAAGAACGCCACCTGCTCCATCACGTCTCCCATGAAATGCGTTCTCCCCTTGCGCGC
ATGCAGGCAATTGTCGGACTGATTCAGGCGCAGCCCCAAAAACAGGAGCAATATCTCAAA
CGGCTGGAAGGCGAACTGACCCGCATGGATACGCTGGCCGGGGGAACTGTTAACCCTGTCC
CGTCTCGAAACTTCCAATATGGCTTTGGAAAAAGAAAGCCTGAAACTCCTGCCCCTTCCTG

40 GGCAACCTGGTAGAAGACAATCAAAGCATTGCCCAGAAAAAACGGACAAACGGTTACCCTG
TCTGCCGACGGAAAAAATCCCCGAAAACACAACCATCCTTGCCAACGAAAGCTACCTGTAC
CGCGCCTTCGACAACGTCATCCGCCAACGCCGTCAACTACAGTCCCGAAGGCAGCACCATC
CTGATCAACATCGGACAAGACCACAAACACTGGATAATCGACGTTACCGACAACGGCCCC
GGCGTGGACGAAATGCAGCTCCCGCACATCTTCACCGCTTTCTACCGTGCAGACTCCAGT

45 GCCAACAAACCCGGAACAGGACTGGGGCTTGCATTGACCCAACATATTATTGAACAGCAC
TGCGGCAAAATCATCGCCGAAAACATCAAACCGAACGGTCTGCGGATGCGCTTTATCCTG
CCCAAGAAAAAACCGGTTCCAAAACAGAAAAAAGTGCGAACTGACCATAATACCGTCTG
AACCGGCTTCAGACGGCATTGCACAAACAGTTACCCCAAAACAAACACACAGCGGGTGTC
TCTCCAAAAATCACGCACATACCGTCCGCAAAGGAATATATCATGTCGGCACAAACCGAT

50 CCGGGCTACTTCTTCATGCCCAACCACATCATCCTGATAGGCGCGAGCGAACAACCGTAC
AGCCTGGGCAACGTGTACTCAGCAACCTGCTGAGTACGCCCTTTCAAGGAAAATCACC
CCCGTAAACCCGCGCCACCACACCATAGCCGGACTGCCCGCCTACACCAGCCTCAACAAA
ATCCCCGGCAATGCAGACCTGATTATTGCCGTTACCCTACCCGACAGTTACGACACCCTC
TTCAAAACCTGCCGCAAAAAGCAGCTCCGACACATCATCCTCATACAGGACTGGGACAAC

55 CTGTCTGCCGCAGAACTGCACACCGCCGAAACTGCCATCCGCAAACACCACGGCAACGGA
CTCAACATCACCGCCTGCACCACCGCAGGCATCCAACTGCCCTCACTCGGACTCAACATC
AGTACCCAAGACGGATACGCCGCAGGCCATACCGCCATACTGACCGGCAATGCCGCCGTC

-56-

```
AGCCGCCAAATCGACAACATCCTGAACAAACTCCGTCAAGGCACATCCCGCCACATCAGC
CTGCATCCCGGCATCAGCCCCATCACATCCGCCGATTGGCTCAACCGCTTCGGACACAGC
CTGCACACCAAAACCGCCGTCCTACACCACAACCCTGAAGAGGATCAGCGCAAACTGTTC
AGCGCAATCCGCCAATTTACCCGCCATACGCCGCTGATTCTCCACATCACCTGCCGCACG
ACAGAAACCGACCGTGCCGTACTGCACTGCCTCGCCCGACACTGCAACTTCCTCGTCAGT
TTCAACGCCGACGACCTCGAAGCCGCACTGCGCGCCCAACTGTCCGACCTTCCACCCCTG
TCCCGACTCGACATCCTGTCCGACACGCCTGCCGAATGGCTGCACGCGCACGCGCCAAAA
AACCTCACCCTCCACTTTCCCAACCTTCCCCACCACATCCGCAACGGACACCTGACCGGC
ACACCCACACCCTCAATCTGCCACGACATCGCCTCACGTCAGCTTGCCCACCCCGACACC
CAAGCCGTCCTAACCATCCTCAGTCCCTCCGGACACGAGGATTACAAAAAAACAGCACGC
GCCCTTATCCGCCTGTCCGAACAGACCGCCAAACCCCTGCTCGTCAGCAGCCCCTTTTCA
GACGGCATAACCCATTTCGACACCCCCACTCAGGCAATCCGCACCCTTTCCTACCGCAAC
ACCGCCGCGCCCTGAAACAGGCACAGCTCGACATTGCACCGCCGCAGCCATGCCGTCTG
AAAACACCGCAACCCCAAAACATCAAAAAAGCCCTTGCAGCGGCAAACCCCTCCCTGCTC
GCCGAAGCCCTGCACCTCCCCCCCCTACCGGCACACCACCCATAACGCCGTACAATTCCAA
TTCGACAGCCACCCCCTCTATGGCGACATCCTGACCGCACGCTGCAACGGACAAACCACT
GCCGTACTCCCGCCGTTTACCACGCTCGACAGCCGCCACCTTGCCCGCTTTGCCGAACTC
GACGGCACACAAACCCTCGACCAGTTCCTGCACACACTGACCGTCATTCCCGAATACCGC
CAACACATTCTCGGCATCACCCTCAACCTCAACGGCGGACAATACAGCAGCGATTTCCTC
TTAAAGACACCCGAAACACACGACACGCCCAAACGCAAGAACACAGGCAAAGCCGCCCAA
ACCCTCGAACATGCCGCCGCAAAAATGCAGAGTGCCGCCGCATACCTGAAACACAAAAAC
CCGACAGCCGCCGAATTTCTCCGCCACACAAGCGAAGCCGCCGCAGAACTGCTCGGCAGC
AAAACCGAAACCGGAGCAGCCGTACCCAACGTACTTGCCCCCTATCCCGCAGCATACCCC
AAAACACTGTCCCTAAGAAACAACACGACCGTTACCATTACCCCCATTTTGCCCGAAGAC
GCAGAAGCCAAACAGCAGTTCGTCCGCAGCCTCGGTCCCGAAGCACGGTACACACGCTTC
ATGACCCACACCAACGAACTGCCCGCAGCCACGTTGGCACGCCTGTGCAACCCCGATTAC
CACTGTGAAGCCGCATGGACGGCAAAGGATGCCGACAGCAACATCGTCGCCGTCGTCCGC
CACAGCCGCCTGAATCGCAACGAATGCGAATTCGGCATCACACTGGCGGAACATATGCGC
GGCAGCGGACTGGCACAGAAAATGATGGAACTCATCATCCAAACCGCCGCACAGCAAGGC
TACCGGACTATGAGTGCCGACATTCTCAAAACCAATACCCCCATGATCAAACTTGCTGAA
AAATCAGGATTTACCCTCAAGGAATCGGACACCGAAAAAAACCTGTACCGCGCATATCTG
AACCTTGCGGCAGACAAAACAACAGAAAAAACAAATAAAAACTTGCGCACCGACCACAAA
ATAACCTAAAATCGGCAGTTTCCATATATCCGATTTTCTCAAAAGGACTCAAAATGGTAG
TTATCCGTTTGGCACGCGGCGGCTCGAAACACCGCCCCTTCTACAACGTCATCGTTACTG
ACTCACGCAGCCGCCGCGACGGCCGCTTCATCGAACGCGTAGGCTTCTACAACCCCGTAG
CCAACGAAAAACAAGAGCGCGTCCGCCTCAATGCAGACCGCCTGAACCACTGGATTGCAC
AAGGCGCGCAAGTCAGCGACTCCGTTGCAAAACTGATTAAAGAACAAAAAGCCGCCTAAT
CCGCATTTGCCGCCATGACAGACACTCAAAACCGGGTAGCCATGGGCTACATCAAAGGCG
TATTCGGCATAAAAGGCTGGTTGAAAATTGCCGCCAACACCGAATATTCCGACAGCCTTT
TGGACTACCCCGAGTGGCATTTGGTCAAGGACGGCAAAACCATCAGCGTTACCCTTGAAG
CCGGAAAAGTCGTCAACGGCGAACTCCAAGTCAAATTCGAAGGCATAAACGACCGCGACT
TGGCATTCTCATTGCGCGGTTACACCATCGAAATACCCCGTGAAGCATTCGCCCCGACAG
AAGAAGACGAATACTACTGGACAGACTTGGTCGGCATGACCGTTGTCAACAAAGACCATA
CCGTTTTAGGCAAGGTAAGCAACCTGATGGAAACCGGCGCAAACGACGTATTGATGATTG
ACGGAGAACACGGGCAGATTCTGATTCCGTTCGTTTCCCAATATATCGAAACCGTCGATA
CCGGCAGCAAGACCATTACTGCCGACTGGGGTTTGGACTACTGATGCTTATCCAGGCAGT
TACCATTTTCCCCGAAATGTTCGACAGCATTACCCGCTACGGCGTAACGGGACGCGCGAA
CAGACAGGGAATCTGGCAGTTTGAAGCAGTCAATCCCGAAAGTTTGCCGACAACAGATT
GGGCTACATCGACGACCGCCCGTTCGGCGGCGGCCCGGGAATGATTATGATGGCTCCGCC
GCTTCATGCGGCAATAGAACACGCCAAAACACAATCCTCCCAAGCTGCAAAAGTCATCTA
CCTCAGCCCCCAAGGGAAACCGCTTGACACACCAAAAAGCGGTAGAACTGGCAGAACTTC
CGCATCTGATTCTGCTGTGCGGACGGTATGAGGGCATAGACGAAAGGCTTCTGCAAAGCA
GCGTCGATGAAGAAATCAGCATCGGAGACTTCGTTGTTTCCGGCGGAGAGCTTCCCGCCA
TGATGCTGATGGATGCGGTATTGAGGCTCGTACCCGGCGTATTGGGCGATATGCAGTCTG
CCGAACAGGATTCGTTCTCAAGCGGCATTTTGGACTGCCCCACTACACCAAACCCTTAG
AATTTCAAGGTATGGCTGTTCCGGAAGTATTGCGTTCCGGCAATCATGGCTTGATAGCGG
AATGGCGGTTGGAACAATCGCTGCGCCGCACCTTGGAGCGCAGACCCGATCTTTTGGAAA
```

-57-

```
AGCGCGTTTTAATCCCAAAGGAATCCCGCCTCTTAGAAACCATCCGGCAAGAGCAACGGG
AAATCCAATCATAATTTAGGAAAAAAACAATGAACCTGATTCAACAGCTCGAGCAAGAAG
AAATTGCCCGCCTGAATAAAGAAATCCCCGAATTCGCACCGGGCGACACCGTAGTCGTAT
CCGTACGCGTCGTGGAAGGTACCCGCAGCCGTCTGCAAGCCTACGAAGGCGTGGTTATTG
CCCGTCGCAACCGTGGTCTGAACAGCAACTTCATCGTCCGCAAAATCTCCAGCGGCGAAG
GTGTTGAACGTACTTTCCAACTGTACTCTCCGACCGTCGAAAAAATCGAAGTCAAACGCC
GTGGCGACGTACGCCGTGCCAAACTGTACTACCTGCGCGGCCTGACCGGTAAAGCTGCAC
GCATCAAAGAAAAACTGCCTGCACGCAAAGGTTGATTCAAACCGTTTTCCCCCAATGCCG
TCTGAACCTTCAGACGGCATTTCTTATTGCTGCGATGCCGGCAAGTCAACGATATGCCTG
CCCCTCATCCACCTTGATTAACAATCACTCCCGCCTATTCAAGCATAATTTACAGACCAA
ACGTTATACAGTATCATATCAGCCATATAACGATAAACGCTTTACCGCCTTCCCTTTCAA
AACCGCAAATCATCATGACACCTTCCCTTTTACTATCAGGATTGACCTTCCGCCTCATCC
TTGCCCTGATTGCCGTATCCCTTTTATGGGGCGTTTACTTTTGGGCAGTATCCGCATGAG
CATCATTGTCGAAAACCTGACCGTCAGcTACCGCCGCCGACCTGCCGTGCACCATGTGGA
CATTACTTTTGAAGAACATAGTATGTGGGCGGTTTTCGGTCCCAACGGCGCAGGGAAATC
CACCTTTCTCAAATCCTTGATGGGATTGCAGCCTATCGATACAGGCAGCATCCGGCTGGA
CGGATTGACCCGTCAGAACATCGCCTACCTTCCCAGCAGTCCGATATCGACCGCTCCCA
GCCTATGACCGTTTTCGACTTGGCGGCAATGGGGCTATGGTATGAAATCGGCTTTTTCAA
AGGGATAAATACCGCTCAAAAACAACGCGTTCACGAAGCCTTGGAGCGCGTCGGAATGCA
ACGGTTTGCCGACCGTCAGATTGCCTATCTCTCAAACGGACAATTTCAGCGTGTCCTTTT
TGCCCGAATGCTGGTTCAAAATGCCAAATTCCTGCTGCTCGACGAACCCTTCAATGCCGT
TGATGCACGGACAACCTACGAGCTTCTCGACGTATTGCAGAAATGCCATTGCGGCGGACA
CGCCATCATCGCCGTACTGCACGATTACGAACAAGTCCGTGCCTACTTTCCCAATACCCT
GCTGCTCGCCCGCGAAAAAATTGCGGCAGGCGCAACCGAGACCATTCTGACAGAACCCTA
CCTCGCCCAAGCCAACGCCAAAATGCAGCAACAGGAAAGCCCCGACTGGTGCGCCTCATA
AATGCCGTCTGAAACCGAAAAaCCATGAATCTCTACGACCTGCTCCTTGCCCCCTTTGCA
GAATTCGACTTTATGCGCTACGCCCTCGCATCCGTCTTCTGCCTGTCCCTCAGTGCCGCA
CCCGTCGGCGTATTCCTCGTCATGCGCCGTATGAGCCTGATAGGCGACGCATTGAGCCAC
GCCGTCCTGCCCGGTGCCGCCGTCGGCTACATGTTTGCCGGCTTGAGCCTGCCCGCCATG
GGTTTGGGCGGCGTAGCCGCAGGCATGCTGATGGCACTGCTTGCCGGACTCGTCAGCCGC
TTCACCACCCTGAAAGAAGATGCCAACTTTGCCGCCTTTTATCTCAGCAGCCTCGCCATC
GGCGTAGTCCTCGTCAGCAAAAACGGGAGCAGCGTCGATTTGCTCCACCTCCTTTTCGGC
TCTGTACTTGCCGTCGATATTCCTGCCCTGCAGCTCATCGCCGCCGTCTCCAGCCTCACG
CTCATTACCCTTGCCGTCATCTACCGCCCGCTCGTACTCGAAAGCATCGACCCCCTGTTT
CTCAAATCCGTCGGCGGCAAAGGCGGGCTTTGGCACGTCCTCTTTCTCGTCCTGGTCGTC
ATGAACCTCGTATCCGGCTTTCAAGCCCTCGGCACACTCATGTCCGTCGGGACTCATGATG
CTGCCAGCCATTACCGCCCGCCTGTGGGCGCGGACTGCTCATTGGGCGCACTCATCCTCCTATCC
GTTCTGACAGCCCTGCTGTGCGGCTTGAGCGGACTGCTCATTTCCTACCACATCGAAATT
CCTTCCGGTCCCGCCATCATCCTCTGTTGCAGCGTCCTTTATCTCTTTTCCGTCATACTC
GGCAAAGAAGGCGGCATTCTGACCGG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 6>:

gnm_6

```
GTTATGATATGTTTCGATATGTAAACATTTATAGGTTTGGAGCGATAAACAATGAATGCA
GTCGTAGTTGCCGTAATCGTTATGCTGGTGCTGTCGCTGTCGCGCGTGCACGTGGTATTG
AGCCTGACGGTCGGCGCGTTTGTCGGCGGCGCGGTGGCGGGTATGCCGCTGCAAAACATT
GCCGATGCGGCGGGACAGGTCAGTCAGGCGGGGATTATCCCCGTGTTCAACAAAGGTTTG
GAAGGCGGTGCGAAGATTGCGCTTTCTTATGCGATGCTCGGCGCGTTTGCAATGGCGATT
ACCCATTCCGGCCTGCCGCAGCAGCTTGCCGGCGCGGTCGTCCGCAAGCTGAACCGGGGC
GGTATGCCCGACAGCGTGCGTTCGGGCGAGGGCGCGGTCAAATGGCTGCTGCTTTCCATC
ATCCTTGTGATGGGCATGATGAGTCAGAACATCATCCCCATCACATTGCCTTTATCCCG
ATGATTGTTCCGCCGCTGCTTTTGGTGTTCAACCGCCTGAAAATCGACCGCCGCCTGATT
GCGTGCGTCATCACTTTCGGGCTGGTTACGACTTATATGTTCCTGCCTTACGGCTTCGGC
```

-58-

```
GCGATTTTTTTGAACGAAATCCTGTTGGGCAACATCCATTCCGCCGCGCCGCAGCTTGAT
GTGAAAAACATTAACGTGATGGCGGCAATGGCGATTCCCGCGTTGGGAATGCTGGCCGGA
CTCCTGCTGGCGTTTGTCCATTACCGCAAACCGCGCCTGTACCAAAGCAACAATGCCGAT
ACGGCGGGCAACGCCGATGCGGCAAACCGTCCGCAGCCGTCCGCCTACCGCAGCCTGGCC
GCCGCCGTCGCCATTGCCGTATGCTTTGCCATCCAGTTGATGTATGAAGACTCGCTGGTG
TTGGGCGCGATGCTCGGTTTCGCCGTATTTATGATGTTGGGGGTCATTAACCGCGACAAG
GCAAACGACGTATTCGGCGAAGGTATCAAGATGATGGCGATGGTCGGCTTCATTATGATT
GCCGCGCAGGGTTTTGCCGCCGTGATGAATGCGACCGGGCATATTCAGCCGCTGGTGGAA
AGCAGTATGGCGATATTCGGCAACAGCAAAGGTATGGCGGCATTGGCGATGCTGGTGGTG
GGGCTTTTGGTAACGATGGGCATCGGTTCGTCCTTTTCCACTTTGCCGATTATTGCCGCG
ATTTATGTGCCTTTGTGTGTCGGTTTGGGTTTTTCGCCGCTTGCCACCGTCGCCATTGTC
GGCACGGCGGGGGCGTTGGGCGATGCCGGTTCGCCTGCGTCCGATTCCACGCTGGGCCCG
ACGATGGGGCTGAACGCCGACGGGCAGCACGACCACATCCGCGATTCCGTTATCCCGACC
TTCATCCACTACAACATCCCGCTGCTGATTGCCGGCTGGATTGCCGCGATGGTGCTGTAA
ATGGACGCGGTTCAAGAGTTGGAACGCCGTATTGTCGAACTGGAAATCCAATCCGCGCTT
CAGGAGGACGTAATCGCCGGCCTGAACGCGATGGTGGCGGAATTGCGGCAGACGCTGGAT
TTGCAGCAGGCTCAGTTGAGGCTGCTGTATCAAAAAATGCAGGACAGGAATCCCGACGCG
CAAGAGCCGTATTCCCTGCGCGACGAGATTCCGCCGCATTATTGATGCGCCGCCGTATCC
GGATTTCCTTAAAAAAGGCTGTGTTTGAATATTCCGCCGATGCAAACCTAAGATATATAG
TGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAAC
CGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGCCAA
CGCTGTACTGGTTTTTGTTAATCCACTATAACTTTAATCAGTCGGACAAAATGCCTTTTA
TCCGATGGAACCGTTTTCCGCCCGAACGGAAATAAGCGGCTTCCCCCGCTGCAAACAGAT
AAAACCAACCGGGTATTCAAACACAGCCAAAAAAAAGCCGTCCGAACCCAAAGGGGACAG
ACGGCCAAACACATTACGGGGAAAACGTTTTACTCAATGAGTCTGCGAAACAGACATTGC
TAAAACAATTGCAATTATAAGGTAAGTTTATTTTTTTTTTTTTTTTTTTTTTGCAAAGAAATG
TAAATTTTTAAATTTTTAAAACCGTTCCGCCGCATCCGTTTGGATGCCGTCTGAAACGGC
GGCAGGGTTTATCGCGCTGTGCCGCAAACCGGGCATTCAGGGTTGCGCGGCAGGTCGAAA
TATTGCCAGCCCCCTTCCAAGGCACGGTAAACCGCCAGCCTGCCGTGCGACGGTTCGCCC
GCATCCAGCAGGATTTTCAGAGCCTCCGCCGCTTGGGTACTGCCGATGATGCCGACCAGC
GGCGAGAACACGCCGAAGAGAGAACAGATGCCGTCTGAAGCCGATCCGCCGTCAAACAGG
CAGGCGTAACACGGCGAGTCGGGCAAGTCGGGACGGTACACGGCAAGTTGCCCTTCAAAG
CGTACCGCCGCCCCTGAAACCAGCGGTGTTTTCGTTTGCACGCAGGCACGGTTGACGGCT
TGCCGCGTGGCGTAGTTGTCGCAACAGTCTAAAACGATGTCGGCGGCTTGAACCAAACCG
GTCAGGCGGCAGCCGTCGAGTTTTTCGTTGACGGCGCGGACGTTGACGGTATGGTTGATG
CGTTTCAGGCGGCCTGCCAAGGCTTCGGTTTTGAGTTGTGCCGACATCGCCCTCGTCAAAT
GCGACTTGGCGTTGCAGGTTGTGCAGTTCGACCGTGTCGGAATCGGCTATGGTCAGCGTG
CCGACACCCGAAGCGGCAAGGTAGGGCAGTGCGGCGGCACCCAAACCGCCGCAGCCGACG
ACCAAAATATGCGCGGCGGAAAGTTTCTGCTGCCCTTCGATGCCGATTTCGTCCAAGAGG
ATGTGGCGGCTGTACCGCAGCAGGAATGCATCGTCGTTGTCGTGTTCGGTCGTGGTCATG
ATGATGTTCGGAAAAAAACAGTTGCGGGCGATTGTAACGCTGCCGTCGGGCGGCGTTCAA
CTTCAGACGGCATTTCGGGACACGGGCGGTTAAAGTGTGAACGGTTTGGCACGGATGCGG
CATTTGGGGTACATTTACAATATTTACGGCAGACGAGAGAGAAAAATCATGCAACTGCAT
ATTCTGAACAATCCAAAGGACGCGGCTTTGGCGGCGGACGCGGAATTTCTGAAACAATCC
CTGTTCAACCTCCTGCACGAAGAAGCCTCGCCGTTGGTTGTCGAAACAGTCAAACTCTTG
TCCACTTCCGACGACAGCGCGGCATTGATTGAAAAAGTATTGCCGCAATTGGACGAACAA
CAAACCCACGATTTAACCTTGGCCTGCGGCCTGTTCGCCCAGATTTTGAACATCGCCGAA
GACGTGCACCACGAACGCCGCCGCCAAATCCACGAAGAAGCCGGACGCGGCGGCGCGGAA
GGCAGCCTGACGGAAACCGTCCGCAGGCTCAAAGCGGGGAAAGCCGACGGCAAATCGGTG
CAGCGGCAGTTGGACAATACGTCCGTTACCGCCGTTTTGACCGCGCACCCGACCGAAGTG
CAACGCCAAACCGTCTTAAGCTTCAACCGCCGCATCCGCGCACTGTTGCCGCAACGCGAA
CGCTGCACCAATGCCGACGCGCTGGCACGGCTGCGCCGCGAAATCGACACTATCCTGCTG
GGCTTGTGGCAGACCAGCGAAACGCGCCGCCACAAACTCAGCGTCAACGACGAAATCAAC
AACGGCGTGTCCATCTTCCCGATGAGCTTTTTCGAAGCCCTGCCCAAGCTCTACCGCAAG
ATGGAACACGACTTTCAGACGGCCTATCCCGGCGTCCGCGTTCCGGACATCCTCAAAATC
GGCGGCTGGATCGGCGGCGACCGCGACGGCAATCCGTTTGTTTCTGCCGAAACCCTGCGC
TTTGCCTTCCGCCGCCACGCCGATGCCGTGTTCCGCTTCTATCGCGGCGAACTCGACAAA
```

-59-

```
CTCTACCGCGAACTGCCGCTCTCCATCCGCCGCGTCAAAGTCAACGGCGATGTAACGGCG
TTGTCCGACAAATCGCCCGACGAAGAAATCGCCCGCGCCGAAGAACCCTACCGCCGCGCC
ATCGCCTACATTATGGCGCGCGCTATGGGCAAAGCGCGCGCGCTCGGTTTGGGTATGGGC
TGCAAATTCGGCTTTCTCGAGCCTTATGCTTCGGCACAAGAGTTTCTGGATGATTTGAAA
AAATTGCAACGTTCCCTTATCGACAACGGCAGCCGTCTGCTTGCCGAAGGCCGTTTGGCA
GACCTCATCCGTTCCGTATCCGTGTTCGGCTTTCACATGATGCCGCTCGACTTGCGCCAA
CACGCAGGCAAACACGCCGATGTGGTTGCCGAGCTTTTCCAACACGCAGGCTTGGAAGAC
TACAACCGCCTGAACGAAGAGCAAAAACAAACCGCCCTGTTGCGCGAATTGAGCCATCAA
CGTCCTCTGTACAGCCCGTTTATCACATACAGCGACCATACCCGCCACGAACTGGCAATT
TTCAACGAAGCGCGCAAAATCAAAGACGAATTTGGCGAAGATGCCGTAACACAAAGCATT
ATTTCCAACTGCGAACAACCCAGCGACCTGCTCGCCTTGGCATTGCTGCTGAAAGAAACC
GGCCTGTTGGCGGTGGAAAACGGCAAACCGCACAGCCGCATCAATATCGTGCCGCTGTTT
GAAACCATTGAAGCGTTGGAAAACGCCTGTCCGGTCATGGAAACCATGTTCCGCCTCGAC
TGGTACGATGCACTGCTCGAAAGCCGTGGAAACATCCAAGAAATCATGCTCGGCTATTCC
GACTCCAACAAGGACGGCGGCTACGTTACCAGCTCATGGTGCCTCTATCAGGCGGAATTG
GGCTTGGTCGAACTCTTCAAAAAATACGATGTCCGTATGCGCCTGTTCCACGGACGCGGC
GGCAGCGTAGGTCGCGGCGGCGGCCCTTCTTACCAAGCCATTCTCGCCCAACCGGCGGGC
AGCGTGGCGGGACAAATCCGCATCACCGAACAAGGCGAAGTCATTACCGCCAAATACGCC
GACCCCGGCAATGCCCAACGCAACTTGGAAACCTTGGTTGCCGCGACTTTGGAAGCCAGC
ATCCTGCCGGATAAAAAAGACCCTGATGCCAAACTGATGCAGGCATTGTCGGACGTATCG
TTCAAATACTACCGCGAACTGATTACCCATCCCGACTTCATCGACTACTTTCTGCAAACC
AGCCCGATTCAGGAAATCGCCACCCCTCAACCTAGGCAGCCGTCCCGCCAGCCGCAAAACC
TTGGCGCGGATTCAGGACTTGCGCGCGATTCCGTGGGTATTTTCCTGGATGCAGAACCGC
CTCATGCTGCCGGCTTGGTACGGTTTCGGCAGCGCGGTGGAAACCTTGTGCGAAGACAAA
CCCGAAACGCTCGCCGCCCTGCGCGAACACGCCCAAAGCAACCCGTTCTTCCAAGCCATG
CTCTCCAATATGGAACAAGTGATGGCGAAAACCGACATCACCCTCGCGGAAAACTATGCC
GGCTTGAGCGAATCGCCCGATAAGGCAAAAATCATCTTCGGGATGATTAAGGAAGAATAC
CGCCGCAGCCGCAAAGCACTGCTCGACCTACTGCAAACCGAAGAGCTTTTGCGCGACAAC
CGCAGCCTCGCCCGTTCGCTCGCTTTGAGGATTCCCTACCTGAACGCGCTCAACGGTTTG
CAAGTCGCCATGCTCAAACGCCTGCGTAAAGAACCCGACAATCCGCACGCCCTTCTGATG
GTGCACCTGACCATCAACGGCGTGGCGCAAGGTTTGCGCAATACAGGCTGATAGTGCCGC
ATCGGGGCAAAATGCCGTCTGAACGCCTTTCAGACGGCATTTCCCTGACCGCACTTGCAG
AGAAACACCGATTGTTTTAAAGTGAACGGCAGTGATATGTTGAAAGACGACCAATGAAAA
TTACCGTTATCGGCGCAGGTTCGTGGGGTACGGCGCTCGCCCTGCATTTTCCCAACACG
GCAACCGCGTATCCCTGTGGACGCGCAACGCAGACCAAGTCCGTCAAATGCAGGAAGCGC
GTGAAAACAAACGCGGACTGCCCGGCTTTTCCTTTCCCGAAACCTTGGAAGTGTGTGCGG
ATTTGGCAGACGCGCTCAAAGACAGCGGACTTGTCCTTATCGTAACCTCCGTTGCCGGAT
TGAGAAGCAGCGCAGAGCTGCTCAAACAGTACGGCGCGGGACACCTCCCCGTCCTCGCCG
CCTGCAAAGGATTCGAGCAGGATACCGGGCTGCTGACCTTTCAAGTCTTGAAAGAAGTAT
TGCCCGACAATAAGAAATCGGCGTACTTTCCGGCCCGAGTTTTGCACAGGAACTCGCCA
AACAACTGCCCTGCGCCGTCGTCCTTGCCTCCGAAAACCAAGAGTGGATTGAAGAACTCG
TACCGCAGCTCAACACGACCGTCATGAGGCTTTACGGCAGTACCGATGTTATCGGCGTGG
CGGTTGGCGGCGCGGTAAAAAAATGTTATGGCGATTGCCCACCGGATTGTCCGACGGCCTAG
AGTACGGGCTTAACGCCCGTGCCGCCACTGGTTACGCGCGGATTAGCTGAAATCACCCGCC
TTGCCTCCGCAATGGGCGCACAGCCCAAAACCATGATGGGGCTGGCAGGCATCGGCGACC
TCATCCTCACCTGCACCGGCGCACTTTCGCGCAACCGCCGCGTCGGCTTGGGTTTGGCAG
AAGGCAAGGAACTGCATCAGGTGCTGGTCGAAATCGGACACGTTTCCGAAGGGGTCAGCA
CGATAGAAGAAGTCTTCAATACTGCCTGTAAGTACCAAATCGACATGCCGATTACCCAAA
CTCTGCTGCAACTCATCCGCAAAGAAATGACCCCGCAACAGGTTGTCGAAAGACTGATGG
AACGCAGCGCGCGTTTTGAATAAACAACAGACAGATGCCGTCTGAAGCCTTCAGACGGCA
TACGGACAGGTAAGGTTATGAAACAAAATATCGAAAAACTCGAAAGCAGCGTTTATACGT
TGGTACAAAAATTCGAAACCCTCGTCAGCGAAAACCGCCGCCTCAAAGAAACCGTCGCCG
AACTCAAACGGGCGCACGAGCGGCAAAAACTCGAACACGAAACCGCCGTCGACGAACTCA
GCGAAGCCCTGCTCGTCCAAGTCGGCAAACTCAAAGAAGACCTGCAAAACAAAATTGACA
GCCTGACAGAAGAAAATACACGATACCGCAGCCTGCTCGAACAGAGCAGGGAAAAAATCA
GCGCACTGGCAGCGCGCCTCCCCCAATGGCAGGAAACGCAGCAATAAGGATTAAAGGATG
AACATCGAACAAGTCCACATCGAAGTCATGCACGCCCGGCTGACCGTCAACACGCCGGCA
```

-60-

```
GAAGAAAAAGACACACTGTTGCAGGCAGTCGGAATGCTCAACGGCAAAGCCGAAGCCATC
CGCGAAGGCGGACGCGTCGCGGACAGCGAAAAAATCGTCATTATGGCCGCGCTCAACGTC
GTCCACGACCTGTTGAAAACCTCCCTGAACGGCGGCGATTTGGCAATCGGCGATTTTGCG
CGTAAAATAGCCGATATGGACAACGCCTGCCAAAAAGCACTATCCCGCTTGGCGCAGGAA
```
5
```
TAACCCCTTTTTCCCTGCGGTGTCCGCGAAGGCATATATTCCTTTGAACCAATAAGTTCG
CTTAAGGTTGCCGGGAGCAGTAGTGGGCGCGAGCGTCCTTTTGCGGACGCACCCGAAACT
ACCCGAGGCAGCCGCCTTGTCAGCAAGGTTCAAGCGGATTCGGCCGAAACGGCTCTCGCG
GGGATTCCCATTCAAAACCGCATCGCAACGATGCGGTTTTTCACATTGGCCGCCGCCCCG
CCCGAAAAGCAGTATGCAGTCTGCCGAAATCCGGAAAATCCTTCCGTAACGCGGTAATG
```
10
```
CGATTGACAAAATCGAATCCTGTCTTTAAAATTTACAACTTTCTATATCTATCTGGATTT
CCACTATGAAAACCTTTTCAGCGAAACCCCACGAGGTGAAGCGCGAATGGTTCGTCATCG
ATGCCCAAGACAAAGTCTTGGGTCGCGTTGCGGCCGAAGTCGCCAGCCGTCTGCGTGGCA
AACACAAACCTGAATACACCCCCCACGTCGATACCGGCGATTACATCATTGTTATCAATG
```
15
```
CGGACAAACTGCGTGTAACCGGTGCCAAATTCGAAGATAAAAAATACTTCCGCCATTCCG
GTTTCCCAGGCGGTATCTACGAACGCACCTTCCGCGAAATGCAAGAGCAATTCCCGGGCC
GCGCTTTGGAACAAGCTGTAAAAGGTATGCTGCCCAAAGGTCCTCTGGGTTACGCCATGA
TTAAAAAACTGAAAGTGTATGCGGGTGCGGAACACGCCCATGCTGCGCAACAACCCAAAG
TTTTGGAACTGAAATAAGGACGCGACATGAACGGTAAATACTACTACGGCACAGGCCGCC
```
20
```
GCAAAAGTTCAGTGGCTCGTGTATTCCTGATTAAAGGTACAGGTCAAATCATCGTAAACG
GTCGTCCCGTTGACGAATTCTTCGCACGGGAAACCAGCCGAATGGTTGTTCGCCAACCCT
TGGTTCTGACTGAAAACGCCGAATCTTTCGACATCAAAGTCAATGTTGTTGGCGGCGGCG
AAAACCGGCCAGTCCGGCGCAATCCGCCACGGCATTACCCGTGCCCTGATCGACTTCGATG
CCGCGTTGAAACCCGCCTTGTCTCAAGCTGGTTTTGTTACCCGCGATGCCCGCGAAGTCG
```
25
```
AACGTAAAAAACCGGGTCTGCGCAAAGCACGCCGTGCAAAACAATTCTCCAAACGTTAAT
GTTGGAAATTCAAAAAAACCCTGCTTATCGCAGGGTTTTTTATTTGTAGTAGACGGTTTCC
CATTGGCAATCTAAAGATTACAGATTGGGCAAAAATCAAAAACAGTATAGTGGATTAACA
AAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTATGGCAAGGCGAGGCAA
CGCCGTACTGGTTTTTGTTAATCCACTATACATGAAAAAATAGAAAAACTGCCGGGTATG
```
30
```
GTTGAATAAGGGGTCAGACCGGTTCCAGTTCGCTCAGTCCGGGCAAATCTGCAAAACCGC
GTTCGCGTATGATTTGGCAAAAATTGTTCAGATAGCTCTTGTCCGTATCTTCGGTACGGA
TGGCGGCATACAGTTTGCTTTGCAGTCCGTCGGCAGTAATTTGGCGGTGGACGACATAGC
CTTTTTCAAGGTAGGGCATGACTGTCCAATAGGGAAGGGCGGCAATGCCACGTCTGCTGG
CAACCAGTTGGATAATGGCGATGGTCAGCTCGCTGTGTCGGCGCGGCGGGTTGATGTTTT
```
35
```
TCGGAATCAGGATTTTTTGGGCAAATCCAGCATCTCGTCGGGAACGGGATAAGTAATCA
GGGTTTCCCCGATAAAGTCTTCCGCCGTCCAAACGTTTTGGCGGCAAGCGGATGGTCTG
GTGCGCAAATGCCGACCATTTCGTAGGCAAACAGCGGTTGGAAAGAAATACCGTTTTGTT
TTTCCGCTTCGGAAACAATGGCAAGGTCGGCACGGTGTTGCAGCAGCAGTCCGACGGGAT
CCGCTTGGAATCCCGATACGATATCCAATTCGACTTGGGGCCACATCGGGCCGGAATTCGC
```
40
```
CCATGGCGGGCATCAGCCAGTCGAAACAGGTATGGCATTCGACGGCCAATCCGCAGCTCTC
CCGCCTCTCCTTCCGTGATTCGCGCCAAATCCCATTCTGCAACAGCAACTTGAGGTATAA
GTTCGTGGGCGAGGCGCAGCAGCCTTTCGCCCACCGGGGTAAAGCGCAAGGGCGTGGATT
TGCGTTCGAACAGCGGCGTGCCGTAGTGGTTTTCGAGCATACGGATCTGGTGGGAAAGGG
CGGATTGGGTAAGGAAAACCCGTTTGGCGGCAAGGGAGACGCTGCCGGTTTCTTCAAGTG
```
45
```
CCAGCAGGGTTTTGAGGTGGCGCAATTCGATAATGGAATCCATGGGGCTTCAGACGGCAT
ATTGAACCGGCGCATATTAAAATAATTCATATGCGGGTGCAAATCGGAAAAATGTGAATT
CCGGACATTTTGCGATTAGAATGCCCGCTTGTTTAAAGCGATTAGGAAAAAAGATGGTAT
TGTGCAGGGATTTTCTGACTTGGTGTAATGAAACATTGCAGACAGCGTTGTTTAAAGATT
ACGCCCCTAACGGTTTGCAGGTTGAAGGGAGGGAATATATCGGGAAAATCGTTACGTCGG
```
50
```
TAACGGCAAGCAGGGCAGCGATTGATTTTGCTGTGGAGCAGAAGGCAGATTTGCTTTTGG
TACATCACGGTATGTTCTGGAAAAACGAGTTGCCGACCGTTACTGGTTGGAAAAAAGAAC
GGATTGCCGCACTGTTACGGCACGACATCAATATGGCAGGCTACCATCTGCCCCTGGATG
CACATCCCACACTGGGCAACAATGCCCAACTCGCCGACAGATTGGGTTTTGCGACAGAAA
AACGGTTCGGCGAACAAAACCTGCTCAACTCGGGCAGCCTGAAACAAGCCAAGACACTCG
```
55
```
GCGCATTGGCGGCGCATATTGAAACAGTTTTGCAACGTAAGCCTGTCGTTATCGGCAATC
CCGAACGCGAAATCCGACGGGTTGCATGGTGCAGCGGCGGGGCGCAGGGGTTTTTTCAGA
CGGCAATAGACGAAGGTGTCGATCTGTATTTGACGGGGGAAATCTCTGAAGCCCAATACC
ACCTTGCCAATGAAACGGGTACGGCTTTCATTTCGGCAGGGCATCACGCGACGGAACGTT
```

```
     ACGGCGTACGCGCGCTGGCAGAATCGGCGGCAGAGGTTTTCGGGTTGGAAGTGTGCCATT
     TTGACGAAAACAATCCGGCTTGAGTCTTGAGAAATATCATAAAACTTTACCTTATTTTAA
     ATAATGCTTTGAGTATCACTGCAAACTGGGTAAAATTGCAACGTTTAATGGCTCGGTATT
     CCCAAAATATTAGGACGACTGAATAATGGATAATCAAGAAATCAACAACGGCCGCCGCCG
5    TTTCCTGACACTCGCGACCTGCGGCGCGGGCGGAGTGGCAGCATTGGGTGTGGCAACGCC
     GTTTGTGGCCAGTTTTTTCCCTTCGGAAAAAGCCAAGGCCGCCGGTGCTGCCGTCGAGGT
     GGATGTCAGTAAAATCGAAGCGGGTCAGCTGCTGACCGCCGAGTGGCAAGGCAAACCGAT
     TTGGGTGCTCAACCGTACAGATCAGCAGCTTAAAGACCTGAAAGGCCTGAACGGCGAACT
     TACCGATCCCAATTCCGATGCGGAACAGCAGCCGGAGTATGCTAAAAACGAGACCCGTTC
10   GATTAAGCCGAACATCCTTGTCGCCATCGGTATCTGCACCCATTTGGGCTGCTCGCCCAC
     CTTCCGTCCCGACATTGCCCCCGCCGATTTGGGTGCAGACTGGAAAGGCGGCTTCTTCTG
     CCCCTGCCACGGTTCGAAATTCGACTTGGCCGGCCGCGTATATAAAGGTGTTCCTGCCCC
     GACCAACCTGGTTGTCCCGCCATATAAATACTTGAGCGACACAACTATCTTGGTGGGCGA
     AGACTAAGAATAAGGAACGATAATTATGGCAAACCAAACCAATAGCAAAGCAAAAGCATT
15   GTTAGGCTGGGTAGATGCCCGTTTTCCATTAAGTAAAATGTGGAAAGAGCATCTGTCTGA
     ATACTATGCGCCTAAAAACTTCAACTTCTGGTATTTCTTCGGCTCATTGTCTATGCTGGT
     GCTGGTGATTCAAATCGTCAGCGGTATTTTCCTGACCATGAACTACAAACCGGACGGCAA
     CCTTAACGCCTACCATCTGCCTGCTGCCTTTACCGCAGTAGAGTACATCATGCGCGACGT
     GTCCGGCGGCTGGATTATCCGCTATATGCACTCTACCGGCGCATCTTTCTTCTTCATCGT
20   CGTTTATCTGCACATGTTCCGTGGTCTGATTTACGGTTCGTACAAAAAACCGCGCGAATT
     GGTGTGGATTTTCGGTTCCCTGATTTTCTTGGCATTGATGGCAGAAGCCTTTATGGGCTA
     CCTGCTGCCTTGGGGTCAAATGTCCTTCTGGGGTGCGCAGGTAATTATTAACCTGTTCTC
     CGCCATCCCTGTTATCGGTCCTGATTTGTCCACTTGGATCCGCGGTGACTTCAACGTTTC
     CGATGTTACTTTGAACCGATTCTTCGCCCTGCACGTTATCGCTGTACCTTTGGTATTGCT
25   CGGCTTGGTTGTGGCTCATATCATTGCCTTGCATGAAGTGGGTTCCAACAACCCTGACGG
     TGTAGAAATCAAAAAGCTGAAAGATGAAAACGGTGTCCCTCTAGATGGCATACCTTTTTT
     TCCGTATTATGTTGTGCATGATATATTGGCAGTAACGATATTCTTGATTGTCTTCTGTGC
     CGTGATGTTCTTTGCACCTGAAGGCGGCGGCTACTTCTTGGAAGCGCCAAACTTCGATGC
     AGCGAATGCGCTGAAAACACCTCCGCACATTGCGCCGGTATGGTACTTCACTCCGTTCTA
30   CGCAATTCTGCGTGCGATTCCTTCCTTTGCCGGTACTCAGGTATGGGGTGTAATCGGTAT
     GGGTGCAGCAGTTGTACTGATCGCCTTGCTGCCTTGGTTGGATAAAGGCGAGGTTAAATC
     TGTCCGCTATCGCGGCCCAATCTTCAAAACCGCATTGGTTCTGTTCATCATTGCCTTCAT
     CGGTTTGGGTATTTTTGGGTGCAATGGTAGCAACTGATACGCGTACTTTGGTTGCACGTAT
     CCTGTCTTTCGTCTACTTTGCATTCTTCCTGGGTATGCCGTTCTATACCAAACTGGATAC
35   CAACAAACCAGTTCCTGAACGCGTAACCATGAGCACTACTAAACAAAAAATTATGTTCTT
     TGTTTACGTCGGTATTACCGTTGTTGGTGCTTACTTGTTTGCAACCAATATCTGATGAGG
     GCAGCGAAATGAAACAAACTCTGAAAAACTGGTTTGCTGCCTTATTGCTGGCAGTGCCT
     ATGAGTGCAGCCGTCGCCAGCGGCGGCGGACACTACGAAAAAGTCGATATCGACCTGCGT
     GACCAAGTCAGCCTGCAGCACGGTGCGCAAATCTTTACAAACTACTGTTTGTCTTGCCAC
40   TCTGCAAGCGGTATGCGCTTCAACCGTCTGAAAGACATCGGTTTGACTGACGAAGAAATC
     AAGAAAAACCTGATGTTTACCACCGATAATGTCGGCGATGTCATGCATTCGGCGATGAAC
     CCGAAAGATGCGGCAAAATGGTTTGGTGCTGCTCCGCCCGATTTGACGTTGATTGCGCGT
     TCCAAAGGTGCAGACTACCTTTACGCCTATATGCGCGGCTTCTATAAAGATCCGACCCGT
     CCGAGCGGCTGGAACAATACTGTATTCGATAAAGTCGGTATGCCCCACCCGTTGTGGGAG
45   CAACAAGGTGTTCAAGCCGTTGAGTTGGATGCCAAAGGTCAGCCGGTTATGGTAAAAGAC
     GAACACGGCGAGATGAAGCCTAAGCTGTATTGGGAATCTACCGGTTTGCACAGCCGCCGC
     CTGCCTAACGGCAAAGTGATCCAAAAAGAGTACGACGCATATGTACGCGATTTGGTCAAT
     TACCTTGTGTACATGGGCGAACCTGCACAACTGCAACGCAAACGTATAGGCTATGTCGTG
     ATGATTTTCCTATTTGCGGTTATGCTGCCTTTGGCTTACTTCCTAAATAAAGAATATTGG
50   AAAGACGTACACTAAGCGTTTGGAACAAAAGGGCAAATCCTTTAGGGTTTGCCCTTTTTT
     CATTTTGCCTGCCGTTTGAAAAGCCTGAATCCGTATGCCGTCTGAACATAGCTGCAACAT
     TTCAGACGGCATCATTCTAAAAATGTCAGACATCGGGAACTTAATCAGGGTTTGTGGCAG
     ATTGATATTGAATTAGGAAAAGGTCTGAAACCGCAAGCAGCATGGTAAGGCGATGTCGAA
     CAGGTTTAAAGCCAATCCGCTATATTTTTGGAGCTATGTCGAACAAACAGGTAGAATCG
55   GAATAAGCGGCGGTTTTGTCCGGTGTGAAAATGTTTGAATATTAGGATAATTGATGGAAC
     TGATGACTGTTTTGCTGCCTTTGGCGGCGTTGGTGTCGGGCGTGTTGTTTACATGGTTGC
     TGATGAAGGGCCGGTTTCAGGGCGAGTTTGCCGGTTTGAACGCGCACCTGGCGGAAAAGG
```

```
CGGCAAGATGTGATTTTGTCGAACAGGCACACGGCAAAACCGTGTCGGAATTGGCGGTGT
TGGACGGGAAATACCGGCATTTGCAGGACGAAAATTATGCTTTGGGCAACCGTTTTTCCG
CAGCCGAAAGCAGATTGCCCATTTGCAGGAAAAAGAGGCGGAGTCGGCGCGGCTGAAGC
AGTCGTATATCGAGTTGCAGGAAAAGGCACAGGGTTTGGCGGTTGAAAACGAACGTTTGG
CAACGCAGCTCGGACAGGAACGGAAGGCGTTTGCCGACCAATATGCCTTGGAACGCCAAA
TCCGCCAAAGAATCGAAACCGATTTGGAAGAAAGCCGCCAAACTGTCCGCGACGTGCAAA
ACGACCTTTCCGATGTCGGCAACCGTTTTGCCGCAGCCGAAAAACAGATTGCCCATTTGC
AGGAAAAAGAGGCGGAAGCGGAGCGGTTGAGGCAGTCGCATACCGAGTTGCAGGAAAAGG
CACAGGGTTTGGCGGTTGAAAACGAACGTTTGGCAACGCAAATCGAACAGGAACGCCTTG
CTTCTGAAGAGAAGCTGTCCTTGCTGGGCGAGGCGCGCAAAAGTTTGAGCGATCAGTTTC
AAAATCTTGCCAACACGATTTTGGAAGAAAAAGCCGCCGTTTTACCGAGCAGAACCGCG
AGCAGCTCCATCAGGTTTTGAACCCGCTAAACGAACGCATCCACGGTTTCGGCGAGTTGG
TCAAGCAAACCTATGATAAAGAATCGCGCGAGCGGCTGACGTTGGAAAACGAATTGAAAC
GGCTTCAGGGGTTGAACGCGCAGCTGCACAGCGAGGCAAAGGCCCTGACCAACGCGCTGA
CCGGTACGCAGAATAAGGTTCAGGGCAATTGGGGCGAGATGATTCTGGAAACGGTTTTGG
AAAATTCCGGCCTTCAGAAAGGGCGGGAATATGTGGTTCAGGCGGCATCCGTCCGAAAAG
AGGAAGACGGCGGCACGCGCCGCCTCCAGCCCGACGTTTTGGTCAACCTGCCCGACAACA
AGCAGATTGTGATTGATTCCAAGGTCTCGCTGACAGCTTATGTGCGCTACACGCAGGCGG
CGGATGCGGATACGGCGGCACGCGAACTGGCGGCACACGTTGCCAGCATCCGTGCACACA
TGAAAGGCTTGTCGCTGAAGGATTACACCGATTTGGAAGGTGTGAACACATTGGATTTCG
TCTTTATGTTTATCCCTGTCGAACCGGCCTACCTGTTGGCGTTGCAGAATGACGCGGGCT
TGTTCCAAGAGTGTTTCGACAAACGGATTATGCTGGTCGGCCCCAGTACGCTGCTGGCGA
CTTTGAGGACGGTGGCGAATATTTGGCGCAACGAACAGCAAAATCAGAACGCACTGGCGA
TTGCGGACGAAGGCGGCAAGCTGTACGACAAGTTTGTCGGCTTCGTACAGACGCTCGAAA
GCGTCGGCAAAGGCATCGATCAGGCGCAAAGCAGTTTTCAGACGGCATTCAAGCAACTTG
CCGAAGGGCGCGCGGGAATCTGGTCGGACGCGCCGAGAAACTGCGTCTGTTGGGCGTGAA
GGCAGGCAAACAACTTCAACGGGATTTGGTCGAGCGTTCCAATGAAACAACGGCGTTGTC
GGAATCTTTGGAATACGCGGCAGAAGATGAAGCAGTCTGACTTGTGCGGAAAAATATTGT
TTCAGCCGGGGCGGGAATGCCGAAAGCGCGGCGTAACTGTACTGGTTCTGATTTTGGGTT
TTTTGTTTGAAGTACTTACCAAAGCCTTGTCCGGCGAGGTACACCGGCAAGGCGGCGGTT
GTCTGAGCCTTTTGTGTTTCAGACGGCATCAGTGCAGATGATGCCGTCTGAAGACCGTAG
GGAAGGCGGTTAGAAAAACGGATTGTGCCGCTTTTCGTGTCCGATGGAAGTCATACGCCC
GTGTCCGGCGACAACTTGCACGGTTTCGGGAAGGGTGAATAATTTGTTGCGGATATTATT
GATTAAGTCGGCGTGGTTGCCGCGCGGAAAATCGGTTCTGCCTATGGTTTCGTAAAACAG
CACGTCGCCCGCAATCAGCAATTCCGCCTCGGCACAATAAAAGACGATATGTCCCGGCGT
ATGGCCCGGAATATGCAGCACTTGAAAGGCATAGCGTCCGACCGTGAGCGTTTCGCCTTC
TTCGAGCCAACGGTTCGGCGCAAAGGCGGGCGAGACGGGAAATCCGTATTGCGCGGTGGT
TTGCGGCAGCGATTGGAGCAGGAATTCATCGTCCGGATGCGGCCCGAGGACAGGGACTTT
ATGCGTTTTCAACATTTCGACCACGCCGCCCGCGTGATCGAGATGGCCGTGCGTCAGCCA
GATTGCCGTGAGCGTAAGTTTGCGGTTTGCCAACGCTTGCAGCAGGAACGGCACGTCGCC
GCCGACATCGGTCAGGACGGCTTCGCCGCTTTCGTCGTCCCAAATCAGGGTGCAGTTTTG
GCGGAAGGGGGTAACGGGGAAGATTTCGTAACGTAGGGTCATCGGCGTGTTCCTAAACGG
TTTTTCAGACGGCATCGGGTTTGCCGTTTGTTTTATGGCGGTTTGCCGCCCGTTTTGATA
TTGGGGGAATCAGATGATTAAGAAGACAATCGGCGGCATCATACCGATTTTTACGGCGGT
TTTCATCCCTGCATCAGCAGGCGCGGCGGATTTGATGCTGGCGCAGGAATACAAAGGGCA
GGATATTGCCGGCTGGGCGATGAGCGAGAAACTCGACGGCGTGCGCGCCTATTGGGACGG
AAAGCACCTGATGAGCCGTCAGGGCTACGCGTTTGCTCCGCCCAAAGGTTTTACCGCTCA
GTTTCCGCCTTATCCTTTGGACGGCGAATTGTATAGCGGACGTGGTCAGTTCGAGCAGAT
TTCCGCTACCGTGCGTTCTGTTTCTTCAGACTGGCGCGGCATCCGCCTGCACGTTTTCGA
TGTACCCAAGGCGCAGGGCAACCTCTACCAACGTTTGGCAGTCGCAACGCAGTGGCTGAA
AACGCATCCGAACGCGCCGATTACCATCATCCCGCAAATCAAAGTGCGCGACCGGCAGCA
CGCGATGGACTTTTTAAAACAAATCGAAGCGCAGGGCGGCGAAGGCGTGATGCTGCGTCA
GCCCGAATCCCGTTACAGCGGCGGCAGGAGCAGCCAATTATTGAAGCTGAAAAGCCAATA
CGACGACGAATGCACGGTAACGCGGCACTATGAGGGCAAAGGGCGAAACGCCGGACGGCT
GGGCGCGGTCGGCTGCAAAAACCGGCACGGCGAATTCCGCATCGGCAGCGGTTTCAAAGA
TAAAGACCGCGACAACCCGCCCAAAATCGGCACACTGATTACCTACCGTTACCGTGGCTT
TACGCGGAAAGGCACGCCGAAATTTGCCACATTTGTGCGCGTGCGTACCGACCGCTGAGC
```

```
AGGACAGTTCAGACGGCATCCGATACTTTGGTTTATAATTTTCCTTTTACCGACCGATTC
CGACATATGACCGATTTAGAAACCAAACGCCTTGAAACACAGGCGATGCTTGAAAACGCC
GATCTTTTGTTCGACCAAGGCCAATGCCGTGCCGCACTGCAAAAAGTGGCGGACGAGATT
ACGCGTGATTTGGGCGGCAAATATCCGCTGCTGCTGCCCGTGATGGGCGGCGCGGTGGTG
TTTACGGGGCAGTTGCTGCCGCTGTTGCGTTTTCCCTTAGATTTTGATTATGTTCACGTT
TCCCGTTACGGCGACAAGCTGGAGGGCGGCGCGTTCAACTGGAAGCGTATGCCCGATGCG
GAACAAATCCGGGGCAGGCACGTCGTCGTGCTGGACGATATTTTGGACGAAGGGCATACG
ATGTCCGCCATTCAAGCCAAACTTTTGGAAATGGGTGCGGCAAGCTGCCGTGCGGCGGTG
TTCGCCAACAAGCTGATTGACAAACCCAAGCCTATCCGAGCCGATTATGTCGGACTGGAT
GTGCCGAACCGTTATGTTTTCGGTTACGGCATGGATGCGGCGGGCTGCTGGCGCAATCTG
GGCGAGATTTACGCATTGGGCGGAAAATAAGGGCGCGATGCCGTCTGAAGGCTGTTCAGA
CGGCATCGCGGCCATACGCCGGCAGGATAATGAGGAACAGGACGCATAATATGATAGGGC
TTTTAATCATCACACACGAAACCATAGGCGAAGCCTACCGCAAGCTGGCGCATCATTTTT
TTCCGGGCGGACTGCCTGAAAACGTCCGCATACTCGGCGTGCAGCCGACGGAAGACCAAG
ACGACATCAACAACAACGCCATTGCCGCGCTTCAGGAATTTCCCGACAACGACGGCGTGC
TGATTATGACCGATATTTTCGGTGCGACCCCCTGCAATGCCGCCCGCCGCCTCGTGCGCG
AAAACAAATCGGCGATTTTGACCGGGCTGAACGCGCCGATGATGGTTAAGGCCGTCCAAT
ATTCGCCGGCGGCGGAAGACCTTGCCGCCTTTACCGAATGCGTCAGGGAGGCGGCGGTAA
AAGGCATTTTCGCCATCACGTCCGCGCCCGAAGATTTGGTGTGCCGGCGCAGCGGCGATG
CCGTCTGAAGAAGCGGCAGGGCAGGAAAACATTTTAAACGGCGTCTGCTGCCGATATACA
TAACACGGGAATCGAAATGCTCAAACAATCCATCGAAATCATCAACAAACTCGGACTCCA
CGCCCGCGCGTCCAACAAGTTCACCCAAACCGCGTCCCAATTCAAAAGCGAAGTCTGGGT
TACGAAAAACGACAGCCGCGTCAACGGCAAAAGCATTATGGGGCTGATGATGCTCGCCGC
CGCCAAGGGTACGGTCATCGAACTGGAGACGGACGGCGCGGACGAGGCGGAAGCGATGCG
CGCCCTGACCGACTTAATCAACGGCTACTTCGGCGAGGGCGAATAATGAGTATCGTGCTG
CACGGCGTGGCGGCGGGCAAAGGCATTGCCGTCGGTTGCGCCCACCTGATTGCGCGCGGT
ACGGAGGAAGTGCCGCAGTATGATGTTGCGGAGGCGGACACCGATGCCGAAGCCGAACGT
TTCGATGCCGCCGTCAAAGCCACGCGCAAAGAGTTGGAACAGCTCCGCAGCGCGATTCCC
GAAAACGCCCCGACCGAGTTGGGCGCGTTCATCTCGCTACACCTGATGCTCTTGACCGAT
GTTACCTTGTCGCGCGAACCCGTCGATATTTTAAGGGAACAAAAAATCAACGCCGAGTGG
GCATTGAAGCAGCAGAGCGACAAACTCGCCGCCCAATTCGACAATATGGACGATGCCTAT
TTGCGCGAACGCAAGCAGGATATGCTGCAAGTCGTCCGCCGCATCCACAACAACCTGATC
GGGCAGGGCAACGAGTTGGAAGTTGCCGACAACCTGTTTGACGAAACCGTTCTGATTGCA
AACGACCTTTCGCCCGCCGACACGGTTTTGTTTAAAGAGCAGCGCATTGCCGCCTTCGTT
ACCGATGCCGGCGGCCCCACCGGGCATACGGCGATTTTGGGCAGGAGCTTGGACATCCCG
TCCGTCGTCGGGCTGCACAACGCGCGCAAACTGATTACCGAAGGCGAAACGGTCATTGTG
GACGGTATCAACGGCGTGTTGATTATCGCGCCGGATGAGTCGGTGTTGAACGAATACCGC
CGCCGTGCCCGCGAATACCGCAGCCACAAACGCGATTTGAACAAGCTCAAAAAAAACCGCC
GCCGCCACCGCCGACGGGGTCTGCATCGAGCTTGTGGGCAATATAGAATCCGCCGAAGAC
GTGAAACCGCTGCACAACCTCGGCGCAGACGGCATCGGGCTGTTCCGCAGCGAGTTTCTT
TACCTGAACCGCGATACGATGCCGTCTGAAGACGAGCAGTACGAAGTGTACAGCGCGATT
GTCAAAAAAATGAAAGGCAAAAGCGTAACGATACGGACAGTCGATTTAGGTGTGGACAAA
AACCCGCGCTGGTTCGGGAAAAACAGCACGCCCAACGGCAGCCTCAACCCCGCGCTGGGC
ATGACCGGCATCCGCCTGTGCCTTGCCGAACCGGTCATGTTCCGCACCCAGATGCGCGCC
ATCCTCCGTGCGGCGGTACACGGCCCCGTGCGGATGATGTGGCCGATGATTACCTCCGTA
TCCGAAGTGCGCCAGTGCCTCATCCACCTCGACACCGCGCAACGCCAGCTTGCCGAACGC
GGCGATGCCTTCGGTAAAGTCGGCATCGGCTGTATGATTGAAATTCCGTCTGCCGCGCTG
ACCGTCGGCAGTATTTTGAAACTGGTCGATTTCATCTCCGTCGGTACCAACGACCTGATT
CAATACATCTTGTCCGTCGATCGCGGCGACGACAGCGTCAGCCACCTCTACCAGCCCGGC
CATCCCGCCGTGCTGAAAATGCTGCAACACGTCATCCGTACCGCCAACGCCATGGACAAA
GACGTATCCGTATGCGGCGAGATGGCGGGCGATACCGCGTTTACCCGCGTTTTATTGGGT
ATGGGGCTGCGCCGTTTTTCCATGAACCCCAACAACATCCTGCCCGTCAAAAACATCATT
CTGCACAGCAATGTCGGACAGCTCGAAAGTGATATTGTGAAAGTCATCCGCTGCGAAGAC
GAAGAGAAGTCGGAAAAGCTGATCAAACAGATGAACAGCGTGTCTGTCGAGGAAGAAGCC
GACTTCAAGGGGCGGAAATAAATACGGCAGGTAAAAAATAGAAATACTTAACAATGCCCG
CAATCTGAAATTTTGCCATTCTTGCAAAATAGAAAACCGAAACAGAAACCCAAAATCGGC
CATTCCCTCAAAAACAGAAAACCAAAATCAGAAACCTAAAATCCGTCATTCCCGCGCAGG
```

-64-

```
CGGGAATCTAGGTTTGTCGGCACGGAAACTTATCGGGAAAAACGGTTTCTTTAGATTTTA
CGTTCTAGATTCCCGCCTGCGCGGGAATGACGATGAAAGATTGTTGTCGCTTCGGATAA
ATTTTTGCCGTGTTGGGTTCTAGATTCCCGCTTTCGCGGGAATGACGGCAGAGTGGTTTC
AGTTGCTCTCGATAAATGCCGCCATCTCAAGTCTCGTCATTCCCTTAAAACAGAAAACCG
AAATCAGAAACCTAAAATCCCGTCATTCCCGCGCAGGCGGGAATCTAGGTCTGTCGGCAC
AGAAACTTGTCGGGAAAAACGGTTTCTTTAGATTTTACGTTCTAGATTCCCGCCTGCGCG
GGAATGACGATGAAAGATTGTTGTCGCTTCGGATAAATTTTTGTCGCGTTGGGTTCTAG
ATTCCCGCTTTCGCGGGAATGACGGCAGAGTGGTTTCTGTTGCTCCCGATAAATGCCGCC
ATCTCAAGTCTCGTCATTCCCTTAAAACAGAAAACCGAAATCAGAAACCTAAAATCCCGT
CATTCCCGCGCAGGCGGGAATCTAGGTTTGTCGGTGCGGAAACTTGTTGAAAACTTTGCA
AAATCCCCTAAATTCCCACCAAGACATTTAGGAGATTTTCCATGAGCACCTTCTTCCAGC
AAACCGCACAAGCCATGATTGCCAAACACATCAACCGCTTCCCGCTATTGAAGTTGGATC
AAGTGATTGATTGGCAGCCGATCGAACAATACCTGAACCGTCAAAAAACCCGTTACCTTC
GAGACCACCGCGGCCGTCCCGCCTATCCGCTGCTGTCCATGTTCAAAGCCGTCCTGCTCG
GACAATGGCACAGCCTCTCCGATCCCGAACTCGAACACAGCCTCATTACCCGCATCGACT
TCAACCTGTTTTGCCGTTTCGACGAACTGAGCATCCCCGATTACAGCACCTTATGCCGCT
ACCGCAACTGGCTGGCGCAAGACGACACCCTGTCCGAATTGCTCAAACTGATCAACCGCC
AACTGACCGAAAAAGGTTTAAAAGTAGAGAAAGCATCCGCCGCCGTCATTGACGCCACCA
TTATTCAGACCGCCGACGGCAAACAGCGTCAGGCCATAGAAGTCGATGAAGAAGGACAAG
TCAGCGGCCAAACCACACGGAGTAAGGACAGCGATGCGCGTTGGATCAAGAAAAACGGCC
TCTACAAACTCGGTTACAAACAACATACCCGCACCGATGCGGAAGGCTATATCGAGAAAC
TGCACATTATAGTAGATTAAATTTAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACA
GATAGTACGGCAAGGCGAGGCAACGCCGTACTGGTTTAAATTTAATCCACTATATTATGC
GCAAAGCCTGCCGCAACCGTCCGCTGACGGAGGCGCAAACCAAACGCAACCGATATTTGT
CGAAGACCCGTTATGTGGTCGAACAGAGCTTCGGTACGCTGCACCGTAAATTCCGCTACG
CCCGGGCAGCCTATTTCGGACTGATTAAAGTGAGTGCGCAAAGCCATCTGAAGGCGATGT
GTTTGAACCTGTTGAAAGCCGCCAACAGGCTAAGTGCGCCCGCTGCCGCCTAAAAGGCGA
CCGGATGCCTGATTATCGGGTATCCGGGGAGGATTAAGGGGGTATTTGGGTAGAATTAGG
AGGTATTTGGGGCGAAAATAGACGAAAACCTGTGTTTGGGTTTCGGCTGTTGTGAGGGAA
AGGAATTTTGCAAAGGTCTCAGATTGTTGTCGCTTCGGATAAATTTTTGCCGCGTTGGGT
TCTAGATTCCCGCTTTTGCGGGAATGACGGCAGGGTGGTTTCAGTTGCTCCCGATAAATG
CCGCCATCTCAAGTCTCGTCATTCCCTCAAAAACAGAAAACCAAAATCAGAAACCTAAAA
TCCCGTCATTCCCGCGCAGGCGGGAATCTAGGTCTGTCGGCACAGAAACTTGTCGGGAAA
AACGGTTTCTTTAGATTTTACGTTCTGGATTCCCGCCTGCGCGGGAATGACGATGAAAAG
ATTGTTGTCGCTTCGGATAAATTTTTGCCGTGTTGGGTTCTAGATTCCCGCTTTTGCGGG
AATGACGGCAGGGTGGTTTCAGTTGCTCCCGATAAATGCCGCCATCTCAAGTCTCGTCAT
TCCCTCAAAAACAGAAAACCAAAATCAGAAACCTAAAATCCGTCATTCCCGCGCAGGCGG
GAATCTAGGTCTGTCGGCACGGAAACTTATCGGGAAAAACGGTTTCTTTAGATTTTACGT
TCTAGATTCCCGCCTGCGCGGGAATGACGATGAAAAGATTGTTGTTGTTTCGGATAAAAT
TTTGCAGCCCTGATAAAAAAATATGGCTGCTTTGGTAAAAAAATGCCGTCTGAAAGGTTT
TCAGACGGCATTTTGTTTTTAAGAAGCATCAGCGGAAGCGGACGATTTCCCGTTCTTCGA
TATGGATGCGTACCGTATCCTTGCCCGATACCGCCCGGCGTGCCGCATATCGAGGTTCA
GCCACAGGATGCCGTGTTCCGGATGGAGGACGGACAGGCTGAACGATTCGGGCAAACAGG
TACGGGATAATACGCGGCACTCCATGCCGTCTTGGTCGAAACGCACCGCATGTTGCGGAA
TATGGCGGTTATCGTCGGTATTGGGCAAACCCATCAGTCGGGCGACCTGCACGCAGGATG
GTGTTTTGACCAATGTTTCGGGCGTACCGTATTGTAGAATCCTCCCTTTATGCATCACGG
CGATTTCGTCTGCCGTCGTACAGGCTTCTTCGGGCGAATGCGTTACCAAAACGGCAGGGA
TGCCGCCGTTTCGGATACGTTCGGCAGTCATACGGCGCAGCGTGCCGCGCAAATGCGTGT
CCAAACTGGAAAACGATTCGTCCAACAGCAGCAGGGAAGGGCGGACAACCAAAGCGCGCG
CCAACGCCAGCCGTTGCTTCTCGCCTCCGGAAAGTTTTTCAGGCTTGCGGTGCGCCTCGT
TTTCCAGTCCGACTTCGGCAAGTGCCGCCATGGCGAGGCGTTCGGCTTCGGCTTTCGGCA
TTTTTTGCATTTTCAAACCGAATGCCGCATTTTCCAGCGCACTCATATGGGGAAACAGCG
CGTAATCTTGAAACATCAGCGAGATACGGCGTTTTTCGGGCGGCATACGGGTAATGTTTT
CTCCGTTCAGCCATATTTCCCCGCCGTCCGGCCGGACAATCCCCGCAATTATATTCAGCA
GGGTGGATTTTCCGCAGCCCGACCGCCCCAAAACGGCGAGTATTTTGCCGCGCCCGACAG
TCAGGCAGATGTTGTCGGCGACGGTTTTATTGCCGAAGCGTTTGCAGAGTCCGTTCAGTT
CAAGCATGGCGCATCCTATAAACGTATGCCGTCCAGCCACTCGGACAGCGGATGGGCGGC
```

```
    ATCAATCAGACCGTAACGGCAAAACGCGTCCAGCGTAACCAGTTGCGCGTCGTGCATCAT
    GTTTCCCGACAACATGGCATCCAACAGACCGCCGATGTCCATTTTCTCAAAACCCGCCAC
    TTCGCCATCCTGATTTTCAGGCAGGAAGGTTTCGGGCAGGACGGCATCGAATACATACAG
    GATTTCATTGTGTACACCCCGGCTGACGGAGCGCAGGCTGTGCAGCTGCGATACCGGGCG
5   GATGAGCGGAAGCAGCGTTTTATCCAAACCGGCTTCTTCGCTGCTTTCGCGACACACGGC
    TTCAGACGGCATTTCGCCGCCGGAAACACCGCCGGCGGCAGTATTGTCGAGTTTGTTGGG
    ATCGACTGCTTTGTGCGGACTGCGCCTGCCTATCCAGAAATGCCATCGGCCGTCCGATTC
    GGTCAGACCGTTGAGATGGACGGCGCGGCTGAGCAGTCCGAAAGGACGGAAAGCGGCGCG
    TTCGAGCGTGAACAAGGGGTTGCCGCCGCCGTCGGTCAGGTCGAAACACTCGTTGCGCCA
10  GCCGTCCAACAGCCCCGCACAGTGCCAACCGAGGGCGAGGTGCTGTAAGCGTCCGCCCAT
    ATCAGGCCAGCCGTCCGCATTCAGAAAAATGCCGTCTGAAGACTCCGAGCAGCCTGCCTC
    CCAGTCTTTTTTGACGCGTTCCACCCATTCCGGCGACAGGTTGCCCAAAGGCAGACCGTT
    CAGATACAGCGTTTTCCAGCAACTTTCTGCACCGTAACTTGCTTTTGCCCACTCGAACAG
    AGCATCAAGGTCTTGTTTGCTGACGGATTCGGTAAAACGGACGGTCGGCATGGTTGGCTT
15  TCTTGAAGACAATGCGGAAGATTGTAGCCAAACTGCCTGAATTTGCAACCGCAAACAGAC
    GGCGGTCTGCCGTTCCGATATTGCGGCCGGAAGGAAATCCGGCAAAAAACGGAGGCGGC
    AGGAAACAGGAAACAGGAAACAGGCAAAACAAAACCCCTCGGCATTGAACCGAGGGGTTT
    GATATTTGGTTGCGGGAGCAGGATTCGAACCTACGACCTTCGGGTTATGAGCCCGACGAG
    CTACCATGCTGCTCCATCCCGCGTCAGAAGATGAAACTATACGGCAGATTTTTTATGTTG
20  TCAAACATTACTTCCGCGAAAAATCATAAAATTTTGCCGTCCGGCGGTTTATGCCTGATT
    TGAAATATTATTTTCTTTACAAAAGTTCATGTTCGTGATTTAATTTTGGTTAACATTGAA
    ACAGGGGTGCTGCCTGATGTTTAGGCGGCTGAGAAATACCCTTTACACCCGATCGGGATA
    ATACCTGCGTGGGGAGTTTTCACGGATTCTGCTTTTCAGACGGCATTGGTTTTCAAATGC
    CGTCTGAAAACGCAAAACGCTCCTGTTTCTTTAATTCTAAACGAGAAAACAGGAGCATTT
25  TTTTATGACTACGCCAAAAAAAACCGCCAAAACTTCCGGCAACGAAGCGCGCGAGCTTGC
    CGACTTGAGCGAAGACATCGGCATCTGCTTTAAATATCCGAACTCGGAACGCGTGTATCT
    GCAAGGCAGCCGCGACGACATCCGCGTGCCTTTGCGCGAAATCCGTCAGGACGACACCTA
    CACGGCGCAAGGTACGGAAGCCAATCCGCCGATTCCCGTCTACGACACCAGCGGCGTGTA
    CGGCGACCCGGCGGCGCATATCGACCTGAAACAAGGTCTGCCGCACATCCGCACCGCGTG
30  GCTGGACGAACGCGGCGATACCGAAATCCTGCCCAAGCTCTCCAGCGAATACGGCATCGA
    ACGCGCACACGATCCGAAAACCGCCCATCTGCGTTTCAACCAAATCACCCGCCCGCGCCG
    CGCGAAAAGCGGCAGCAACGTAACCCAGCTTCACTACGCGCGCCAAGGCATTATCACGCC
    CGAAATGGAGTTTGTCGCCATACGCGAACGTTTAAAATTAGACGAATTGTCCCAAAAACC
    GGAATACGCCAAACTCTTGGAACAGCACGCGGGGCAAAGTTTCGGTGCGAACATCCCGAC
35  CCATCCCGACCAAATCACGCCCGAATTCGTGCGCCAAGAAATCGCCGCCGGACGCGCGAT
    TATTCCCGCCAACATCAACCACCCCGAACTCGAACCGATGATTATCGGCCGCAACTTTCG
    TGTCAAAATCAACGGCAACTTGGGCAACTCCGCCGTCACCTCCAGCCTGACCGAAGAAGT
    CGAAAAAATGGTGTGGTCGCTGCGTTGGGGCGCGGACACGATTATGGATTTGTCCACCGG
    CGCGCACATCCATGAAACGCGCGAATGGATTATCCGCAACGCGCCCGTCCCCATCGGCAC
40  CGTGCCGATTTACCAAGCGTTGGAAAAAACCGGCGGCATCGCCGAAGATTTGACTTGGGA
    TTTGTTCCGCGACACCCTCATCGAACAGGCGGAGCAAGGCGTGGACTATTTCACCATACA
    CGCGGGCGTGTTGCTGCGTTATGTGCCGATGACCGCCAACCGCCTCACCGGCATCGTCTC
    GCGCGGCGGTTCGATTATGGCGAAATGGTGTTTGGCACATCATCGGGAAAATTTCCTCTA
    CACGCATTTCGACGAAATCTGCGAAATTATGAAAGCGTATGACGTATCGTTCAGCCTCGG
45  CGACGGCCTGCGCCCCGGCTGCATTGCCGATGCCAACGACGAATCCCAATTCGCCGAACT
    GCACACCTTGGGCGAATTGACCGATAAAGCGTGGAAACATGACGTACAAGTCATGATCGA
    AGGCCCCGGCCATGTGCCGCTGCAACGCGTCAAAGAAAACATGACCGAAGAGCTGCAACA
    CTGCTTTGAAGCACCTTTTTACACGCTCGGCCCGCTCGTTACCGACATCGCACCCGGCTA
    CGACCACATCACCTCGGGCATAGGCGCGGCCAATATCGGCTGGTACGGCACGGCGATGCT
50  TTGTTACGTTACCCCGAAAGAGCATTTGGGGCTGCCCGACAAAGAAGACGTGCGCACCGG
    CATCATCACCTACAAACTCGCCGCCCACGCCGCCGATCTCGCCAAAGGCTGGCCGGGCGC
    ACAATTACGTGACAACGCCCTGAGCAAAGCGCGTTTCGAGTTCCGCTGGCGCGACCAATT
    TCGCTTAAGCCTCGACCCTGAACGTGCCGAGAGCTTCCACGACGAAACCCTGCCTGCCGA
    AGGCGCGAAAATCGCCCACTTCTGCTCGATGTGCGGCCCCAAATTCTGCTCGATGAAAAT
55  CACGCAGGAAGTGCGCGACTACGCCGACAAGCAAAAAGCCCAACGGCAGGGCATGGAGGA
    AAAAGCGGTCGAGTTCGTCAAAAAAGGCGCGAAGATTTACAGTTAAACGTCAAGCAAAAA
    ATGCCGTCTGAAAACCGGAAAAAAGGCTTCAGACGGCATTCTTTCGCTTGTGAAAATATA
```

```
GTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAGATAGTACGGAA
CCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCA
ACGCCGTACTGGTTTTTGTTAATCCACTATAATTTTTAAAATTTTTATATTCACATAGAT
GGGGATGATGGGATTTAGGATTCTGATTTTGTTTTTGAGAGAATGAAGGAATTTGAGATT
GTGGGCGATTATCGGGAAAAATAGAATCTTTCCGCCGTCATTCCCGCGCAGGCGGGAATC
TAGACATTCAATGCTAAGGCAATTTATCGGGAATGACTGAAACTCAAAAAACTAGATTCC
CACTTTCGTGGGAATGACGGGATTAAAGTTTCAAAATTTATTCTAAATAGCTGAAACTCA
ACGCACTGGATTCCCGCCTGCGCGGGAATGACGAAGTGGAAGTTACCCGAAACTTAAAAC
AAGCGAAACCGAACGAACTAGATTCCCACTTTCGTGGGAATGACGGCAGAGCGGATTCTG
TTGCTCCCGATAAATGCCGCAACCTCAAATCCCGTCATTCCCGCGCAGGCGGGAATCTAG
GTCTGTCGGTGCGGAAACTTATCGGGTAAAACGGTTTCTTGAGATTTTGCGTCCTGGATT
CCCACTTTCGTGGGAATGACGGGATTAAAGTTTCAAAATTTATTCTAAATAGCTGAAACT
CAACGCACTAGATTCCCGCCTGCGCGGGAATGACGGCATATTTTGACATTGAATAAAAAA
GACTAAAAACAGGAAAAAGCCAAACAGAAAAAAGCCAAACAGAAAAAAGCCAAACAGAAA
ACAGCGAAACAGAAAACAGCGAAACAGAAAACAGCGAAACAGAAAACAGCGAAACAGAAA
ACAGCGAAACAGAAAACAGCGAAACAGAAAACAGGAAAAAGCCAAACAGAAAACAGGAAA
AAGCCAAACAGAAAAAAGCCTGTCTGGCGACAGGCTTTTTGTTGATACCAATCTTTGCAG
ATTAGAATTTGTGGCGCAGACCGACACCGCCGGCAGTCGCTACGAATTTGTTTTCGCCTT
TGCCTTCTTGCAACCAACCGGCAGAAACCAAGGCAGAAGTGCGTTTGGAGAAGTCGTATT
CCGCACCGACAACCACTTGGTCGTATTCGTTGCCTATGTCTGCATCATCAACCAAACCTT
TGAAGCCGTGGGCGTAAGAAACTCGGGGCGTTACGTTGCCGAAGCGGTATGCCAAGGTAG
CGGCAACTTCGGTTTGAGAGTTGTGCGAATTGGAAGCATCAGTCAGTTTCGCGTCTTGTT
GCTGTACGGCTACGGAAGCGTACAGGGCATCATTGTCGTAACCGCTGACCAAACGGTGAA
TCTGGTATTTCTCAATATTCAAGCCCTCTTGCACTTGATGATGTCTTTTATAGGCACCGC
CATATTGCACGAAGAAGCCACCGTTTTTGTAGTTGAAGCCGGCGTGGTAAGATTCGCTGT
TATGTCTGCCTGCATTGTCGTTAAGCGCGTATTGTACGCTGCCGCTGAGGCCGGCAAATT
CGGGAGAATCGTAGCGTACGGAAATGAGGCGTGCCTCGGGTTCGGCAATTTTGTTTACAC
CCAAATAGTCGCTTTTGCTATCCCAAGGATTGATGTCGCCGGTGTCTTTCAGGACGCTGT
TCAAACGACCGACGCGCAATTTACCGAAGCCGCCTTTCAAGCCGATGAAGGATTGGCGGT
TGCCCCAACCGGAGTCAGTACCGGCGATAGATGCTTTTTGCTCAACCTGCCAAATGGCTT
TCAGGCCGTTACCGAGGTCTTCTTGGCCTTTGAAGCCGATTTTCGAACCCAAATCAACGA
TGCCGGTAGCGGTTGTAACTTCAGTAACTTGGCCGTTCTGGTGAAATACAGAGCGGGAAG
TTTCTACGCCGGCTTTGATGGTGCCGTACAGGGTAACGTCAGCCATTGCTGCAACAGGAA
GGGCTGCCAAAGTCAGGGCAATCAGGGATTTTTTCATTGCTGTATTCCTTTTTTGGTTAA
GAAATTTAAGCCGGCCGGGCTTTCCAAGCCGCTTAGCTTTGCATTTACCGCCGACGTTTT
CGGCGATTCCATGTCTGAAACTATAGATGTTCCTGTCTGAAAAAACAAACTTCTGCCTGT
TTTTGTGTGGAATTCGATGTGTATTTTGAAGGGCGGATAGAGATATTATGGGTATTTTTT
GTTTTATAACATATGGTTATTTAAATTTTTTAAGATTTGCATTTTTACAACACTTACTCG
GGAGGGTATTGGAGGGCATTGCAAACCGGGGGTTATAAAGACGGCAAAAAACGCGCACGT
GGTTTCTTTCGGAACGGGCGGATGCAAAACCCGCCCCTGCGGCAGGAGATAGTGGATTAA
CAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCAC
TTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCTAACC
GTCATTCCCGCCACTTTTCGTCATTCCCGCTCAGGCGGGAATCTAGAATCTCGGACTTTC
AGATAATCTTTGAATATTGCCGCTGCCTTAAGGTCTGGATTCCCGCCTGCGCGGGAATGA
CGGCTGCAGATGCCCGACGGTCTTTAGAGTGGATTAACAAAAATCAGGACAAGGCGACGA
AGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAACACCTTAGAGA
ATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCTAACCGTCATTCCCGCCACTTTTCGTCA
TTCCCGCTCAGGCGGGAATCTAGAATCTCGGACTTTCAGATAATCTTTGAATATTGCTGT
TGTTCTAAGGTCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATCCGCACGGAAACCT
ATATCCCGTCATTCCTACGAACCTACATCCCGTCATTCCCTCAAAAACAGAAAACCAAAA
TTAGAAACCTAAAATCCCGTCATTCCCGCGCAGGCGGGAATCCAAACTTGTCCGCACGGA
AACTTATCGGATAAAACGGTTTCTTAGATTCCACGTTCTAGATTCCCGCCTGCGCGGGAA
TGACGAATCCATCCGCACGGAAACCTATATCCCGTCATTCTTACGAACCTACATCCCGTC
ATTCCCTCAAAAACAGAAAACCAAAATTAGAAACCTAAAATCCCGTCATTCCCGCGCAGG
CGGGAATCTAGGTCTGTCGGTGCGGAAACTTATCGGGTAAAACGGTTTCTTTAGATTCCA
CGTTCTAGATTCCCGCCTGCGCGGGAATGACGGCTGCAGATGCCCGACGGTCTTTATAGT
GGATTAACAAAAATCAGGATAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACC
```

```
     GATTCACTTGGTGCTTCAACACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAAC
     ACCGTACTGGTTTAAAGTTAATCCACTATAATGAACACAATCCATTCAGACTATTCAATC
     AGGCAAACATCTCCTGCAATACTGCAAACAGTTTTTCAGCCGTACTGTTGTCTAAATTGC
     CAAGATGTTTGACCAATCCGGCTTTATCCACAGCCCTAATCTGTTCGGGCAAAAGCAAAC
  5  CGTCTTTATCCTGAAAGCGGACATTGACGCGGAACGGGGCAGGACGGCTTCCGCTCGTCA
     TGGGAACGATCAGCACAGTCTTGAGATAGTTGTGTATTTCAGGAGGAGAGACTACGACAC
     AAGGACGTGTCTTTTTGATTTCGCTTCCTACGGTCGGGTCTAAGGAGACCAGATAGATTC
     CGCCGCGTACTACCATATCCATTCTTTATCCGCTTCGTTTTCAATTTCGGAAAAAAAATG
     CTCCTGCTCGGTTTCGACAAGCATTGCGGCAGCTTCTGCCCATCCCCTGCGAACGGTAGG
 10  ACAGCTTAAAATAATATTGCCCTTTTCAACTGTAACAGCCAAGCTGTCTACTGCCCCTAT
     TTGACCCAATAATGATTTGGGCAGAATCACGCCTTGCGAGTTTCCCATTTTGCGTATGTT
     GAGAATCATATACGTACCATATTCACCTGTTTATGTAATAACAATGTTAGTACCTTGATG
     AGGTAGTGTCAACATGGAAAAAGATTGCCTGACAGTTTGTCCGATTTCAAAATCTCCGCG
     ACAAGCATGTTTTAAAGCCATTCGGGGATTTGGGGGCGGATGATGCCGTATGCCTCGGGA
 15  TAGTCGACGCCGGTCAGGTAAAGTCCGTCGGGCATGAAGGTCGGCGGGGCTTTGAGGCGG
     CTGCGTTCTTGAATCAGTGCGGCGAAGCCTTCGACGCTGAGTCTGCCGCTGCCGACATAA
     ACGAGCGCGCCCATGATGTTGCGTACCATGTGGTGCAAAmAgGCGTTGCCGTGCAAATCG
     AGGCGGACGAGTCCTGAGCTTTGGGTAAGGTTCGGCGCGGTAGATGGTTTTGACGGGGGA
     TTTTGCTTGGCATTCGGCGGCGCGGAAGCTGGAGAAGTCTTGTTCGCCGACCAATAAGGC
 20  GGCAGCCTGCCGCATCTGCCCGATGTCGAGTTTGAGGTGTGTCCAGCCTGCCCTGTTTTT
     GAGCAGGGGGGAACGGACGGGGCGGATTCGAGCAGGTAGCGGTAGTGCCGTCCGTATGC
     GTCAAATCGTGCATGAAATTCGGGGGCGACCTGTCGGGCGTGCAAAACGGCAATGCCTTC
     GGGCAGGTGGGCATTTACGCCGCGCACCCATGCCTGTTGGGGACGGGCGGCAGTTGTGTC
     GAAGTGGACGACTTGGGCGGTGGCATGCACGCCGGTGTCGGTCCTGCCGGCAACGGTGGT
 25  GGAAACCGCTTCCCCTGCTATTTGGGCGAGCGCGGTTTCCAATGCCGCCTGAACGGTCGG
     TACGCCGTCAGCCTGTTTCTGCCAGCCGTAAAAGCGGCTGCCGTCATAGGATAGGGTTAT
     TGCCCAGCGTTGTTTTTGTGCGGTATCCATCGGATTTGGGATTCGGATAAATGTTCAGAC
     TGCATTGTATCGCAGATTTTGCAGGGAAACGGCAAACGCCCAGGGCGAGCGGCGTTGTTT
     GGGGAGTTGTTGGGGGGGGGGGATGCAGTTGCTACGAATCGCTATCCTGTGAATTTACCC
 30  TGTCAGGAGTGCCCGAATCGTCATTCCCGCGCAGGCGGGAATCTAGGACGTAAAATCTAA
     AGAAACCATTTTATAGTGGATTAACAAAAACCAGTACAGCGTTGCCTCGCTTTAGCTCAA
     AGAGAACGATTCTCTCAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACT
     GTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATCCGATAAGTTTCC
     GCACCGACAAAACTAGATTCCCACTTTCGTGGGAATGACGGGATGCAGGTTCGTGGGAAT
 35  GACGCGAACAGAAACCTCAAATCCCGTCATTCCCGCGCAGGCGGGAATCTAGACCTTAGA
     ACAACAGCAATATTCAAAGATTATCTGAAAGTCTGGGATTCTGGATTCCCACTTTCGTGG
     GAATGACGGAATGTAGGTTCGTAGGAATGACGGGATGCAGGTTTCCGTATGGATGGATTC
     GTCATTCCCGCGCAGGCGGGAATCTAGGTCTGTCAGTGCGGAAACTTATCGGATAAAACG
     GTTTCTGGAGATTTTTCGTCCTGGATTCCCACTTTCGTGGGAATGACGCGGTGCAGGTTT
 40  CCGTATGGATGGATTCGTCATTCCCGCGCAGTCGGGAATCTAGACATTCAATGCTAAGGC
     AATTTATCGGAAATGACTGAAACTCAAAAAACTGGATTCCCACTTTCGTGGGAATGACGG
     GATGCAGGTTTTCTTAACCCCGCGTTCTAGATTCCCACTTTCGTAGGAATGACGGCGGTA
     GATTTGGCAGATGCGGCGGATTCGGCAGGTCTCAACCCATCCTACAATCCACCCTGACCG
     CCTTTTACGAATCCGCCGCCATCCTGGGAAACGCAAAAAAAATGCCGTCCGAAAACCTTT
 45  CAGACGGCATTTTCGCGGGCAAATCAGTAAAAGACTTCGCGTCAGCTTAAGCGTTTCATA
     CCGCACGTCGGACCGGGCGGGTTTCGGGTTTCGGAAGAGCGGTGTGAAATGAAACGCGGC
     AGACGGCGTGTGTGCCGCCATCCTGCCCCGAACCGGCGGCAAAGCGTCATCGCGGTTTGA
     ATCGGGCGGGCGCGTGCCTGTTCCGGCACGGATGCCGTCTGAAAGCGGCGGGTCGGTCCG
     GTCCGCGTCAGCCTAAGGCGAAAAGTTCCCTGCCGTGGATTTTGAGCCACTGTTTCGCTT
 50  TGGGCGTGTAGGGGGCGAAGCGGCGGGTCAGTTCCCAAAAGGCGGGGCTGTGGTCGGGAT
     GGGCGAGGTGGCAGAGTTCGTGTATGCAGACATAGTCGGCAACGTATTCCGGTGCGCCGA
     CCAGCCGCCAGTTGAAGCGTATGCCTGTGGTTTTGCGGCACACGCCCCAGAAGGTTTTGG
     CAGAGGTCAGCGAGGAGGAGGCGGGGAACAGTTGTGTGGTGCGGGCGTGGCGTTCGAGGC
     GGGGAATCAGGTAACTGTGCGCCTGCCGTTCCAAAAAGTCCCGCAGCAGCGCAAGCTGTT
 55  TTTCGGGTGCGCCTTCGGGAACACGGATTTCAGACGGCATCAGCAGGATTTGCGTGTCTT
     GATGGGCGGTGAGGGCAAGCTGTCTGCCGTGGAAGAGGATGGATTCGGGCAGCCGGTTTT
     CGGCAGTTTGCGGCGGCGGTGTTTTCGCCAGTGTTTGCCGCAGGACGGCTTCGTTTTCAT
```

-68-

```
ACAGCCAGCGGTTTAGAGCGGAGACGGAGAAGCAGGGTGGGACGCTGATGCGGACGGTAT
GTGTGCCGGCGGGGCGGATAATCAGGTTTTTCTTGGCACGGCGCTTGATTTCGACGGTCA
GTTCCATGCCGTCTGAAAGGGTGTGGACAAAGGCGGTCATGCGGTTTCAGACGGCATTTT
GGCGGCAAACGGGCCTGCGCCGGAAATAAGCGGTTGTTGCGTTTCGATGAGATGTTCGCA
TTTTTCCATCAATTCGGCTTCGCTGCCGCTTGCGTGCGGGATGGTCGGACAGATGACGAC
GGTGATTTCCCCCGGATATTTCAGAAAGGAGTTTTTCGGCCAAAATTCGCCGCTGTTGAG
GGCGACGGGGACGATGTCCATCTCAAACATTTTCGCCATGCGCGCGCCGCCGAGTTTGTA
TTTGCCGCGTTTTCCGGGCGCAAGGCGCGTGCCTTCGGGGAAAATGGTAATCCAATAGCC
TTCGTTTTTGCGCACCAACCCCTGTTTTATGAGCTGCTCGTTGGCTTCGCGGCGGTTGTT
GCGGTCTATGCCTATGGTTTTGACCAGTTTCAAGCCCCAGCCGAAAAAGGGGATTTTGAA
CAACTCGCGTTTGGCAACGTAAACCTGCGGCGGAAAAATGTCCTGAAGGGCGAGCGTTTC
CCAGCCGCTTTGGTGTTTGGCGCAGATGACGGCGGGGCGGTCGGGGATGTTTTCCGCGCC
GATGATGCGGTATTTGAGCCCGACGATGTGTTTGAGCGACCAGTTGAGAATGCCGACCCA
GACCCGCGCCATCTTGTGCGCCCCGTCCCGGAAAGGCGAGGCGAGCAGCATAAAGGGAAA
GAGGAAAATCAGGGTGGAACAGAGTATCAGCCAGTAAATCAGGTTGCGGATGATGAGCAT
GGTTTTGCCTTGTCGGAATGCGGTATGTTCAGTCGGCTTGCGGTGCGGTGTTTTCCTGCA
TGATGTATTGTGAGAAATCGAGCAGGGTATCGAAAACCTGTGTGTGTTCGGGCAATTCGT
GTCCGTGTTGGGAGAGCGTTTTTTTGCCTTTTCCGGTCAGAACCAGCGCGGGTTTGCCGC
CGACGGCATCGATTGCCTGCAAATCGCGCAGGCTGTCGCCGACCAGCCAGGTTTCCGAGG
CTTGGGCGTTGAAGCGTCCGATGATGTCTTCAATCATACCCGGTTTGGGCTTGCGGCAGT
TGCAGTTGTCGGCATCGGTGTGCGGGCAGAACCAGATGCCGTTGATTTCGCCGCCTGCCT
GACGGACGAGGCGGTGCATTTTGGCGTGCATTTCGGTAAGGTTTTGAACGGTAAAATATT
TGCGCCCGATGCCGGATTGGTTGGTGGCAACGGCGACGGTGTAGCCTGCCTGCGTCAGAA
ATGCCACCGCATCCATGCTGCCTTCGACAGGTATCCACTCGTCAACGGATTTGACGAAGT
CGTCGCGGTCCTGATTGATGACGCCGTCGCGGTCGAGAATGATGAGTTTCATCGCGTTTC
CTTTGGATTGGGGCAGGTCGGGGGTGGCATTATACTGAAATATCGGTGGAAATGCGCCTG
TGCCGCGCGATAACGCGCCTGTTCCGGCAACCGCTTGCAATGCGCGGGTACGGCGTTTCG
GGGGCGGTTGCCGATGTTTTCCTGCCTGCTCCTGCAACGGCGGATTTTCTGCCGGACGTA
TTTTCCGCTGCAAAAGTCTCGGCGCGGAAGTTGCGGGGCAATGCCGTTTGGGGACGCGGT
CAGGCGGCAAGCATTTCAAGAATCAGCCCGATGTGTTTGTCTAAAGCCGGGTTGTAGTTC
AGTGCCCGCATCGGGTCGGACAGGCGGTGTCCGCCCTGTTTTTTAAGGCTGACGGCTTGG
GCAACGGCTTGCGCCAGGGTTTCCGGGTTTTGGCGTGAGAAAAAGAAGCCGGCTTCTTCG
TTCATGACCTCTGTACATGCCATGTTTTCGGAGAGGACGACGCGTGTGCCGCATAGGACG
GATTCGACGCCGACCAGCCCGAAGGGTTCGTACAGGGAAGCCATAATGGTAAAGTCGGCG
GCGCGGTAGAGTTCGGGCATATCGGTGCAGAAGCCCAGTCCGACGACGTTTTTCATAGGG
CGGGGAAGCGGGGAGCCGACAACGGCGAGCTTGACGGGCAGGCTGGTATGTTCGAAAAAG
TCGGCAAGCAGTTCCAGACCTTTGCGCGTGTGGCCGGTCGATGGGAACAGGAAAACGGTT
TCATGGTCGGCAAAGCCGTATTTGGCGCGCAGGTCGGCAGTTTCTCCGGGTTGTGGAAAG
AAGCGTTCCGTATCTGCGGGGGGGGGGGGCGACTTGGATTCTTTCAGGGGGAACGCCGTA
CAGTCCGACCAGTTCGCGCCGCATCATATGGGAATGCGCCATAATCAGTTTGGCGGTGGC
GTAGTTGCTGCGGTTGCGGCGTATGGCGAGGCGGTCGAGCAGGTTCGGTTTTTGCGCCAT
ATGGTGCAGGTAGCCCAAGTGTGTGCCGCCGCAGATGAGGAGGTCGGCGTAATCGGCGTG
GTGGCAGGCAATCAGTTTGGCGGCACTGTTTTTTCTGGTTTGAGCGAGCCGGCTTGAAAA
GAGGAATGAGCGTAGTTTTTTCAGCGTCCGGTGTTGATCGACAAGATGGGGTTCGATTAG
GGCGTATTCAGGAATGCTGTGATCAAATTTCGTCGCATAAACGGCCGGTGTGATGTTTTG
TCTGTTCAGACCCTTTACCAAATCCAATGTGTAGCGTTCCGTGCCGCCGCCGTGTTTGAA
GTTGTTGGTTGCAATGTCTATTTTGAGCTTCATCATTGTTCCTTTATGGTTGCGTCCCGG
TTTGTCGGGGCGGGATTTGTGCGTGAGGGGCAGGGTAATGCGCTGTGTGCCGGAATACGG
TTGCCGTTTGTTGCGGCAATGCCGTCTGAAGCCGCCGGCGGGCTTCAGACGGCATTTTGC
CTTTATCCTTTAAATACGGGGACGAGTTCCATTTGGCTCAATACCTGTGCGGCGATGTTG
ACGATGCCGAAAAGGAAGACCCAAACCATCAGCCACAAGCCGCCGTAAACTTTATAGGTT
TTGCCTGCGCCGAATTTTTTGCGCGAACGGTAGAGCAGCATGCGGGGGATGATGCCTGTC
CAGACGGTTGCCGCCAGGCCGACGTAGCCGATGGCGGTAACGAAGCCGGTGGGGAAGAGC
AGGCAGGAAATCAGGGGCGGCAGGAAGGTCAGCGCGGCGGTTTTGGTGCGGCCGGAGATG
CTGTCGTTCCATTTGAAGATGTCGGCGATGTAGTCGAAGAGTCCGAGCGTTACGCCTAAA
AACGAGGTGGCGATCGCCATATAGGAAAACAGGGACAATATTTTGTCCATATTGCCGGTT
TGGGCGAATTTGGACAGGGTTTCGATGAGGACGGAGACTTGCCCTTCGGCGGCGATGACG
```

-69-

```
GGGGCGAACTCGTTGCGCGGCAGGTTGCCTTGGATGGCGGTTTGCCAGAGGACGTAAATT
ACCAGCGCAATCAGTGTGCCCGTCCAGATGGATTTAGCCACTTTGGGCGCGTCGCCTTTA
AAGTATTTGAGCAGGCTGGAGACGTTGCCGTGGAAGCCGAAGGAAGCGAGGCAGACGGGC
AGGGCGGTGGCGGCGTAAATCCAGTAGTTTGTGCCGGCGGGGGCTTGGGTATCGAAGAGG
ACGGACGGCTTGGCATCGGCAATCAGCCCGCCGGCCGCCCAAATAAAGGTCAATACCATG
CCGCCGATAAGGACGCCGGTGAAGCGGTCGACCAAGCGTGCGGATGCCCATACGCAAAAG
GCGAGGATGCCGAAGAAGACGAGTTGTCCGACGGTGAGTGAAACGTCGCCGCCTGCCGCG
CTGCCTAAGCCTTTGGCGGTCAGGTCGCCGCCGACGAAGATATAAGCGTAAGTAAGCAGG
TATAAAACGAAGGCGACGGCGATGCCGTTGATGATGTTCCAGCCGCGTCCGAGCAGGTCT
TTGACCATCGTGTCGAAACTTGCGCCGTGCGGATAATGGGTGTTGACTTCCAAAATCATC
AGGCCGCTGGAAAGCATAGAAAACCAGGTGTACAGCAACACGGCCAGCGAGCCGGTAAAC
CATACGCCGGATGTGGCGGTCGGGTTGGCGAGCATGCCTGCGCCGATGACCGTGCCGGCG
ATAATCATCGCGCCGCCGAACAGTGAAGGGGTTTTGTTGGGCATATTTTGTCTTTCTGCC
AGAAAAAGCGAGCCGCCATTATGCCGTAAAGTGTAAGGATTTGTAAGGTATTTGCGCCGC
GCCGCCCGAAAAGGCTTTCAGACGGCATTGTGTTCCATAGTATAATCTTGGGTTTTGGAG
TGGGCGGTTCGTCAGATGGGAGGGAAAATGTCCGACAAAAAATATAATGTCGATGAGGGG
GAAATCGCCAAATTCAGCCGGATTGCCGACAAATGGTGGGACAAGTCGGGCGAGTTCAAA
ACCTTGCACGACATCAATCCGCTGCGGCTGGATTATATCGACGGACACGCGGATTTGTGC
GGCAAACGGGTTTTGGACGTGGGCTGCGGCGGCGGCATCTTGGCGGAAAGTATGGCGCGG
CGCGGCGCGGCGTTTGTAAAGGGCATCGACATGGCGGAGCAGTCGTTGGAAACCGCCCGC
CTGCACGCGGCTTTGAACAATGTCGCCGATATCGAATACAATGTATCCGCGTGGAAGAC
CTTGCCGAGGCGGAACCGCACTCGTTCGATGTGGTAACGTGCATGGAAATGATGGAACAC
GTCCCCGATCCCGCCGCCATCGTGCGTGCTTGTGCCAATCTGGTCAAACCGGACGGCATG
GTGTTTTTTTCCACCATCAATAAAAACCCGAAATCGTACCTGCATCTGATTGTGGCGGCG
GAATATCTGTTGAAGTTTGTCCCCAAAGGCACGCACGACTGGAAAAAATTCATCGCACCT
GCCGAGCTGGCGCGAATGTGCCGTCAGGCAGGCTTGGATGTGGCGGATACGAAGGGTATG
ACTTACCATGTGTTGTCGCAAACTTATGCCCTGTGCGATTCGACCGATGTGAATTATATG
TTTGCCTGCCGTCCGGCGTTCTGACGGCGGGTTTGCCCGTTTTTGAGCAAGTGAGTTGAT
ATGTCTGTCTATACCAGTGTTTCCGATGATGAAATGCGCGGCTTCCTGAGCGGTTACGAT
TTGGGGGAATTTGTTTCCCTGCAGGGCATCGCGCAGGGGATTACCAACAGCAATTATTTT
CTGACGACGACTTCGGGACGTTATGTGCTGACCGTGTTTGAAGTGTTGAAACAGGAAGAG
CTGCCGTTTTTTCTGGAGCTTAACCGGCATTTGAGTATGAAGGGCGTGGCGGTTGCCGCG
CCGGTTGCGCGCAAAGACGGCCGGCTTGATTCCGTTTTGGCGGGTAAGCCTGCCTGCCTG
GTTGCCTGCCTGAAAGGTTCGGATACCGCGCTGCCGACGGCTGAGCAGTGTTTTCATACC
GGTGCGATGTTGGCGAAAATGCACCTTGCCGCCGCCGATTTCCCTTTGGAAATGGAAAAC
CCGCGTTACAATGCGTGGTGGACGGAGGCGTGCGCCCGGCTGCTGCCCGTCCTGTCGCAA
GACGATGCCGCACTGCTGTGTTCCGAAATCGATGCGTTGAAGGACAATCTCGGCAATCAT
CTGCCTTCGGGCATCATCCATGCCGATCTGTTTAAAGACAATGTGTTGCTTGACGGCGGT
CAGGTATCGGGCTTCATCGATTTCTATTACGCCTGCCGGGGCAATTTTATGTATGACTTG
GCGATTGCGGTCAACGATTGGGCAAGGACGGCGGACAATAAGTTGGATGAGGCGTTGAAA
AAGGCGTTTATCGGCGGTTATGAGGGCGTGCGCCCCTTGAGTGCCGAAGAAAAGGCGTAT
TTCCCGACCGCCCAACGTGCCGGCTGCATCCGTTTTTGGGTGTCGCGCCTGTTGGATTTT
CATTTTCCGCAGGCGGGCGAGATGACGTTTATCAAAGACCCGAACGCGTTCCGCAACCTG
CTGTTGAGTTTGGGTTGAGTGCGTCCGGCGTTTGACAGAAATGCCGTCTGAAAGGGTTTC
AGACGGCATTTTTATGGCTGATTAAAACGAAAATGAGACGATAGCCGGGTATTTTCCATT
TTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAGATAGTA
CGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCG
AGGCAACGCTGTACTGGTTTTTGTTAATCCACTATAAATCAATGTAATCCATTCTGTTCC
CGATGTTTATGCCGTCTGAAACCCATCCTGTGTCGGGCTTCAGACGGCATATTGCTTCAA
AGCAGGTTTTCGAGGCAACCCAGTTCAGAATATCGGCTTCGACCGCTTCGGGCGTGCCG
GGGTTGGCGATTTTGACCCCGTATTCGCCTTCGCCCAGTTCCTCGAGGATTTCCAGTTGC
GAATCGAGCATCCCTGCTTTCATGTAATGTCCTTTGCGCGACATCATGCGCTCGAGGTTG
ATGTCTTGCGGCGGACTGAGGTGGATGAAGGCAGCTTTGCCTTCGGCTCCGCGCAGAATG
TCGCGGTAGCCGCGTTTGAGGGCGGAACAGGTTACGATGGTGTGGTTCGCACCGTTTTGC
GCCTGTTGCGTCATCCAGTCGCGCAGATTGCCCAACCACGGATAGCGGTCTTCATCGGTC
AGCGGAATACCCGCGCCCATCTTGTCGCGGTTGGCTTGGGTGTGGAACTCGTCGCCTTCG
GCATAGGGACATTGACCGAGGTGTTTCTGCAGGGACAGCGCGGCGGTGGTCTTGCCGCAG
```

```
CCGCATACGCCCATAACGACAAAATGCGTAGTCATTTACTATCCTTTCCGTCTGTCAGAC
GATGGCGAACAGCAGTGCGGACAAGGCAAAGCCGATGAGTGCGATGAGGGTTTGGTTGAC
CGTCCAGGTTTTCAGCGTGGTCGGTACGTCCATGTCCAAGAGACGGCCGACCAGCCAGAA
GCCGGAGTCGTTGAAGTGGCTGCAACCGACCGAACCTGCCGCCGTTGCCAATACGATACA
GGCGAGCTGCCAGTCGGTAAAGCCGGCGGCGGCAACGGCAGGAGCCATCAGCGCGGCGGC
GGTGGTCAGGGCGACGGTTGCCGAACCTTGCGCGATACGCAGTGCCAAGGCGACAAGGAA
ACAGCCCAAAAGGACGGGAATGCCCAAATCCGCCATGCTGTCGGCGAGTGCCTTGCCGAT
GCCGGAAGCGCGCAAAACGCCGCCGAACATACCGCCCGCGCCGGTAATCAGAATCACGGA
ACAGACGGGGGCGAGTGCGCCGTCCACGGTTTTTTCCAACGCGCTGCCGCTTTCGCCGCG
TTTGCGTCCCAAGACAAACAGTGCGACCAATACGGAAATCAGAAGGGCGATCGGTGTCGA
ACCGATTATTTTTGCCGTCTGAACCCAGGTTCGTCCGCACTTACGAGTTTTTCGCTGAT
GAGGGCCGATACGCCGGTATTCAGGAAAATCAGCAGCATGGGAATCAGCATGATGGCGAC
GACCGTTCCTGCTTTGGCAGGTTCTTTCGGCAGGTCGTTGTCTTGCGTGCCGCCGCTGAG
CAGTTCGGGAACGGGAACATGGATGGTGCGCCCCAACACTTTGCCGAGCATATAGCCGCT
GAAATACCATGTGATGAAGGCGGTCGGCAGACCCAAAATCAAAACTTGGCCGATGTTCGC
GCCGTAAAATTCGGAAGCGGCAATCGGGCCCGGATGGGGCGGCAGGAAGACGTGCATGAC
GGAAAATGCGCCGATGGAGGCAAGCGCGAAGGGCAGTACGTCCTGTTTCATGCGCCGTGC
GGTGGCGAACACGATGGGCAGCATGACGATTAGTCCGGCATCGAAGAAAATCGGGAAGCC
GAAAATCAGCGAGGCAACGCCCAGCGCGAACGGTGCGCGTTTTTCGCCGAACATCCGGAT
CAGCGCGTCCGCCAGCGACTGTGCGCCGCCGGATGTTTCGACCAAACGTCCGAGCATCGC
GCCCAGGCCGACCAGAAGCGCCACGCCGCCGAGCGTGCCGCCGAAGTTTTTGACCAGTAT
GTCGTTGACAATGCTGCCTGTGGGCAAACCGGTTGCCAAAGCCGTCAGCAGGCTGACGAT
GACCAGTGTCAGCAGCGCGTGGATGCGGAATTTGACGATTAAAATCAGAATGAGGATGAT
TGCCGCCGCCGAAATGCCCAACAGGGTTTGCGCGGACAGCGTCTGTGTCCAGCCGTCCAT
TTGTAAAGCCTTTCTCTGTAATAAAAGTACAAAATTGTCAGGTTTTTTTAAGTTGTGCGA
AAACGATAGCACAAATCGGGCGGTAAGTTGTTTGTCTGAAGTTATATTCCTGTTTATTTG
AACGATTTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAG
AACGATTCTCTAAGGTGCTGAAGCACCGAGTGAATCGGTTCCGTACTATTTGTACTGTCT
GCAGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATTTCAGACGGCGGGAGGA
AGGCGGATACGGTATGTAGTCGGATTGAAATATACGGTATGTGGGGGCTTTTGGGTACAA
TCGCAACATCAGTGTTTCAAGTGGGGAAGGCGATGGATGGACGGCGTTGGGTGGTATGGG
GTGCTTTTGCCCTGCTGCCTTCGGCTTTTTTGGCGGTAATGGTCGTTGCGCCTTTGTGGG
CGGTGGCGGCGTATGACGGTTTGGCGTGGCGCGCGGTGCTGTCGGATGCCTATATGCTCA
AACGTTTGGCGTGGACGGTATTTCAGGCAGCGGCAACCTGTGTGCTGGTGCTGCCTTTGG
GCGTGCCTGTCGCGTGGGTGCTGGCGCGGCTGGCGTTTCCGGGGCGGGCTTTGGTGCTGC
GCCTGCTGATGCTGCCTTTTGTGATGCCCACGTTGGTGGCGGGCGTGGGCGTGCTGGCCC
TGTTCGGGGCGGACGGGCTGTTGTGGCGCGGCAGGCAGGATACGCCGTATCTGTTGTTGT
ACGGCAATGTGTTTTTCAACCTTCCTGTGTTGGTCAGGGCGGCGTATCAGGGGTTTGTGC
AAGTGCCTGCGGCACGGCTTCAGACGGCACGGACGTTGGGCGCGGGGGCGTGGCGGCGGT
TTTGGGACATTGAAATGCCCGTTTTGCGCCCGTGGCTTGCCGGCGGCGTGTGCCTTGTCT
TTCTGTATTGTTTTTCCGGGTTCGGGCTGGCGCTGCTGCTGGGCGGCAGCCGTTATGCCA
CGGTCGAAGTGGAAATTTACCAGTTGGTCATGTTCGAACTCGATATGGCGGTTGCTTCGG
TGCTGGTGTGGCTGGTGTTGGGGGTAACGGCGGCGGCAGGGTTGCTGTATGCGTGGTTCG
GCAGGCGCGCGGTTTCGGATAAGGCGGTTTCCCCTGTGATGCCGTCGCCGCCGCAGTCGG
TCGGGGAATATGTGCTGCTGGCGTTTGCGGCGGCGGTGTTGTCTGTGTGCTGCCTGTTTC
CTTTGTTGGCAATTGTTGTGAAAGCGTGGTCGGCCGGCGAATCGTGGCGTGTGTTAATGG
AAAGTGAAACGTGGCAGGCGGTGTGGAATACTTTGCGCTTCTCGGCGGCGGCGGTGTATG
CGGCGGCGGTTTTGGGTGTGGTGTATGCGGCGGCGGCGCGGCGGTCGGCGTGGATGCGCG
GGCTGATGTTTTTGCCGTTTATGGTGTCGCCGGTTTGTGTTTCGGCGGGCGTGCTGCTGC
TTTATCCGCAGTGGACGGCTTCGTTGCCGTTGCTGCTGGCGATGTATGCTGCTGGCGT
ATCCGTTTGTGGCAAAAGATGTTTTATCAGCCTGGGATGCACTGCCGCCGGATTACGGCA
GGGCGGCGGCGGGTTTGGGTGCAAACGGCTTTCAGACGGCATGCCGCATCACGTTCCCCC
TCTTGAAACCGGCGTTGCGGCGCGGTCTGACTTTGGCGGCGGCAACCTGCGTGGGCGAAT
TTGCGGCGACATTGTTTCTGTCGCGTCCGGAATGGCAGACGCTGACGACTTTGATTTATG
CCTATTTGGGACGCGCGGGTGAGGATAATTACGCGCGGGCGATGGTGCTGACATTGCTGT
TGGCGGCGTTCGCGCTGGGTATTTTCCTGCTGTTGGACGGCGGCGAAGGCGGAAAACAGA
CGGAAACGTTATAATGTGAACCCTTTTTCAGAGGACGGCAAAATGAGCGAGTTGGATAAC
```

```
     ATCCTTGCCCATAACCGGCAGTTTGTCGAGTCGGGCGAATATGAAAAATACTTTACCGAC
     AAATACCCCGAACGCGGGCTGGCAGTTTTGTCCTGTATGGATGCGCGGATTATCGGGCTG
     CTGCCCGACGCGTTGGGTTTGAAAAACGGCGATGCCAAGCTGATTAAAAATGCCGGCGCG
     CTGGTTACGCACCCGTGGGGTTCGGTGATGCGGAGCCTTTTGGTTGCCGTGTTTGAACTG
  5  AAGGTCAGAGAGATTATGGTCATCGCCCATCACGATTGCGGTATGCAGGGGCTGAATGCC
     GAAGAATTCCTCGGGCGCGTCCGGGAAAGCCGGATTCCCGAAGACCGTATCGAAACCCTG
     CGTTATGCCGGTATCGACCTCGACGGCTGGCTGACCGGTTTCGACAACGTCGAAGACAGC
     GTGCGCCACACGGTGGACCTTATCCGTAACCATCCGCTGATGCCGCGCCATATCGCCGTT
     CACGGACTGGTCATCCATCCCGTTACCGGCAAACTGACGCTGGTTGTGGACGGCAGTGTT
 10  TCAGACGGCATGGACTTATCGGAAGGAATGGAAACATCATGAAGAAAATCGGATTGTTCG
     GCGGTACTTTCGACCCGATACACAACGGACATCTTCATATCGCCCGTGCCTTTGCCGACG
     AAATCGGCTTGGACGCGGTTGTTTTCCTGCCGACAGGCGGCCCGTATCACAAAGACGCAG
     CCTCCGCTTCCGCCGCCGACCGCCTTGCCATGGTCGAATTGGCGACGGCAGAAGACGCGC
     GTTTTGCCGTCAGCGATTGCGACATCGTCCGAGAAGGTGCAACCTATACTTTTGATACCG
 15  TCCAAATCTTCCGCCAGCAGTTCCCATCCGCGCAACTCTGGTGGCTGATGGGCAGCGACA
     GCCTGATGAAGCTGCACACATGGAAAAAATGGCAGATGCTCGTGCGCGAAACCAATATCG
     CCGTCGCCATGAGGCAGGGCGACAGCCTGCACCAAACCCCGCGCGAACTGCACGCGTGGC
     TGGGCAAGTCCCTTCAGGACGGCAGCGTCCGCATCTTGTCCGCCCCGATGCATAATGTGT
     CGTCAACGGAAATCCGCCGCAACCTTGCCGGCCAAGGCGTTTCAGACGGCATCCCGCCTG
 20  CCGCCGCACGCTACATCCGCGAACACGGTTTGTATGAAAAATAAAGTCAAATCAGTAAGA
     AACGGCTATAATGCCGTCTGAAAACATCCCGTTAGGAAAATAATGAACGAACAAGAACTG
     CAAGACCTGCAAAAAATGGTCGGGGTCGCCGTCAACGCCCTCGGAGACATCAAAGCCAAA
     GACATTTCCGTTCTCGAAACCCAAGACAAAACTTCGCTGTTTGCCAGAATGATTATCGCC
     AGCGGCGACAGTACGCGCCAAGTCAAAGCACTGGCCAACAACGTTGCCGTCGATTTGAAA
 25  GAAGCCGGTTTTGAAATCCTCAGTACCGAAGGCGACAGCGGCGAATGGACGCTGGTTGAT
     GCAGGAGACCTCGTCGTCCACGTCATGCTCCCTGCCGTGCGCGACTTCTACGACATCGAC
     ACCCTCTGGGGCGGCGAGAAACCGAGTTTCCACGCCGGAATGCAGAAGCCGTGGCACGCG
     GCAGACTGATTCCCGATGCCGTCTGAACCTTCAGACGGCATTTTCCTGTAAGGGAGAAAG
     CATTGAACATCACCGTTTTGGCAGTCGGCACCAAAATGCCGCGCTGGGTTGATGAGGCCG
 30  TCGCCGAATACGCCAAACGCTTCGGACGCGACGTCGCCTACGCACTCAAAGAAATCAAAC
     CCGAAAAACGCGGCGCGGGCGTGAATGCCGCCCAAGGTATGGCGGCGGAAGAAAAACGCA
     TCCTTGAAGCCATTCCGCAAGGCGCGTTCCTCGTCGTTCTTGACGAACGCGGCAAAGCAC
     CGACCTCCGTCGAGCTGGCGGAACACCTCAAAAGCTGGCGGCAAAACGGCGAACACGTCT
     GCTTCGTCATCGGCGGCGCGGACGGCATGACCGACCGCCTCAAACAGCAGGCACGCATGA
 35  TGATGCGCCTGTCCAGCCTGACCCTGCCGCACGGCATGGTGCGCGTCTTTCTGACCGAGC
     AGCTCTACCGCGCCGTTTCCATCCTGCACAACCATCCCTATCATCGGGAATAAGAAGGCT
     TTTGTCCGTATCCCTAATCGGTTAAAATCACCCCGTTATTTCTGAACACAGCAAAGGAAT
     CCGCTATGGCACGCATGGTATTCTGCGTCAAGCTCAACAAAGAAGCCGAAGGCATGAAAT
     TTCCGCCGCTTCCCAACGAATTGGGCAAGCGCATTTTTGAAAACGTATCGCAAGAAGCGT
 40  GGGCGGCGTGGACGCGCCACCAAACGATGCTGATTAACGAAAACCGTTTAAGCCTCGCCG
     ATCCGCGCGCGCGCGAATACCTGGCTCAGCAGATGGAGCAGTATTTCTTCGGCGACGGCG
     CGGATGCCGTTCAGGGATACGTTCCGCAATAACGGTTTTCCGTTTTGAACACAGGCTGTC
     CGAAACTGCTTCAGACGGCCTTTAAAATACGCCGGACAACTTTATCTTCACGCAACCGGA
     CAAATTTTGACATTGGGCAATGTTAAAATCCCCCATTATTCCCAACCGCGCTTTCAGGAG
 45  CAGATGATATGCAACACGACGTTTACGACTACACCGCGCATACGGTTTCTAAAAACACCG
     TCCTGCAGAAAACCTACCGCCTGCTCGGATTTTCATTTATTCCGGCTTCCGCAGGCGCGG
     CACTTGCCGCCAATGCCGGTTTCAATTTTTACGCCGCCTTCGGTTCGCGCTGGATAGGGT
     TTGCCGTCGTGTTGGCGTTTTTCTACGGTATGATCCACTTCATCGAGAAAAACCGTTACA
     GCAATACCGGCGTTACCCTGCTGATGGTATTCACATTCGGTATGGGCGTATTGATCGGCC
 50  CCGTGCTGCAATACGCGCTCCATATTGCCGACGGTGCGAAAATCGTCGGCATTGCCGCCG
     CGATGACCGCCGCCGTCTTTTTAACGATGTCCGCCTTGGCGCGCCGAACCCGGCTCGATA
     TGAACGCGCTCGGACGCGCTTCCTGACCGTAGGTGCGGTCATTCTGATGGTCGCCGTGGTTG
     CCAATCTGTTTTTGGGTATTCCCGCCACTCGCCCTGACCATTTCCGCCGGTTTTGTCTTGT
     TCAGTTCCTTAATGATTATGTGGCAGGTACGCACCGTCATCGACGGCGGCGAAGACAGCC
 55  ACATCAGCGCGGCACTGACACTGTTTATCTCGCTTTACAACATCTTCAGCAGCCTGCTGA
     ACATCCTGTTGTCTTTAAACGGCGAGGATTGATGCCGGTAAAACGCCGTCCGACTATGCC
     GTCTGAAAATGCTTCAGACGGCATTTTACTTTGGGCATACAATACGGATGCACACGCACC
```

AACACACAGCCGACTATGAAGCCGGGAGGAATCAAATGTTACCGAATACACCGCGCCGCG
CCGTTTATGCCGGCAGTTTCGATCCGCCCACATTGGGGCATCTGTGGATGATACGGCAGG
CGCAATCTATGTTTGACGAACTCATCGTCGCCATCGGCATTAACCCCGACAAACGCAGCA
CCTATACCGTCGCTGAAAGGCAGGATATGTTGTGCGATATTACTAAAATGTTTCCCAACG
TCAGAACCGATGTATTTGAAAACCGATTTCTGGTGCATTACGCCCGTGAGGTAGATGCAG
GATTCATCGTGCGCGGCCATCCGTTCTGCTTCGGATTACGAATACGAACGTTCCATGCGCC
ATATCAACAGCGACCTCGCCCCCGAAATATCCACCGTATTCCTCATGCCGCCGCGCGAAA
TCGCCGAAGTGTCGTCCACTATGGTCAAAGGACTGGTCGGGCCGGAAGGCTGGACGGAAA
CGATCCACCGCTACGTGCCGCAAGCTGTGTACGAAAAAATCCTTGCCGAACATCAACACG
AAAATTGAACCCTTCTATTTTTGCAAGGCATATATGGATATGTTGGAAATTTTGTTCCGC
CATCAAGACTTCGTCGCCATCAACAAACCGGGCGGCATATCCGTCCACCAAGACAGCGGC
GAGACCGGACTGGCCCGAACACTCGCCATACAGTTGGGCGTAGAGCGTGTGTGGCTGCTG
CACCGATTGGACAAACAGACCAGCGGCATTTTACTGTTTGCCCTCAACAAAGAAAGCGCG
TCCGCCCTTAGCGGACAGTTTGCCGGCAAAAGCATCAAAAAAACCTATTTGGCACTGTCC
GACCGCAAGCCGTCCAAAAAGCAGGGTTGGATTAAAGGCGGAATGGAAAAATCCAGATGT
GGAATGTGGAAGTTGACGCGCAATACAGAAAATATCGCCGTTACCCGATTCCACAGCATC
AGTATCGCCGAAAAACTGCGGCTGTTCATCCTAGAACCGCATACGGGCAAAACGCACCAA
TTGAGAGTGGCGATGAAAAGTTTGGGCAGTCCGATTCTGGGCGACAGCTTATACGGCGGA
ACAGAATCCGAAACCATGTTTCTGTATGCATGGAAAATACAATTTGACTACCAAAACCGA
CAAATCGAAATTGTTGCACCCTTAAAAAACGAATGGCAGACTGAAAATATCCATCGGGCA
CTGGAAGAATTCTGTATGGAAAATAAAATTGACTGATATAAATTAAATTTATAAACAAAT
AGATAAATATTTTTAAAAAAATTTCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 7>:

gnm_7

CTTGTCCGAGAATGACGCTTTTGACCCGGTCGAACGCTGTCAGGCGGAATGCGTTGAACA
CATCCGCCGCCGGCGGATAGATGATTTGTCCCGACAAACGTTCCTGCCTGACTGCATTTA
AAATTTCCTGAAAATACGGCTGCTGTTTTTCGCCGCCGAGTGCATCGTGCCAAGTGTCCA
TATCTGCCCTATCCTTTCAAATTCGGCTATACTGCTGATATTGCGTTATTTTGTCAAACG
ACGCGCTTTGTGGGGAAATGTATGACTGTATGGTTTGTTGCCGCTGTTGCCGTCTTAATC
ATCGAATTATTGACGGGAACGGTTTATCTTTTGGTTGTCAGCGCGGCTTTGGCGGGTTCG
GGCATTGCTTACGGGCTGACCGGCAGTACGCCTGCCGCCGTCTTGACCGCCGCTCTGCTT
TCCGCGCTGGGTATTTGGTTCGTACACGCCAAAACCGCCGTTAGAAAAGTTGAAACGGAT
TCATATCAGGATTTGGATGCCGGACAATATGTCGAAATCCTCCGACACACAGGCGGCAAC
CGTTACGAAGTTTTTTATCGCGGTACGCACTGGCAGGCTCAAAATACGGGGCAAGAAGAG
CTTGAACCAGGAACTCGCGCCCTCATTGTCCGCAAGGAAGGCAACCTTCTTATTATCACA
CACCCTTAACACTCGGAGGAATTATGGAATTTTTCATTATCTTGTTGGTAGCCGTCGCCG
TTTTCGGTTTCAAATCCTTTGTTGTCATCCCACAACAGGAAGTCCACGTTGTCGAAAGGC
TGGGGCGTTTCCATCGCGCCCTGACGGCCGGTTTGAATATTTTGATTCCCTTTATCGACC
GCGTCGCCTACCGCCATTCGCTGAAAGAAATCCCTTTAGACGTACCCAGCCAGGTCTGCA
TCACGCGCGACAATACGCAGCTGACTGTTGACGGCATCATCTATTTCCAAGTAACCGACC
CCAAACTCGCCTCATACGGTTCGAGCAACTACATTATGGCGATTACCCAGCTTGCCCAAA
CGACGCTGCGTTCCGTTATCGGGCGTATGGAGTTGGACAAAACGTTTGAAGAACGCGACG
AAATCAACAGTACTGTTGTTGCGGCTTTGGACGAGGCGGCCGGGGCTTGGGGTGTGAAGG
TTTTGCGTTATGAGATTAAAGACTTGGTTCCGCCGCAAGAAATCCTTCGCTCAATGCAGG
CGCAAATTACTGCCGAACGCGAAAAACGCGCCCGTATCGCCGAATCCGAAGGTCGTAAAA
TCGAACAAATCAACCTTGCCAGTGGTCAGCGCGAAGCCGAAATCCAACAATCCGAAGGCG
AGGCTCAGGCTGCGGTCAATGCGTCAAATGCCGAGAAAATCGCCCGCATCAACCGCGCCA
AAGGTGAAGCGGAATCCTTGCGCCTTGTTGCCGAAGCCAATGCCGAAGCCATCCGTCAAA
TTGCCGCCGCCCTTCAAACCCAAGGCGGTGCGGATGCGGTCAATCTGAAGATTGCGGAAC
AATACGTCGCTGCGTTCAACAATCTTGCCAAAGAAAGCAATACGCTGATTATGCCCGCCA
ATGTTGCCGACATCGGCAGCCTGATTTCTGCCGGTATGAAAATTATCGACAGCAGCAAAA
CCGCCAAATAAGCCGTGATGAAAATGCCGTCTGAAGTCCAGTTTTCGGGGTTCAGACGGC

-73-

```
ATTTTTATTTAAACCCGGGCAAGGTTGTATTCCGCTTCAAATATAGTGGATTAACAAAAA
CCAGTACGGCGTTGCCCTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTG
TTAATCCACTATATGTTTCGGAACCGCCTACCTGCCCCGGTAAAAACTGCCGGCAAAATA
TTTCTGCACGCCCTCGCGAAGCAAGACCAAGGTTACGGCGGCCAAAGGCAATCCCGCCAA
CATTCCGACAAAGCCCATCAGCTGCCCGAACGCCATCAGCGAAAGATAACCCAAAACGG
CGACAGCCCGATACGGTCTCCCACGATTTTCGGCGTAATGAAAAAACTTTCGAGAAACTG
TCCTACGGCAAAAACCGCCCAAACCGATAGGATGCCGTTCCACGAACCGAACTGGAGCAA
GGCGGCGACGGTGGCAAGCAGCAATCCCGTAAACGCCCCGAGATAAGGGACAAACACCAA
AATACCGGCAAGCATACCGATGGCAAACCCCGAATCCAGCCCGACCAGCACCAATCCCAA
ACCGTAAACCAAGCCCATAATCAGCATTACCAGAAGCTGCCCGCGCAAAAATTCGCCCAA
TACCTCGTTCAAATTGCCTGTAATGCGCGTATAAGCACCGGCAAAACGCCTCGGAACCAG
TTTGGCAATGCCGCACGACCACCGCTGCCAATCCAGCAGGAAATAGTAAAGCAGCAAGGG
AAGCAGCAGCAGGTTGCCGATACTGCTGACAATATTGCCGCCCTGCCTCATCAAAACGGG
AAACCACGCCTTAAGCGCGTTGCTCAACTCTCCCGTATGCGCCTGAAGCCACGCAATAAT
AGATGCCTGATCGATTTCCACATATCCGCCGATTGTATTTTTCAACCACGGCAGCAGCGT
GTTCTGCATAAAACCGATTAATTGGGGCAGGCGCGATGCCAAATTGTTGAACTGCCCGAC
CAGCATAGGGACGATAATCAACAATAATGCCAACAACAAATCAAGGAAAACACCATCAC
AGACATCGAAGCGGATGCACGGTTCAAACCCTTTTTCTGCAACCATTCGACCAAAGGGTC
CAATACATACGCCAGCACCGCCGCAACCGCAAACGGAGTCAAAGTATCGCCGAGCGCGAA
AACCAGCCAGACCAAGGCGGCAAACGCCGCACCGGCGGGCACCCATCCACGGCTTGATGCCCCG
CCCTTTCCTCCGATACATAAAAACCACCCTTCTAAAAATAATATTGTGCGCCAGTATAGC
AGAACCGCCGCGCCGTCAAAAAAGCCTCCGCCTTCCCGATAGCCTGTTATCGCGGTTTAG
GCTAAAATAACGCACATCCGATGCCGTCTGAAAGGCAAACCCGCCTTCAGACGGCATACC
GTACACGACAAGGCAGCACATCATGACCGAACAAAAAAACAAAACATCCCTCATCGAATT
TCCCTGCACCTTCCCATTGAAAGTAATGGGCGCGGTGCATCCCGAGTTCGAGCAGGCGGT
TTTAGACACCGTCCGCCTCCACGCCCCCGACACGCAGGCGCACCACATCACCACGCGTCC
GAGCAGCAAAGGCAACTATACTGGCGCCACCGTACAGGTAAAGGTTGAAAACCAAGAACA
ATTGGACAACATCTACCGTGCGCTGACTTCGCACGAACTGGTCAAAGTGGTACTTTGAGA
TGAAAATCATACACAAAGGTTTGGTCGAATATCTGCCGACTTTTGAAGCGATGAAAACCT
TTAATGCCGGACGGAATGCCGACACCGAAGACGAACTGTGGGTCGTCGAACACCCGCCCG
TGTTCACACAAGGACTGGCGGGAAAACCCGAACACCTGCTGATTCGCGACGACATTCCCG
TCGTCCAAATCGACCGGGGCGGGCAGATTACCTATCACGGGCCGGGCAATTGGTCGTTT
ATACGATGATTGATTTCAAACGGCGCAAAACCAGTGTTAGAAACATCGTTTCCGCGCTTG
AAAACAGCATCATCGCCACATTGGCAGAATACGGCATCGAAGCGGCGGCAGACCCCAAAC
GCCCCGGCGTTTATGTCGGAGAACGCAAAATCGCCTCACTGGGGCTGCGTATCAAAAACG
GCTCCGTCTATCACGGGCTTGCGCTCAACGTCAATATGGATTTAAGCCCGTTTACCCACA
TCAACCCCTGCGGCTACGCCGGTATGGAAATGACGCAAATCGCGGATTTTGTCCAACCCT
GCCCCACGCCGGACGAAGTCGCCGCCAAACTCACCGCACACCTTGAAACACAATTCACAC
CGAAAGCAGACAACAATGAGTGAAATCAAAACCGACGACCCCAAACGCGGCATCAAACTC
AGAGGCGCGGACAAAACCGCGCGCATCCCCATCAAAGTCGTCCCCCTTCAGGAAAAACTG
AAAAAGCCCGAATGGATACGCGCCAAACTCCCATCGCGCAAATTCTTTGAAATCAAAGAC
ATTTTGCGCGAACAAAAGATGCACACCGTTTGCGAGGAAGCCTCCTGCCCCAACATCGGC
GAATGCTTCAGCAAAGGCACGGCGACCTTCATGATTATGGGTGACATCTGCACCCGCCGC
TGCCCGTTCTGCGACGTGGGACACGGTCGGCCCAATATGCTCGACCCCGACGAACCGAGA
AACCTCGCCGAATCCGTCAAAGCCATGAACCTGCGTTACGTCGTCATCACCTCCGTCGAC
CGCGACGACCTGCGCGACGGCGGCGCACAGCATTTCGCCGACTGCATCAAAGCCATCCGC
GAAACCAGCCCGAACACCAAAATCGAAATCCTCGTCCCCGACTTCCGAGGACGCTTGGAC
ATCGCACTCAAAATCCTTGCCGAAACCCCGCCCGACGTGATGAACCACAACCTAGAAACC
CATCCGAGCCTGTACAGAAAAGCCCGTCCCGGTGCCAATTATCAACATTCTTTAGACTTA
TTAAAACGTTATAAAGAAATGATGCCGCACATCCCGACCAAATCCGGCATCATGGTCGGC
TTGGGCGAAACAGACGAAGACGTGCGTGAAATTATGCGCGATATGCGGGCGCACAATATC
GAAATGATTACCATCGGACAGTACCTCCAGCCTTCAGACGGACACCTGCCCGTCCTGCGC
TACGTTACGCCCGAGCAGTTCAAAATCTTTGAAAAAGAAGCATACGAACTGGGCTTCAGC
AATGCCGCCATCGGCGCGATGGTACGTTCCAGCTACCACGCCGACGAACAGGCGGCGGAA
GCCTTGAGGGAAAGCCACGGCGGTTGCGGGCATCATTAAACCCGGAACACCGCGCCAAAG
TAAAAAGCGATTCCCTGCGCCTGCCGCGCCGTTTGGCGCAAGCCGCACCGTGTTAGCCG
CCTATGCCGTCTGAAAGCCCTTCAGACGGCATAATTTATTCCCAAAATCCGATAATCTTG
```

TAAATTCTGACGCTATTTGCGACTTTATAACGCTAAATGACCGAGCAGATATGGATCAAC
AGCCGTTATTGAAATTGCCGAATTCCCACATAATAATTTGGCGAATGGATGGGTTAGGGA
AGATTTTTTCCCAATTGAAAAATAACGATAACCTGTTTATTGAAGCCTATTTACGCCCGG
TTAACTTTCATAGTAACTCTTTTGAATAAAAAGAAAACTTCAAAATAATCATCCCGACAT

5   ACTTCTCACAATTAGCGTACAACATCTGATTATCAGGGTACGCTGTCAGTTTTTTATTGA
CAATTTAATTCAAATTTCCTATATTTTGTCCTTAACTATTCCTTACATTTCATTTAAGAA
AACCCATCATGAACAAGCGATGCTACAAGGTTATCTTCAACAAGAAACGCAGTTGTATGA
TGGCTGTAGCAGAGAATGTTCATCGTGACGGCAAGAGTATGCAGGATAGTGAGGCGGCTT
CGGTTCGAGTGACCGGTGCCGCTTCTGTTTCTTCTGCCCGGGCAGCCTTCGGTTTCCGTA

10 TGGCTGCCTTTTCTGTCATGTTGGCTTTGGGTGTTGCTGCGTTTTCCCCTGCCCCTGCTT
CCGGCATCATTGCCGACAAATCCGCCCCTAAAAACCAACAAGCCGTTATTCTTCAGACAG
CAAACGGTTTGCCGCAAGTCAATATTCAAACTCCGTCATCCCAAGGCGTTTCTGTTAACC
GATTCAAGCAGTTCGATGTTGATGAAAAAGGCGTAATACTAAACAACAGCCGCAGCAATA
CGCAAACGCAACTCGGTGGATGGATTCAAGGCAATCCCCATCTGGCACGCGGCGAAGCGC

15 GGGTAATTGTGAACCAGATTGACAGCAGTAATCCTTCGTTGTTGAACGGTTATATCGAAG
TCGGCGGCAAACGCGCCGAGTAGTCGTTGCCAATCCGTCGGGCATCCGTGTGAATGGCG
GCGGATTGATTAATGCCGCTTCGGTTACGCTGACTTCGGGCGTTCCTGTTTTGAATAACG
GCAATCTGACGGGCTTTGATGTTTCTTCGGGTAAAGTCGTGATTGGGGGCAAAGGTTTGG
ATACCTCTGATGCCGATTACACCCGTATCCTTAGTCGTGCTGCTGAAATCAATGCGGGCG

20 TTTGGGGTAAAGATGTCAAGGTGGTTTCGGGTAAGAACAAATTGGATTTTGACGGCTCTC
TTGCCAAAACAGCTTCTGCGCCATCTTCTTCGGATTCTGTTACTCCTACCGTTGCCATCG
ACACCGCCACACTGGGTGGGATGTACGCAGACAAAATCACTTTAATCAGCACCGACAACG
GCGCCGTAATCCGCAACAAGGGTCGGATTTTTGCCGCAACAGGCGGCGTTACGTTAAGCG
CAGACGGCAAATTGAGCAACAGCGGTTCGATTGATGCTGCCGAAATCACCATTTCCGCTC

25 AAACCGTTGATAACCGCCAAGGCTTTATCCGCAGCGGCAAAGGCAGTGTATTGAAGGTTT
CAGACGGCATAAATAATCAAGCAGGCTTAATCGGCTCGGCCGGTTTGCTGGATATTCGCG
ATACAGGCAAAAGCAGCCTGCATATCAATAACACAGACGGCACGATTATTGCGGGCAAAG
ATGTTTCCTTACAGGCAAAATCACTGGACAACGACGGCATATTAACCGCCGCACGCGATG
TTTCCGTTTCTCTTCATGATGATTTTGCCGGCAAACGCGATATTGAAGCCGGACGCACAC

30 TCACGTTCTCCACCCAAGGCCGTCTGAAAAACACCCGCATCATACAGGCAGGCGATACCG
TATCCCTGACCGCCGCCCAAATCGACAACACTGTCTCCGGTAAATCCAATCCGGAAACC
GCACCGGGTTAAACGGCAAAAACGGCATCACCAACAGGGGTTTAATCAACAGCAACGGTA
TAACGCTGCTGCAAACCGAAGCCAAGTCGGACAATGCCGGCACGGGCAGAATTTACGGCA
GCCGTGTGGCAGTTGAGGCAGATACCTTGTTGAACCGGGAAGAAACGGTCAACGGCGAAA

35 CCAAAGCGGCGGTAATTGCAGCGCGGGAGCGGTTGGATATTGGAGCGCGGGAAATTGAGA
ACCGAGAGGCGGCATTATTGTCCAGCTCCGGCGATCTTCATATCGGTTCTGCATTGAATG
GAAGCCGACAGGTGCAAGGAGCAAATACATCACTGCACAACCGCAGTGCGGCAATCGAAT
CATCAGGCAATATCCGTATCGCTACAAAAGATTTGCAGAATACCAATGAGCATCTGCGTT
TCCATACGGAAGAAACCCATCGCGAACACCGTATCGAATATCAGGCGGAAGGCAGAACAG

40 AACGCTATCCGGAAGGTTCTCAAAAAGAGTTGGGCTGGGAAATATTTGAAGATGAGTCTT
TACATATGCGGACTCCGGACGGCAGCCCCCACTCTGTCTGGTACAAATACGATTACGAAC
GAATCACCGCCGAGAGCAAAATTACCGAATCCAAGCCCGGTCAAATCATCAGTGGCGGCA
ATTTGGTTTTAGATGCCGCCAAGCTGAAAAATCATAACAGCCGGATTATTGCCGGCGGCA
GATTGATCGTCGGTACGCCCGAATCCGCATTGGACAATGATGAAACTTTGGGAACAAAAA

45 CCATAACCGATAAAGGGGACTTGCACCGTTACCACCGTCATCACAAGAAAGGGCGGGATT
CTACGGGATACAGTCGGTCTCCCTACGAACCGGCCCCCGAAGTCAGCTCCATCCGTATGG
GTATTTCAGCCTATAAAGGCTATGCGCCCCAACAGGCATCTGATATACCCGGCACTGTTG
TACCCGTTGTTGCTGAAAACGGCATCCATCCTACATTTACTCTGCCGAACAGCAGCTTGT
TTGCCATTGCGCCAAACAACAAAGGCTATTTGATTGAAACCGACCCTGCCTTTACCGACT

50 ACCGCAAATGGCTGGGCAGCGGCTATATGCTTGCCGCACTGCAACAAGACCCGAACCATA
TCCACAAGCGTTTGGGCGACGGCTATTACGAGCAGAAACTGGTAAACGAACAAATCGCCA
AGCTGACAGGCTACCGCCGCTTGGACGGTTATACCAATGACGAAGAGCAATTCAAGGCTT
TGATGGATAACGGCATTACCATAGCCAAAGAATTGCAGCTTACTCCGGGTATTGCCCTGT
CTGCCGAACAGGTTGCCCGTCTGACTTCCGACATTGTTTGGCTGGAAAACGAGACCGTTA

55 CCCTGCCCGACGGGACAACTCAAACCGTATTGAAACCCAAAGTCTATGTCCGCGCACGCC
CCAAAGATATGAACGGACAAGGGGCGTTGCTGTCCGGCAGCGTTGTTGATATCGGCAGCG
GCGCCATTGAAAACCGGGGCGGCTTAATTGCCGGGCGCGAAGCACTAATTTTAAACGCAC

```
AGAATATTAAAAATCTGCAAGGTGATTTGCAGGGCAAAAACATCTTCGCCGCAGCAGGCA
GCGACATTACGAATACCGGCAGCATCGGCGCAGAAAACGCCCTGCTGCTCAAAGCGAGTA
ACAATATAGAAAGCCGCAGCGAGACCCGCAGCAATCAGAATGAGCAAGGCTCGGTACGCA
ATATCGGCCGGGTGGCAGGCATTTATCTGACCGGCAGGCAGAATGGAAGCGTCTTGCTGG
ATGCAGGCAACAATATCGTCCTGACGGCTTCCGAATTGACCAATCAATCTGAAGACGGTC
AAACCGTACTGAATGCCGGCGGCGACATCCGCTCGGATACGACGGGCATTTCCCGCAATC
AGAACACTATCTTTGATTCCGACAACTATGTGATTCGCAAAGAACAAAACGAAGTCGGCA
GCACCATCCGCACCCGGGGCAATCTCAGTCTGAATGCAAAAGGAGACATCCGTATCCGTG
CAGCAGAGGTCGGCAGCGAACAAGGCCGTCTGAAACTGGCAGCCGGACGGGATATCAAAG
TCGAAGCCGGCAAAGCCCATACCGAAACCGAAGATGCCCTGAAATACACCGGTAGAAGCG
GGGGCGGCATCAAACAGAAGATGACCCGCCATCTCAAGAACCAAAACGGACAAGCCGTAT
CCGGCACGCTGGACGGCAAAGAAATCATTCTGGTTTCAGGACGCGATATTACCGTTACTG
GCAGCAATATCATTGCAGACAACCATACCATTCTCTCGGCAAAAAACAATATCGTCCTTA
AAGCAGCCGAAACACGCAGCCGCAGTGCCGAAATGAACAAAAAAGAAAAATCCGGACTGA
TGGGCAGCGGCGGCATCGGCTTTACGGCGGGCAGCAAAAAAGACACGCAAACCAACCGAT
CCGAGACCGTCAGCCACACAGAAAGCGTCGTCGGCAGCCTGAACGGCAATACCCTGATTT
CGGCAGGAAAACATTACACCCAAACCGGTTCGACCATATCCTCGCCCCAAGGCGATGTCG
GCATTTCCTCCGGAAAAATCAGCATCGATGCCGCACAAAACCGTTACAGCCAAGAGAGTA
AGCAGGTTTACGAACAAAAAGGCGTAACCGTCGCCATTAGCGTTCCGGTTGTGAATACCG
TAATGGGCGCGGTTGACGCCGTAAAAGCAGTCCAAACCGTCGGCAAAAGCAAAAACAGCC
GGGTCAATGCCATGGCTGCTGCCAACGCCTTGAATAAAGGAGTAGATTCCGGCGTGGCAC
TCTATAATGCCGCCCGAAATCCCAAAAAAGCAGCCGGTCAGGGCATCAGTGTCTCCGTTA
CCTACGGCGAACAGAAGAACACCTCCGAAAGCCGCATCAAAGGCACGCAGGTGCAAGAGG
GCAAAATCACCGGCGGCGGCAAAGTTTCCCTGACTGCTTCAGGCGCAGGCAAAGACTCCC
GCATCACGATTACCGGCTCCGATGTGTACGGCGGCAAAGGAACACGCCTCAAAGCAGAAA
ATGCCGTTCAGATTGAAGCCGCCCGCCAAACGCATCAGGAACGCAGCGAAAACAAATCCG
CAGGCTTTAATGCCGGAGTCGCCATCGCCATCAACAAAGGCATCAGTTTCGGCTTCACAG
CCGGAGCAAACTACGGCAAAGGTTACGGCAACGGCGACGAAACCGCCTACCGCAACAGCC
ATATCGGCAGCAAAGACAGCCAAACCGCTATTGAAAGCGGTGGCGATACCGTCATCAAAG
GCGGGCAGCTTAAAGGCAAAGGCGTTGGCGTAACGGCAGAGAGTCTGCATATCGAAAGTT
TGCAGGATACCGCCGTGTTTAAAGGCAAACAGGAAAATGTTTCCGCCCAAGTTACGGTAG
GCTACGGCTTTAGTGTCGGTGGCAGCTATAACCGCTCGAAAAGCAGCTCGGATTATGCAT
CCGTCAACGAGCAAAGCGGTATCTTTGCAGGAGGAGACGGCTATCGGATTCGCGTAAACG
GCAAAACCGGATTGGTCGGCGCCGCTGTTGTTTCAGATGCCGACAAATCAAAAAACCTGC
TGAAAACAAGCGAAATCTGGCATAAAGATATTCAAAACCATGCTTCGGCGGCTGCTTCCG
CCTTGGGCTTGAGCGGCGGTTTTTCATACAGCCCGAAGCCTACCAGCGGACAGTATTCCA
CCAAAAAAGAAGCAGAAATCGGTAAAATCGGCGGCAAACCGGTCAGCCTGATGCGTTTTG
ACCAGGTTTCGGCGAAAGACGACGAGTTGAACGAAAAATATCGAAGTGAGCGTATTGAAA
AAGGGGAAACCTTTAAAGAGGCAAATTTAAATCAAAACAACGCCGGCGGCTTGAAATTCG
GTTTGAAGCAAAACGATATACACAGCAACGACAAATACGCCTTGGCAAAAATGGGTTTGG
GCAATCTGTTGGGCAATGCCAAAGAATCAGAAAGCCGCCAATCCATTACCCGCTCCGTCA
TCAGTGAGGGAGATTGGCAAATTGCTTCCGCGCAGGGCAGGAAAAATATTGCCGGTATTG
AAAAAGGCACTTCATCCGCACATAAGGCATTGGCAAAAGCAGACCGCGAAGGCTTGCTGA
AAGAAGTCGAACTCAATAGGGATGTTGCCAAAGAGTTTATCAATGAGACGCTGATCGGCG
GCATTGCAGACGAAGCCTACCGCAGCCAGTTTATTGCAGAACACCGCCTGATGACCTTTA
AAATGGATGAAAACGGCGAGCCGATTGAAGATAAGCAGCTTGAAGAGGATATAAATAAAC
AGTTTGACAACTCAGTAAAGTTGAAAAAAGAATTTGCCTCATTTAAAGATTATTGGGAAG
CCTATAAAGCCATTGGGGGAAATATCTACGAATTGCGCGAAGTATCCGACCAGGAACGGA
AAAATCTGAAAACTGCCCGTTACACCGACCCGGAGACCGGCAAAACCGTTGAAAAAATCG
TTGTCGGCGTCAACGGCATTTTCAATAATATACAAGCAGCCGCCAAATTTGCCGCCCAAC
AATATGTGGGGCGTTTCAATCCCGAGAAAACCGATATGAACGCACCTATGAAAATGTTT
ATTTCCTGCACAATCCGGAAACCAATGGGCGGGGCTTTTCAAAATTGCCCGAAATCGCCG
TTGCGGCCTTTCATAAAATGCTCGAAGGGGCAAAAATAGGCAATAAGACCGTTATCGGCT
TGAGCAATTCAGGCTTGGCTTTAGGCAATATCATGGAAGACTACGGGAAGGATAAAAACG
GCCCTGTTTGTCGGCTCGCACAGCCGTGGAACCCTGGTGGTCGACAATGTACTCAATACCT
TGAATACCCAAGCCAATCGGGATAAGAAAATTTTATCCAATACCGAACTGAAAATGGTCG
GCCCTGCCGCCAACGTTGTCCGGGCAGATAAAAGGCTGTTTCAACTGCAGCAGGGGGTAA
```

-76-

```
CGACACCCAGAACGGCAGATTTCGCCCGTCAGTCCATCCAAATAGAAAACCACGAATTAG
ACCTTATCGGCATGCTGATTGGCAGAAATCCGGCAACAGTCGGAACCAATACCCGGCAAA
AAAGCCAATGGCAGGCTATAAGGGATATTATAGGGGATTACACCTCGCCGCATAATTGCT
ACGGTATGGCTAATAAACAATGTGTAACAGATGGTTATCGAGACCCTGAAAATAAACAAA
CCCAAAGTCCGACAGGTGTATTTGAAAGAGGAGTGTCCAACGAAATCGAAATTATGTACC
GTCCTGTACGCATTTATGATCTGCAACATCCGAAAGGAAAAACAAAATGAAATATATCGT
ATCAATCTCTCTGGCTATGGGATTGGCTGCCTGTTCGTTTGGGGGATTCAAACCTCCGCC
CGATGACTCGGCATTTTGGAGATTGACAAATTACGCCAAACTTTATCCGGGATTAACCTC
AGCGACACTTGACCAATACCCACCTGAAGAGAGACGAAGACAACTGCATGATTCTTTTGC
TAGAGAAAAAAAGACTGGAAAGAGTGCGGCTATGACCCAATAGGTGGGGGCGGTGGGAG
TGAAGCAGATGCCTGCATGAGAAAAAGAGGTTGGTATCGTGTAGGTAACGACATTTATCC
CGAAAACAAAAAATACGAATGGCCTCGAGAAGAAGGAAAAACAAAATGAAATATATCGTA
TCAATCTCTCTGGCTATGGGATTGGCTGCCTGTTCGTTTGGGGGATTTAAACCAAATCCG
TGGGACGCCGCGTCATTTTGGGAATTGAAAAATTACGCCAATCCCTATCCGGGATCAGCC
TCGGCGGCACTTGACCAATATCCATCGAAAGCAAGACGAAGGCAACTGAAAGACATGCAA
GAGTGCGGCTATGACCCAATAGACGGCGGAAAGTCTGAAGCAGATGCCTGCCTGAGGAAA
AAAGGCTGGTGTCGTAAGGGTTTCGACCCTTATCCCGAAAACAAAAAATACGAATGGCCT
CGAGAAGAAGGAAAAACAAAATGAAATATATCGTATCAATCTCTTTGGCTATGGGATTGG
CTGCCTGTTCGTTTGGGGGATTCAAACCTCCGCCCGATGACTCGGTATACTGGAAGTATT
CCCGTATAGAACAAGAATATCCGGCAATGATGAGTAAAAATATCAATTTACGCATATATT
CTTATGAAGAATATAGCAAACAAATAGATGATCTTTTTGCTAAGGAAAAAAAGACTGGAA
AGAGTGCGGCTATGACCCAATAGGTGGGGGAGGAGGAAGTAAAGCAGATGCCTGCATGAG
AAAAAGAGGTTGGTATCGTGTAGGTGACGACATTTATCCCGAAAACAAAAAATACGAATG
GCCTCGAGAGAACTGAAACAAGGCTGCCTGAAGGGAAACTTTCAGGCAGCCTTGTTTTAT
TGTTTCGACAACGCTGGAAACCTCATAATCCGTTTTCCTTTTTCACTCCCCCGGTGGTAC
AGCCACCTTATTTCACGTTTCGGAAACAGATGCACCAGAATTCTTTTCATCATACGGCTG
TCGCCGAAAGGTGCGAACCAGTTGATAAGCCACATTCTGTTTCCACTGCACCAGTTTTCC
GAGTGGCGCAGAACATCATTGGATTGGAGATATTGCCATTCGGTTTCTTCATCGAAATAA
GCCCAAGTGCAGTAGGCGACGGGGTGTCCGTTGCTGCTGAACAAGGCAAATTGCCCGTTT
TTCAATACCGGCAAGATATTGACGGCGGCTTCTTGTACGCCGGCATGCTGATAAATAGGC
GAAACTGCCCACAACCATACCAAAGCGCCGAATGCTTCGGTTTCATTGAATGTTTCCTGC
GGGAACAGTTCCGGCGAAATAATATCGATATTTTCTATCTTCATGATTTTAAATTTAAGT
TTTAATAAGGTTTGGAATAAATAGCGGATATTGACCCCGGCAGCCGCGCGCTTCGTCCTA
AAATACCGGGCTTCTTCAAAGCCCCTGCCGCAAACACATCATACGACAGATTGCCCTTCG
CATTAAACACACCTTCAAACCGACAGCCGCTCCAAGCAGCGTCTGTCCGGGCAGGCATGC
CGTCTGAAAGCCCCTCAGACGGCATAATTTATTCCCAAAATCCGATAATCTCAAAAGAAT
CTGTCGGTTAATGAGAACGATTCATTATAAATTTTGATAAAAAACCGTGCTCTATTTGTT
TTTTGCTATGGTTAATAAGTGTAAATGTTCTTTATGGATGAGATGGATTCTTAGTTTTAG
CAGCAAAAAAACCGATAAGAAACAGCATACTGATTTGGAAGGCATCGGGGAATACGCCCT
ATTTCTTTTGATAATTGTTTGTATTTTAAATAGAAAATTTGTCATGCCGACAGCTTTTGC
ATACAATGCACGCATCCCGAATAGCGACACAGATGCTGTTCAGACATACCGAAAACCAAG
TTACAGAAAGAGAGATATTATGCAAGGCAATCAAGCTGTTGTTGATTATATGAACGAATT
GCTGTCTGGCGAGCTGGCGGCACGCGACCAATACTTTATCCACTCCCGCCTCTACTCCGA
ATGGGGCTACACCAAACTTTTTGAACGTCTCAACCACGAGATGGAAGAAGAAACCACACA
CGCCGAAGACTTCATCCGCCGCATCCTGATGCTGGGCGGTACGCCGAAAATGGCACGCGC
CGAACTGAATATCGGCACGGACGTGGTTTCCTGCCTCAAAGCCGACCTGCAAACCGAATA
TGAAGTACGTGATGCGTTGAAAAAAGGCATCAAACTGTGCGAAGAGGCTCAAGACTATGT
TACGCGCGACCTGATGGTTGCCCAACTGAAAGATACCGAAGAAGACCACGCCCACTGGCT
GGAACAGCAGCTTCGCCTGATCGAGTTAATTGGCGAAGGCAACTACTACCAAAGCCAACT
GTAATCCGTATTCGGAATAAAAGGAGTCCGTATGAAAGCGACCGTTTGGTTATCCGCGA
GCTGAACAAAAACTTAGGCTTGCTGCTGGTAACCATCAACCAATATTTCCTTCACGCCCG
TATTTTGAAAAACTGGGGCTTTGAAGAACTGGGCGAACATTTCTTCAAACAGTCCATCGT
TGAAATGAAAGCTGCCGACGATTTGATCGAGCGCATTCTGTTCCTCGAAGGTCTGCCGAA
CCTGCAAGAACTGGGGCAAGCTTCTGATTGGCGAGTCCACCGAAGAAATCATCGCCTGCGA
TTTGACCAAAGAACAGGAAAAACACGAAGCCCTGCTTGCCGCCATCGCCACAGCAGAAGC
GCAACAGGATTACGTCAGCCGCGATTTGTTGGAAAAAACAAAAAGACACCAACGAAGAACA
TATAGACTGGCTGGAGACCCAGCAAGAGCTTATCGGCAAAATCGGTCTGCCGAACTACCT
```

-77-

```
GCAAACAGCGGCGCAAGAGGACTAAAACACAAACCACTGCCAAATACAGCAGTCCCCCGC
ACCATCAGACGGCATATCCGTATAAACGGATATGCCGTTTTTCTTTTTCGGTTTGCGAAT
AAAATCTAAATTGATTTGAATCAATACCTGATAAGGGTTTTTGTTTGATAATACCGATAT
GAAATTCAGGGTGCTTGTTTGCTGTTTCCCAATCTGTCTTGATTTATCTCTTTCCTCTT
GATGTGTGTGTGTTTGGGTGTGGCTGCCGCCACCCCTTTTTTTTGGCTTTTATGTGAAGT
AAAATCCGTAACAGCAAATGCTTAACTTTAACCATTTATCTGGAAGCAAATGATGGGCAA
CAAATTGACTCTGCCTGCCGAACTGCCTGACGAACAGGATTTGCGGGCGGTATTGGCATA
CAATATGCGGCTTTTCCGCGTGAACAAGGGTTGGTCGCAAGAAGAATTGGCGCGGCAATG
CGGTTTGGACAGGACTTATGTGTCGGCAGTCGAGCGCAAACGCTGGAACATCGCCCTGTC
GAATATCGAAAAAATGGCGGCGGCTTTGGGCGTGGCGGCGTATCAGTTGCTGCTGCCGCC
GCAGGAACGGTTGAAGCTGATGACCAATTCCGCCGATACCCGACAAATGCCGTCTGAAAG
CGGTATTTGACCGCCGAACCATCCGCCTCCCTTTTTCCCGCCAATCGAAAGAATAAAAAT
GCCTGCAAACCTGTCTTCAGCACTGGAAACCTTCAAACAGCAGCGCGATGCCGCCGAAGC
GCATTATTTGAAAGCCAACCGCGTGTCGGTATTTTTCAGAGAATACACGGCGGCAGTCGA
AACCTTACTGGCGGCATTGTGGGCAGAGTATTTTCAAAACAGCGCGTTATGCCTGATGGC
GGTAGGCGGCTTCGGACGCGGCGAACTGTATCCCTGTTCGGATGTGGATTTGGCGGTTGT
CTCCCCTGCCCCGCTTTCAGACGGCATTCAGGAACAGATTGCCCGGTTTGTTCAAACCCT
GTGGGACTGCAAACTGATGCCGTCTGTAAAAAGCGGCAGCGTTGATGAACTATGTGAAAG
CGTGCGCAATGATATTACGGGGGACACAGCGTTTTTAGAGGCTAGGTTTTTGTTTGGCAA
CCGCCAAACGGTGGATAAACTGGCGGAAAAAATGAACGCGCAGCGCAATGTGGCGGCGTT
TGTCGAGGCAAAACTGGTGGAGATGGAACACCGCCACGCCAAATCGCAAGGTTCGGGGGC
AGTATTGGAGCCGAATATCAAAAGCTGTCCGGGCGGTCTGCGCGATATCCACACCCTGCT
TTGGATAGCGAAGGCGCAAGGCTTGGCGACCGACCTGCCCGACCTGCTCAAACAGCGGAT
TTTGACGCGTGCCGAAGCCGGTATGCTTTCGCACGGCTACCGCCGCCTCGCCCACATCCG
CATCCATCTGCATTTAAACGCCAAGCGCGCCGAAGACCGCCTGCTGTTCGATTTGCAGCC
GCAAGTCGCCGAAAGCATGGGTTATGAAGGCTTGAACCTCCGCCGCCAAAGCGAAGAACT
GATGCGCGTGTTTTACCGCGCGATTAAAAACCGTCAAACAACTGGGCGGCATCCTCACGCC
TATGCTGCAAAGCCGCGTTTCCTCCACCCCGTTGCGCGTTACCCTGCGGATTGACGACGA
CTACATCCAAGTCAACAACCAAATCGCCGCGCGGCACACCGATATTTTTTTCAGACGGCC
CGAACACATTTTCAAAATCGTCGAAATCATGCAGCAGCGCAACGACATTACCGCGCTCGA
ACCGCAAACCCTGCGCGCCTGGTGGGGCGCGACGCGCAAAATCAACCGCAGCTTCTACCA
AAATCCCGAAAACCGCCGCCGCTTCGCCGGTTTTTTCCGCAACGGCAACGGGCTGACCCA
GACCCTGCGCTTTCTCAACCTCTACGGCGTGTTGGGCCGCTACCTGCCCGCGTGGGAAAA
AATCATCGGCCTGCTCCAACACGACCTGTTCCACATCTATCCCGTGGACGACCACATCCT
CACCGTCGTCCGCAACGTCCGCCGCCTTGCCTTGGATATGCACAGCCACGAGCTGCCCTA
CGCCTCTGCACTGATGCAGTCCTTTGAAAAACAAGACATCCTCTACCTTGCCGCCTTTTT
CCATGACATCGCCAAAGGACGCGGCGGCGACCATGCCATACAAGGCATCGCAGACGCGCG
CCAATTTGCCGCTGACCACTTCCTGACCGGAGAAGAAAGCGACCTGCTCGCCTGGCTGGT
CGAAAACCACCTGCTGATGTCTGCCGTCGCCCAAAAAGAAGACATCCAAGACCCCAGCGT
ACTCGATGCCTTCTGCAAACGCGTGCAAACCCACGAACGCCTCAGCGCGCTCTACCTTCT
GACCATTTCCGACATACGCGGCACCAATCCCAAGCTGTGGAACGCATGGCGCGCCAGCCT
GCTGGAAAGCCTCTTCCATGCCGCCGGACGCTACCTTACAGGCAACGGCGGCAACCCGCA
CACCCTCTTCGGCCGCCGCCGGCAGGAAGCCGCCGACTTACTCACCCGCGCCGCCGTCCC
CGAAAAACAGCAGAAAAAACTATGGAACGCGCTCGGTTCCGCCTACTTCGCCCGCCACCA
GTCCCGCGAAATCCTGTGGCACGCCGCCAACCTAGTCCACGACTTTGAAACCCCCATCGT
CCGCAGCCGCATCCTGCCCAAAAGCGACAGCTTTCAAGTCATGGTTTTCATGCCCAACGG
CCCGCGCCTGTTCGCCCGCCTCTGCCGCATCTTCAGCCGCCACGGCTTCGACATCCTCGC
CGCCCGCGCCTTCATCACCGAACACGACTACATCCTCGACACCTTCATCGTGCAAATCCC
CTCGCAGCACGCCCCCGAAGACTACCCCGACATCCAAAGCGCGCTCGAAGCCGAACTCAA
CAGCTTTATCCACGGACACACCGTTGCCGAAACCCAAAGCCGCAGCCGCCGCATCAGCCG
CCGCAGCCGCTATATGCCGATCGCACCGAGCATCACCATCACCCCCGAAGAAGACTATCC
CGACTGGTATTCCGTCGAAATCACCGCCGTCAACCGCCCCTTCCTGCTCGCCGATATGGC
GGAAGTCTTTTTCGCCCACAACGTCAGCCTGCGCGTATGCCAAAATCTCCACACTGGATGA
ACGCGCCGAAGACAGTTTTACCGTTTTTTAGCCCCGACCTGAAAAACCCAAAAATCCAGTC
CTCATTGAAGCAGACGCTGCTGGAACAATTATCATAACGCCCGCCTTCAGACGGCATTCC
GCCGCCACGCCGTATGCCGTCTGAAAGCGGGGGATATTGTAAATAATTTATTAATATAAG
GATTTATATGAATATTATTATGGACTCAACAAGAAAATTTGGGATTTTATGGGAAGAAAA
```

```
CTCTGAATGTAATGGTTTTATTTATGGAAAAATTCAGATAATAATAGGAGAGAATATATA
TCCTAAGATATGCCCATATGGATATTTTACGCTAAATGCAGTTTTTAATAGTTTGAAGTC
ATCCTTTGAAGAGAAGTATTATGCAGGTGGAAACAATGGTTTAGATTTTGGAGAGCAACT
ATTTGATATAGATAAAATATAATTCTCTGGAATTATGCAATATATTTTCTATTGATACTAC
ATATATGAGTGGAGGGGGTAATTGTGAAATAGATTGTTTAGTATTAGAAATGGGATATTC
TGGTGAGGAAGAGAGACTTTTTTATAGTTTTGACAATGGGAAAAACTTTAAAGAAATCAG
GTATAAGAAAGGTACAGTTGAATCTGTTATTTTTCAATTGAATCTATAATATATGGGGCT
GTAACTAGATTAGCAGATATGTTACCCTCGAAATATTAAGATAATATACTGAAAATTAAA
GGAAAAAATAAATAAAGAACTACTCCGTTTTTTTGTGCTGGAAGTTACCGCCCGATATAG
GGCTTCAATAACTGAGCCACTTACCAAAAATTAGAAAAAAGCTTTTCCTGAAATTGAAAG
AACGGGAGCAACAGTGGTCGGCAAAGGAAAACCGAGCTATTCAAAGGGGACCAAAATTAA
ACCTGATAAACTGTCAAGCCGCCGGTAACGTGCTATAATGCCGTGCATCTTGCACAAACT
GAAAGACCGAGCATTATGCGTATCGTAGAAAAAGCCTATACTTTCGACGATGTTTTGTTG
GTTCCCGCACATTCGACCGTGCTGCCGCGAGACGTTAAACTTCAAACCAAGCTCACCCGC
GAAATCACACTCAACCTCCCCCTGCTTTCCGCCGCGATGGACACTGTTACCGAGGCGCGC
CTCGCCATTTCGATGGCACAAGAAGGCGGCATCGGCATCATCCATAAAAACATGCCGCCC
GAAATGCAGGCGCGCGCCGTTTCCAAAGTGAAACGCCACGAAAGCGGCGTGGTCAAAGAC
CCCGTAACCGTTGCACCGACAACGCTCATCCGCGAAGTCTTGGAAATGCGTGCGCAGCGC
AAACGCAAAATGTCCGGCCTGCCCGTCGTTGAAAACGGCAAAGTCGTCGGCATCGTAACC
AACCGCGACCTGCGTTTTGAAAACCGCGTCGATTTGCCCGTTTCCGCCATTATGACCCCG
CGCGAACGTCTGGTTACCGTCCCCGAAGGCACAAGCATAGACGAAGCGCGCGAACTGATG
CACACGCACAAAGTCGAGCGCGTTTTGGTTCTGAACGAAAAAGACGAACTCAAAGGTCTG
ATTACCGTCAAAGATATTTTAAAAACCACCGAGTTTCCCAATGCCAACAAAGACTCCGAA
GGCCGTCTGCGCGTCGGTGCGGCAGTCGGCACCGGCGGCGACACCGAAGAGCGCGTCAAA
GCCTTGGTTGAGGCCGGCGTGGACGTGATTGTCGTCGATACCGCCCACGGGCACAGCCAA
GGCGTGATCGACCGCGTGCGTTGGGTCAAAGAAACCTATCCGCACATCCAAGTCATCGGC
GGCAACATCGCCACTGCCAAAGCCGCTTTGGATTTGGTCGCCGCCGGCGCGGATGCCGTC
AAAGTCGGTATCGGTCCGGGATCGATTTGCACCACCCGTATCGTGGCAGGTGTCGGCGTG
CCGCAACTGACCGCCATTCACAACGTTGCCGAAGCCCTCAAAGGCACGGGCGTTCCGCTG
ATTGCCGATGGCGGCATCCGCTTCTCCGGCGACATCGCCAAAGCCCTCGCCGCAGGCGCG
TACAGCGTCATGCTCGGCGGTATGTTTGCAGGCACGGAAGAAGCGCCGGGCGAAATCGAA
CTCTACCAAGGCCGCTCATACAAATCCTATCGCGGTATGGGTTCCTTGGGCGCGATGAGC
CAAGGTTCTGCCGACCGCTACTTCCAAGACAAAACCGACAGCACCGACAAATACGTCCCC
GAAGGCATCGAAGGCCGCGTTCCTTACAAAGGCCCGATTGTGAACATCATCCACCAACTG
ACCGGCGGACTGCGCTCCAGCATGGGGTATTTGGGTTGCGCCAATATTGCCGAAATGCAC
GAAAAAGCAGAATTTGTGGAAATCACTTCCGCAGGTATGAGCGAATCGCACGTTCACGAC
GTTCAAATTACCAAAGAAGCACCGAACTACCATCGCTGATTTGAACAGCCTTTTCAAGGA
AAAATGCCGTCTGAAACCTGATTTTCGGGTTTCAGACGGCATTTTTTGTCCGTTCAAGGC
AAGCCGCACGGGCTGATTGCGCGGACGGGCAAAGCAATTCGGACGGACACGCCGAAAGAA
TGAAAATGCCGTCTGAACGCCGTTTGCGCCCCGTCTGCCGAATACCGCCGGCCTTTAAAA
CGGCGGTGGAAATAAACGCAATCTTTCAATACGGGCGTTTCAATTTGCTGGAAATAACGC
TCCGTCCGCCCACATCAAAAAATCGGGTGGAGGCTTCGGGAAAATATGCCCCGCCTCCTC
AAGCCACCCCGTCAGCATTATGATTTGCCTTTCCGTTTTTTTACCTTAATCGGAACCGGT
TTCTTTGCCTTTTTCCTCGATTCTGCGGCGGCAGACGCGCCCCTTCCCCTTACTTTGCCG
CCTCGGGCTGTTTTTTTCTCGGCGGCGGTTTTCGGCTTCCCTTTCCCGCCGTCCCTGCC
GGTTTGGCAGACGCGGATGATTTAACTTTCCGCCCCCTGCCGCTCCCCCGGCAATCAGG
ACAAAATCGATTTTTCCGTCATCCAAATCGGCACGGGCGACCCGGACGGCAACCCTGTCC
CCCATGTTGAAACGGATGCCGCTGCGTTCGCCTTCGATTGCCATGCTCGGGGCGGAAG
TTGAAATAGTCTTCGCCCAAATCGCTGATATGCACCAAGCCGTCAATGTGGATGCCGTCC
AGTGTTACAAAGATACCAAAACTGGTCATGCCGGAGATTTTACCTTCGAATACTTCGCCG
ACCTTATCGCGCATATAATAGGTTTTCAGCCAGTTTTCCACGTCGCGGCTGGCGTCGTCG
GCACGGCGCTCACAGAACGAGGTATGCACGCCCAAAGCCTGCCAGCTTTTTTTTGGCGTG
TAGGTTTGCTGATTCAACACGGCTTTGATGGCGCGGTGTACGGTCAGGTCGGGATAGCGG
CGGATGGGCGAGGTGAAGTGGGCGTATGCTTCGTAGGCAAGACCAAAGTGTCCGTCGCAA
TGCGGTTCGTAAACCGCCTGCTGCATGGAGCGCAACATCATGACTTGCAGCAATTCGGCA
TCAGGTCTGCCTTTGAATTGTTCGACAAGCGCGGCATAGTCTTTCGGCGACGGGTTGTCG
CCGCCGCCAAGTTGAAGCCCCAACAGACCGAGCTGCTCGCGCAGGGTGGCGAGTTTTTCG
```

```
      GGCGTGGGGCCCAAATGGTTGCGGAACAAAGCCGTATGCTTGTTTTTCAACAGGAAATCC
      GCTGCGCAAACATTCGCCGCCAGCATACATTCTTCAATCAGCTTGTGGGCATCGTTGCGG
      ACAACGGGGACGATTTTTTCGATTTTGCCGTTGTCATCGAAAATCATCTGGGTTTCGACG
      CTTTCAAACTCCACCGCGCCGCGTTCGAAACGCTTTTTCTGAAGGATTTTGAAGAGTTTG
  5   TAAAGGGTGTCGATTTGGGCTTTGTACGGATGGTCGATGCCGTCTGAAATCCATTTCCAA
      ACTTGGTTGTAGGTCAGGCGGGCATGAGAGCGCATTACGGCGGGGGTAGAAGCGGTATTCT
      TTGATATTGCCCGCATAGGTAACGACCATATCGCACACCATACACAAACGCTCGACATCG
      GGATTGAGCGAGCAAATGCCGTTAGACAGGTTTTCCGGCAGCATCGGAATCACACGGCGC
      GGGAAATATACGCTGGTACTGCGTTCTTGAGCATCTGCATCAATCACATCGTCAGGGCGG
 10   ACATAATGGCTGACATCCGCAATCGCCACGACCAGACGGTAATTGCGTCCGACTTTTTCG
      GCAAACACCGCGTCGTCGAAATCGCGCGCCGTTTCGCCGTCTATCGTTACCAAAGGCAGG
      TCGCGCAAATCGACGCGGCCTTTCAAATCGCTTTTGCGTACATGGACGGGAATTTTTTTC
      GCAGCTTTGGCACACGCTTCACTGAATTGGTGCGGCAAATGATGCTTGCGCACGGCAATT
      TCAATCTCCATGCCGCTGTCGGCATAATCGCCCAAAACTTCGATGATTTTTGCCACTGCC
 15   GGCCGGTTTTGCTCAGGATAAACCTCAATTTCGCCGACGATGACCTGACCGGATTCAGGT
      TTGAAACGCGCCACGCCGTCCGGTTCCAATACGATGCTTTGGTTCAGACGCTTGTCTTCC
      GGCTCCAAAATCGCCACGCCCCTATCCATATAGAAACGGCCGACCACTTTGCTTTGCGCG
      CGTTCGACAATATCCAGAACTGTCCCTTCGCGGCGGCCCnTACGGTCCATGCCGGCAGGA
      CGAACAGTGACAATATCGCCGTGCATAATGCCGCGCATCTGGCGTTCATACAAAACAAAA
 20   TCACCGTCTTTGGCGGGCGTGAGCGGCACGGCAAAACCGAAACCGTCCTTATGCGCCTCG
      ACGCGGCATTTGACCAAATCCAATTTGTCCGCCGCGCAAACCGCGCCCCGACGGTTGATT
      AAAACCTGACCGTCCCGCGCCATCGCCTTCAGACGGCGTTCAAAAAAGACATACTCGTCT
      TCCGTAATCGACAGCTCGCGCGCAAGCGATTCGATTTTTGAAGGCACACCTTTGCGCTCC
      AACAATTCGATTATCCATTCCCGACTGGGCAAAGGATGTTCATAACGCTGTTTTTCACGA
 25   CTTAAAAACGGGTCTTTTTCCCGTAAATTTAAAGATTTAATATTTTTATTCATTTGGACT
      GTTGACATTCTCTTTATGAACTATATAATAGCGACTTCTTTGCGGCAGGACACTGTACCG
      CAAAACAGCAAATAAAGCAAAGCCCGGGTGGCGGAATTGGTAGACGCGCTAGCTTCAGGT
      GCTAGTATCCTCACGGGTGTGGAAGTTCGAGTCTTCTCCCGGGCACCAAATCAAATGCTT
      TGCTTTATTTCAATATTTAGATTGCCCGGGTGGCGGAATTGGTAGACGCGCCAGCTTCAG
 30   GTGCTGGTATCCTCATGGGTGTGGAAGTTCGAGTCTTCTCCCGGGCACCAAATAATAAAT
      TATCCCGATTGGGATAATTTCCGCCATTAGAGAGGTGGATGAGTGGTTTAAGTCGCACGC
      CTGGAAAGCGTGTATACGTGAATAGCGTATCGAGGGTTCGAATCCCTTCCTCTCTGCCAA
      ATACAAATCCCAAACTTTTACGGTTTGGGATTTTTTATTATTCAAACAATAATTTCATTG
      GGAAAACCCGTTATTGTCTATAATCGTCATCAACCGCTTACAACTATCCGTTACCGTTTT
 35   TTGTGGTATGTTTTGCGGTATGTATTACCCTCTTCCTCAACCTGTAAGGACTCAAAAGGC
      GTATTCCTTCAAACGGCATTGTTCGACATGCTGCCGGGAAGCCGAACCCGATACCGAAAC
      GCGACGGGGCGATATACCGCTGGAAAAATGGCGGCAGTTTCTTGATTGGGTAGGAAAAAC
      GCCGTCTGAAACAGCTTCAAGAAGCCGCAAAGCCCGTCCGAATAAAAAATGCCGTCTGAA
      ATTTTTCAGACGGCATCGCGTATCATTTAAACATTAATCCAGTAAACATCAATCCAGCTT
 40   TTTAAAGTGGCGGCGGCGTTCCAATTCGCTCAAGTAACGCTTGCGCAGACGGATGGATTG
      CGGCGTGATTTCAACGAGTTCGTCATCGTCGATAAACTCAACCGCACCTTCCAGCGTCAG
      CTTGATTGGCGTGGTCAGGCGAACGGCTTCGTCGGTACCGCTGGCACGGATGTTGGTAAG
      TTTTTTGCCTTTGAGCGGGTTGACCACCAAATCGTTGTCGCGACTGTGGATGCCGATAAT
      CATGCCTTCGTAGATTTTGTCGTTGGGCGATACGAACATACGGCCGCGGTCTTCCAGATT
 45   CCACAAGGCGTAAGCGACTGCCTCGCCCTGCTCTTGGGACACCAGCACGCCGTTGTGGCG
      GCCGGGCATATCGGGTTTGACGGGCGCGTAATCGTCGAACACGTGGCTCATCAGCCCGAC
      CCCGCGCGTCAGGGTCATAAATTCGCCTTGGAAACCGATCAAGCCGCGCGCTGGAATATG
      GTATTCGAGGCGGGTGCGTCCGTTGCCGTCGCTTTCCATATTAGTCAGTTCGCCACGGCG
      GCGGCCGAGTTCTTCCATTACCGCGCCTTGGTTGTCGTCGGGTACATCCACGGTCAGGTT
 50   TTCATACGGTTCGCATTTTTGACCGTCGATGTCGCGGTACACGACGCGCGGTTTGCCGAC
      GGCGAGTTCGTAGCCTTCGCGGCGCATGTTTTCCAGCAAAATGGTCAGGTGCAGCTCGCC
      GCGCCCGGATACGCGGAACACGTCGGCATCGGCGGTATCTTCCACGCGCAGGGCGACGTT
      GGTCAGCAATTCTTTTTGCAGGCGGTCGCGGATTTGGCGGCTGGTTACGAATTTGCCTTC
      CGTACCCGCCAGCGGGCTGGTGTTGACCATAAAGTCCATCGTCAGCGTCGGTTCGTCCAC
 55   GCTCAACATCGGTAGGCCTTTGGGATTGTCTTTGTCGGTGATGGTTACGCCGATACCGAT
      GTCTTCGATACCGGAAATAATCACGATGTCGCCGGCTTCGGCTTCTTCAAGCGGCACGCG
      TTCCAAACCTTTGAAACCCAAAAGCTGGTTGATGCGGCCTTGGGCGATTTGCTGATCGTG
```

```
GTTCATGACGGCAACGGTTTGGCCGGGTTTGATGCGTCCGTTCAAGATACGACCGATACC
GAGGCGGCCGGTGTAGTTGTCGTAGTCGAGTTGGGAAATTTGCAGTTGCAGCGTTTCGTC
CGCGCTGCCGCTCGGTGCAGGCGTATATTTTAAGATAGTATCGAACAGCGGACGCATGTC
GTTGCTCTCGTCGGTTTCTTCCAATTTGGCGAAACCGCTCAACCCTGAAGCGTAAACAAT
CGGGAAATCCAACTGCTCGTCGGTCGGTCGCGCCCAAGTTGTCGAACAGCTCGAAAGTTTGGTC
GATAACCCAGCTCGGACGAGCGGACGGCTTGTCGATTTTGTTGATGACGACAATCGGTTT
CAGCCCCAAAGCCAAGGCTTTTTTGGTCACGAAACGGGTTTGCGGCATCGGGCCTTCCTG
CGCGTCCACCAACAAGACGACGCAGTCCACCATCCCCAAAACGCGCTCTACTTCGCCGCC
GAAGTCGGCGTGTCCCGGCGTGTCGACGATATTGATGTGGTAGCCTTCGTAATCGATGGC
GGTGTTTTGGCGAGGATGGTGATGCCGCGTTCTTTTTCAAGGTCGTTGCTGTCCATCAC
GCGCTCGTCAACCTGCTGGTTGGCGCGGAATGTGCCGGATTGGCGCAGCAGTTGGTCGAC
CAATGTGGTTTTGCCGTGGTCGACGTGGGCGATGATGGCGATGTTGCGGATTTGTTTCAT
AATTAATGTTTTTCAAAAACTGTAAGAGATAACTACGCATTATACCACGCTTTACCGGAC
AGTATTTGGGAAATGAAGATGCCGTCTGAAGCCCTTGCCTTTCAGACGGTATAGTGGATT
AACAAAAATCAGGACAAGGCGACGAAGCCGCAGCAGTACAAATAGTACGGAACCGATTC
ACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGATGT
ACTGGTTTTTGTTAATCCACTATATCTTCTTACATACTTTTAGTTATCCGGTTGCGCAGC
CACCTTGCCGCCGGAGCGATTTCCCCTGCCAACAGCCCTGCCGCAATGCCTGCCGATTCT
TTTATGACATCCGCCGCCGCGCCGTGCAGCCACGCGCCCGCGCAGGCGGCTTCAAAAACC
GGCACGCCCTGTGCGAGCAGACTGCCGATGATGCCGCCCAATACGTCGCCACTGCCCGCC
GTTGCCAATCCCGCGTTGCCGCTTTCGTTGACATAGATTTCCGTATCGGGTGAGGCAACC
AATGTTTTGTGCCCCTTTAAAACCACGGTTGCGCCGAAAATTGCCCCTATCTTCCTCACT
GCCGCCGTCCGATCCGCCTGAACCTGCGCAACCGTCGTTCCAAGCAGGCGCGCGGCTTCG
GCGGGGTGTGGCGTTAAAATCAGGTTTTTACACCCGCGCGCCAGATTTCGGGTTTCGGCA
TCGGTTGATAATATGTTCAGCGCATCCGCATCCAAAACGACGGGCTTGTCCGTGTGTTCC
GTCAAAATTCCGGCAAGCGTTCCGACCGCCGCCCTACCTGTACCCAATCCACAACCGACA
ACCCAGGCGTTTATATCTTGACGTTTGGCCAAACTGTCCGCCGTATCCAGCATAATCTCG
GGAAAACCGGCAATAACGGCAAAAGGTAGCGTATCCTGATTGAAACCCGCCCACACTTTG
CCGCAGCCGAGATACATTGCCGCCGATGCCGCCAATACGGGCGCGCCGCTCATCCCTGCC
GATCCGCCGACTACGGCGAGCGTGCCGAAAGTCCCTTTGTGCGAATCTTCCGCACGGGCT
TTGAAAACATGGGGAAAACGCAATGCCGTCTGAAGCATCTGGCGGCGGCTCTCGCCTGAA
AGATGAAAAACGGGAAACATTGCCCCTCCAATCGGTTAAAATAAGGCTCGAAAACAAACC
GATTCTACCGCCGGAAACCGATTATGAAAAACAAAACCAAGTCTGGGACCTCCCCACCC
GCCTTTTCCACTGGCTGCTTGCCGCGTCCCTGCCCTTTATGTGGTATAGCGCGAAAGCCG
GCGGCGATATGCTGCAATGGCACACGCGCGTCGGGCTGTTCGTCCTTTTCCTGCTCGTAT
TTCGCCTCTGCTGGGGCATTTGGGGCAGCGATACCGCCCGTTTTTCCCGTTTCGTCCAAG
GCTGGGCAGGCATACGCGGCTATCTGAAAAACGGTATTCCCGAACACATCCAGCCCGGAC
ACAACCCCTTGGGCGCACTGATGGTCGTTGCGCTTTTGGCCGCCGTGTCCTTCCAAGTCG
GCACCGGGCTTTTTGCCGCCGATGAAAACACCTTCAGCACCAACGGCTACCTCAACCATT
TGGTTTCCGAACATACGGGCAGCCTTATGCGGAAAATCCACCTCAACTTTTTCAAGCTGC
TCGCCGTTTTTTCTGCAATCCACATCGCCGCCGTCGCCGCATACCGCGTATTCAAAAAGA
AAAACCTCATCCTCCCGATGATAACCGGCTTCAAATACATCGAAGGCAAAACCTCAATCC
GCTTTGCAGGCAAAGCCGCGCTTGCCGCCGCATTATCGGTTGCCTCGCTTGCCGCAGCCG
CCATCCTGCTCCTGTCCTGAAACCCGACATCAATGCCGTCTGAAGCCCTTTTCGCCCTTC
GGACGGCATCCCCTCACCACGCAAACGGTCTGAATGCCCGAAACGGCTTCAGGCCGTTTT
TCTTCCGAAACCGTTATAAAACGGAAAACCGCCGCATCCGCAGCCGCCCCCATATAGCTT
TCAGCTTCTAACAAATACCTTTTTATTATTTAACCGGGGAAAATCCTTTTGTCTAAAATG
ACCCGCATTCCGACAAAAATGCCGCGACGCACCGTATCGGAAACAAGGTGCGGGCAAACA
GCAAAGGAGTCAGCCAGTGAATTATTTCCCTATTTTCGCCAACCTCGCCGGCCGCCCCGT
ATTGGTCGTAGGCGGCGGCGCGGTCGCCGCACGCAAATCAGCCTGCTGCTGAAGGCGGG
CGCAGAGGTCAGGGTTGCCGCAAAACACCTGAATGCCGAACTCTCCGCGTTGGCGGCGGA
AAACAAAATCCTGTGGCTTGCCGAAGAATTTCGTGCCGAACACATCCGCACGGTTTTCCT
CATCATTGCGGCAAGCAGCGACCAAGCCCTCAACCGGCGCGTTTTCCATCTTGCCGAAAG
CTGCCAAAAGCCGGTCAACGTGGTGGACGACCGCGACCATTGCAGCTTCATCTTCCCGTC
GGTTATCGACCGCAACCCGGTTCAGATTGCCGTTTCCAGCTCCGGCAGCGCGCCCGTCCT
CGCCCGACTGCTGCGTGAAAGGCTGGAAGCCCTGCTGCCGCCGTCTTTGGGCGATATGGC
GGAAATTTCAGGAAGGTGGCGCGATGCCGTCAAGGGCAAACTGAAATCCGTTACCGAACG
```

```
CCGCCGCTTTTGGGAAAAGCAGTTTAACGGACGTTTCGCCGCCCTCGTCAAAAACCGGCA
AAACACCCTTGCCGAACGGGAATTGGCAGGCCAATTGGAACAAAGTCGTCAAAATGATCA
AGGCGGCTCCGTCTCGCTGGTCGGCGCGGGTCCCGGCGATGCGGGGCTGCTGACGCTCAA
AGGGCTGCAGGAAATCCAGCAGGCAGACGTGGTGCTTTACGACGCGCTGGTTTCAGACGG
```
5
```
CATACTGTCCCTCGTCCGCCGCGATGCGGAACGGATTTTTGTCGGCAAGCGCGCCCGGGG
CGAGCGCACCCCGCAAGAGGACACCAATGCGCTTATGGTCAGGCTGGCCCGCGAAGGCAG
GCGCGTGGTGCGTTTGAAAGGCGGAGACCCTTTCGTGTTCGGACGCGGCGGCGAAGAATT
GGAAACCTTGGCACGCCATCAGATTCCGTTTTCGGTCGTCCCCGGCATTACCGCCGCCGT
CGGCGCGACCGCCTATGCCGGCATCCCGCTCACGCACCGCGATTATGCCCAAAGTGCGGT
```
10
```
TTTCGTAACCGGCCACCGCAAGGCGGATGCGCCCGACATCGAATGGCAGACCCTCGCCCG
CAGCCGCCAGACCTTGGTGATTTATATGGGTGCGCTCAAAGCCGCCCTGATTGCCGAACG
GCTGCAACAGCACGGACGCTCGCCCGACACGCCGGCAGCCGTTATCAGCCAAGGCACGCT
GCCGGCTCAAAAAACCGCAACCGGCACGCTCGCCAACCTTGCCGAACTCGCCGAAACCGC
GCCGAATCCGGCATTGATTGTCATAGGCGAAGTGGTGGGGCTGCACGAAAAACTCGCCTG
```
15
```
GTTCGGTGAAAACGGCGAAGGAGAAAACCGGGTCGGGCAGACGTATCCCGCATTGGGCGG
ACTGAATGCCGGACAACGGGCGGCATAAGGCGGGAAAAATGGAAACGACACTGTTCAAAC
CCGCCCTGTGGCAGATACCGCATATCGGATCCGGCGGCGAAACCGCCCTTGCGGAAAAAA
CGGAAACCCTCAAACAACGCCTGCACCGGATTGTCGGCAGCCACCGGGATGCACGGTTTG
CCAGCAGCCTTGCGGCAGAAGATATGGTGATTACCGACCTTATCGCCGGCGAAAACCTCA
```
20
```
ATATCGGCATTTTTACCTTGGATACGGGGCTGCTCCACACGGAAACCCTGAACCTGCTGG
ACAGGCTCGGACGCGCATATCCCCATTTGCGGATAAAGCGTTTCCGGCCGGTTCGAGAAG
ATGCCGACCGTTATGTGGAAAGCAAAGGCAGGTTTGCCTTTTACGACAGCGTTGAAGCGC
GCCGCGAATGCTGCCGCATCCGAAAAACCGAACCGCTCAACCGCGCCATTGCAGGCGCGG
ACGCCTGGCTTACCGGGCAACGCCGCGAACAATCCGCCACACGCACGGAACTGCCGTTTG
```
25
```
CCGAATACGATGCCGGACGGGGCATCGGCAAATACAACCCGATTTTCGACTGGTCGGAAC
ACGACGTGTGGGCATACATCCTCGCCAACAATGTGCCTTACAACGATTTGTACCGGCAAG
GATTTCCCAGCATAGGCTGCGACCCCTGCACCCGCCCCGTCAAGGCGGGCGAAGACATCC
GCGCCGGGCGGTGGTGGTGGAAGGCAGAAACAGCAAAGAATGCGGGCTGCACAAATAAT
TCATAAATATCAGACAGAAGAAATAAGGAATATGGTATGACGAAAACCGAACCGACAAC
```
30
```
GCCCAACTCGACTGGTTGGAATCCGAATCCATCCACATCATCCGCGAAGTGGCGGCAGAA
TGCGAAAACCCCGCCCTGCTCTTTTCCGGCGGCAAAGATTCCGTGGTCCTGCTCGCCCTC
GCCTGCAAAGCCTTCCGGCTGGGCAGCCGGCCGGTGAAACTGCCCTTCCCGCTGGTGCAT
ATCGACACGGGACACAACTACCCCGAAGTGATTGCCTTCCGCGACGCGCAGGCGGCAAAA
CTCAATGCCCGCCTGATAGTGGGGCGCGTGGAAGACTCCATTGCCAAAGGCACGGTGGTC
```
35
```
TTACGCAAAGAAACCGATTCGCGCAATGCGGCACAGGCGGTTACCTTGTTGGAAACCATC
GAGGCAAACGGCTTCGACGCGCTTATGGGCGGCGCGCGGCGCGACGAAGAAAAAGCCCGC
GCCAAAGAACGGATTTTCTCGTTCCGCGACGAGTTCGGACAATGGGATCCGAAGGCGCAA
CGCCCCGAGCTGTGGTCGCTGTACAACACCAGGCTGCACAAAGGCGAAAATATGCGCGTC
TTCCCGATTTCCAACTGGACGGAACTCGACATCTGGCAATACATCGCCCGCGAAAACCTC
```
40
```
GAGCTGCCGCCGATTTATTACAGCCACAGGCGCGAAGTGGTCAGACGCAGGGGGCTGCTG
GTCCCTGTAACGCCGCTCACCCCGAAAATGCCGTCTGAAACCTCCGAAATCCTTGATGTC
CGCTTCCGCACCGTCGGCGACATCAGCTGCACCTGCCCGGTAGAAAGCACCGCGTCCACG
CCGACGGAGATTATCAGAGAAACAGCGGTTGCCGACATTTCCGAACGCAGCGCGACCCGG
CTGGACGATCAGGCAAGCGAGGCGGCAATGGAAAACGCAAAAAAGAAGGCTATTTCTAA
```
45
```
ATTTCAAAAACCCTTTAAGCAGATATGAGGAAGAAAATATGACGGCACAACACCAAACCC
CGCTCCGCTTCATTACCGCCGGCAGCGTCGATGACGGCAAAAGCACCCTGATCGGACGAC
TGCTCTACGACAGCAAAGCCCTGCTGTCCGACCAAATCAAAACCTTGGAATCCGGCAAAA
GCAAAGGTTTGAAAGAAGCCATAGACTTCTCCATCCTGACCGACGGACTGGAAGCCGAAC
GCGAACAGGGCATTACGATCGATGTGGCATACCGCTATTTTTCCACGGCGAAACGGAAAT
```
50
```
TCATCATCGCCGACACGCCGGGGCACGAACAATACACGCGCAATATGGTTACGGGCGCAA
GCACCGCTTCGGCGGCAGTCGTGCTGGTTGACGCATCCCAACTGGATTTCGGCGCGCAGC
CCTTGCAGCTTCTGCCGCAGACCAAACGCCATTCCGCCATCCTCCGCCAACTCAACTGCC
CGCATATTGTGGTGGCGGTCAACAAAATGGACCTGCTGGATTACAGCGAAGACAAATTCA
ACGCCATTGTGGAGGCATACCGCCGACTTGCCGAACAGCTCGGTTTGAAAGACGCGCATT
```
55
```
TCGTACCGATGTCCGCACTCTTGGGCGACAACATTGTTTACCCCGGCGGCAATATGCCTT
GGTATAAAGGCGAACCCTTATTGTCCATTTTGGAAACCCTGCCGGGGGCGGACGAAGTCA
GCCGCACCGCCGACGATTTTTATTTCCCCGTGCAACTGGTCGTCCGCCAAGATGCCGACA
```

```
AGGCCGATGATTTCCGAGGCTATCAGGGGCGCATCGAACGCGGTTCGGTCGCCGTCGGGC
AAACCGTCCGCATCGAACCGAACGGGCTGACCGCCGAAGTGTCCGAAATCATCACGCCGA
AAGGGGAAGTGGCGCAGGCTTTTGCCGGCGAGGCGGCAACCCTCCGGCTGGACCGCGACA
TCGATGTTTCGCGCGGCGACCTTTTTGTCGATAAAAATTCCCCGCTCGCCCCGCAAAAAC
ATCTGGAAGCCACGCTTTGCTGGTTTGACGAACGTCCGCTCAACACCGCGCGCAAATACC
TGCTCAAGCACGGCACGCAAACCGTGCCGGCAAAAGTCGGGGAAATTGAAAGCGTTTTGG
ATGTCCGCACGCTGGAACAAGAGGCCGGCGCGGAATCCTTGAAGATGAACGACATCGCCA
AAGTCCGCATCAACCTTCAAAAACCCGTTACGGCAACGCCTTATGCGGAAAACACCGCCG
CCGGTTCGTTTATCCTGATAGACGAAGCGACATACGGCACTGTTGCGGCAGGTATGATTT
TATGAGTGAACACGATATGCAGAACACAAATCCGCCATTACCGCCTCTGCCGCCCGAAAT
CACGCAGCTCCTGTCGGGGCTGGACGCGGCACAATGGGCGTGGCTGTCCGGCTACGCTTG
GGCAAAAGCAGGAAACGGGGCATCTGCAGGACTGCCCGCGCTTCAGACGGCATTGCCGGC
GGCAGAACCTTTTTCCGTAACCGTCCTTTCCGCCTCGCAAACCGGCAATGCGAAATCCGT
TGCCGACAAAGCGGCGGACAGCCTGGAAGCCGCCGGCATCCAAGTCAGTCGCGCCGAACT
GAAAGACTATAAGGCGAAAAACATCGCCGGCGAACGCCGCCTGCTGCTGGTTACCTCCAC
CCAAGGCGAAGGCGAACCGCCGAAAGAAGCCGTCGTGCTGCACAAACTGCTGAACGGCAA
AAAAGCCCCGAAATTGGACAAACTCCAATTTGCCGTACTGGGTTTGGGCGACAGTTCCTA
TCCGAATTTCTGTCAGGCAGGTAAAGATTTCGACCGGCGTTTTGAAGAATTGGGCGCAAA
ACGGCTGCTCGAACGCGTTGATGCGGATTTGGACTTTACCGCCTCCGCAAACGCCTGGAC
AGATAATATCGCCGCACTCTTAAAAGAAGAAGCCGCAAAAAACCGGGCAACGCCCGCGCC
GCAGACAACGCCCCCCGCCGGCCTTCAGACGGCACCGGATGGCAGGTACTGCAAGGCAGC
CCCCTTTCCCGCCGCCCTGCTGGCCAATCAGAAAATCACCGCCCGCCAATCCGATAAAGA
CGTGCGCCACATCGAAATCGATTTGAGCGGTTCGGATTTGCACTACCTCCCGGGCGACGC
GCTCGGCGTTTGGTTTGACAACGATCCGGCACTGGTCAGGGAAATCCTAGACCTGCTCGG
CATCGATCCGGCAACGGAAATACAGGCGGGCGGAAAGATGATGCCGGTTGCGCGCGCACT
TTCATCTCATTTCGAACTCACGCAAAACACTCCGGCTTTCGTCAAAGGCTATGCCGCGTT
CGCCCATTATGAAGAACTCGATAAAATCATTGCCGATAACGCCGTTTTGCAGGATTTCGT
GCAAAACACGCCTATTGTCGATGTGCTGCACCGCTTCCCGGCAAGCCTGACGGCAGAACA
ATTCATCCGTTTACTGCGTCCGCTTGCACCCCGTTTGTATTCGATTTCTTCAGCACAGGC
GGAAGTGGGCGATGAAGTGCATTTAACTGTCGGCGTGGTTCGTTTTGAACACGAAGGCCG
CGCCAGAACGGGCGGCGCATCGGGTTTCCTTGCCGACCGGCTGGAAGAGGACGGCACGGT
GCGCGTGTTTGTGGAACGCAACGACGGCTTCAGGCTGCCCGAAGACAGCCGCAAGCCGAT
TGTGATGATCGGCTCGGGCACCGGCGTCGCACCGTTCCGCGCTTTCGTCCAACAACGTGC
CGCAGAAAATGCGGAAGGCAAAAACTGGCTGATTTTCGGCAATCCGCATTTTGCCCGTGA
TTTTCTCTATCAAACCGAATGGCAGCAGTTTGCCAAAGACGGCTTCCTGCACAGGTACGA
TTTCGCCTGGTCCCGCGATCAGGAAGAAAAAAATCTATGTGCAGGACAAAATCCGCGAACA
GGCGGAAGGACTTTGGCAATGGCTGCAGGAAGGCGCGCATATCTATGTGTGCGGCGATGC
GGCAAAAAATGGCAAAGACGTGGAAGCCGCCTTGCTGGATGTGATTATCGGGGCAGGACA
TTTGGACGAAGAGGGCGCAGAAGAATATTTGGATATGCTGCGCGAAGAAAAACGCTATCA
GCGTGATGTTTATTGATTAAATATAATCGGGAGGAACACAAAATGACCGTACAGACCAAG
ACAAAAGGTTTGGCGTGGCAAGAAAAACCGCTATCCGACAACGAACGTCTGAAAACCGAA
AGCAATTTTTTACGCGGCACGATTTTGGACGATTTGAAAGACCCGCTCACGGGCGGCTTC
AAAGGCGACAACTTCCAACTCATCCGCTTCCACGGTATGTATGAGCAGGACGACCGCGAC
ATCCGCGCCGAACGCGCCGAGGCAAAACTCGAGCCCTTGAAATTTATGCTTTTGCGCTGC
CGGCTGCCGGGCGGGATCATCAAACCGTCCCAATGGATAGAACTGGACAAATTTGCCCGG
GAAAACAGTCATTACCGCTCCATCCGGCTGACCAACCGGCAAACCTTCCAATTTCACGGC
GTGCCGAAAGCCAAGTTGCAGACGATGCACCGCCTCTTGCACAAACTGGGTTTGGATTCC
ATCGCCACGGCGGCGGATATGAACCGCAACGTGCTTTGCACGTCCAACCCGATCGAGTCC
GAACTGCACCGGCAGGCTTACGAATACGCGAAAAAGATTTCCGAACACCTGCTGCCGCGC
ACGCGCGGTTATCTGGATGTGTGGGTGGACGGCAAAAAAGTTCAAAGTTCCGACGACTTC
CTTCAAGAAGACGAGCCGATTTTGGGCAAAACCTATCTGCCGCGAAAATTCAAAACCGCA
GTCGTCATCCCGCCCTTGAACGATGTGGACTGCTACGGCAACGATTTGGATTTCGTCGCC
GTTTCAGACGGTAACGGACAGCTTGCCGGCTTCAATGTTTTGGCAGGCGGCGGGCTTTCG
ATGGAACACGGCAACACCAAAACCTATCCGAACATTTCACTGGAACTGGGTTTCGTGCCT
CCCGGAACACGCGCTGAAGGCCGCCGAAGCGGTGGTAACCACGCAGCGCGACTTCGGCAAC
CGCAGCGACCGCAAAAACGCCCGCACCCGCTACACCATTCAAAATATGGGCTTGGACAAC
TTCCGCGCGGAAGTTGAACGCCGTATGGGTATGCCGTTCGAACCCGTACGCCCGTTCAAA
```

```
TTTACCGGGCGCGGCGACCGCATCGGCTGGGTGAAAGGCATAGACGGCAACTGGCATTTA
ACCCTTTTCATCGAAAGCGGGCGTTTGGTTGACGAAGGCGGGAAACAGCTTCTGACCGGC
GTGTTGGAAATCGCCAAAATCCACAAAGGCGATTTCCGCATCACCGCCAACCAAAACCTC
ATCGTGGCAAATGTCGCCGAAGCAGACAAAGCAAAAATCGAAGAATTTGCCCGAACATAC
GGATTAATCCGCAACGATGTCAGCAAGCTGCGTGAAAATGCGATGTCCTGCGTTTCCTTT
CCGACCTGCCCGCTGGCAATGGCGGAAGCCGAACGCGTGCTGCCGGACTTCATCGGCGAG
CTGGATAAGATTATGGCGAAACACGGCACGTCGGACGACTACATCGTTACCCGCATTACC
GGCTGCCCGAACGGCTGCGGACGGGCGATGTTGGCGGAAATCGGACTGGTCGGCAAAGCC
GTCGGACGCTACAACCTCCATATCGGCGGCGACCGTGAAGGCGTACGCATCCCCCGTCTT
TACAAAGAAAACATCACCCTGCCCGAAATCCTTGCCGAATTGGACGACCTGATCGGCAAA
TGGGCGGCAGAACGCAATATCGGCGAAGGTTTCGGCGATTTCGCCATACGGACGGGCATC
GTCAAACCCGTATTAAATGCACCCGTTGATTTTTGGGACGCATCCAAAGCCGTCGCGATT
GCCCGCGCCTGAACCCGTCCCCGCATTCCTGCGGGGATTTTCTTTTTTGCCGCACGCCGT
TTCAATCCCGCAAAATTCCGATACTTGGTATAAAATACCCTCTTTTCCCACTCTAAAAAA
CCGTACCCGATACCGTCTGAAACAGCCCTGTCTTTCAGACGGTATAGGCACAAGGAAACA
CACTATGCCTGAATACCGCTCCAAAACCTCCACCCACGGCCGCAATATGGCGGGCGCACG
TGCATTGTGGCGCGCCACCGGCGTGATGGAAACCGACTTCGGCAAGCCCATCATCGCCGT
TGCCAACTCCTTCACCCAATTCGTGCCCGGCCATGTCCACCTGCACAATATGGGCCAGCT
GGTTGCCCGCGAAATCGAAAAAGCCGGCGCAATCGCCAAAGAATTCAACACCATCGCCAT
CGACGACGGCATCGCTATGGGACACAGCGGCATGCTGTACTCCCTGCCCAGCCGCGATTT
GATTGCCGACTCTATCGAATATATGGTCAACGCCCACTGCGCCGACGCGCTGGTGTGCAT
TTCCAACTGCGACAAAATCACCCCGGGCATGCTGATTGCCGCGATGCGCCTGAACATCCC
CACCATCTTCGTCTCCGGCGGCCCGATGGAAGCGGGCAAGGTTATCGGCGTGGCAAACAT
CCAGCCCGAACGCCGTTTGGACTTGATTGACGCGATGATTGAATCGGCGGACGACAATGT
CAGCAACCGGCAAGTCGAGGAAGTCGAACAAAACGCCTGCCCGACCTGCGGCTCGTGTTC
GGGTATGTTTACGGCAAACTCGATGAACTGCCTGACCGAAGCACTCGGCCTTTCCCTGCC
CGGCAACGGTTCGTATTTGGCGACCCACGCCGGCCGCAAAGAATTGTTCCTCGAAGCCGG
CCGTATGATTGTCGAAATCACCAAACGCTATTACGAGCAAAACGATGAAACCGTGTTACC
GCGCAGCATTGCCACCAAAAAAGCGTTTGAAAACGCTATGACGATGGATATTGCGATGGG
CGGCAGCACCAATACCATTTTGCACCTGTTGGCCGTTGCCAACGAAGCCGGTGTCGATTT
CAAAATGGCAGACATCGACCGCTTAAGCCGCGTCGTGCCCTGCATCTGCAAAACCGCACC
CAACAACCACGACTACTATATGGAAGACGTGCATCGCGCCGGCGGTATCTTCGCCATCCT
GAAAGAACTGGACAAAGCGGGCAAACTGCACACCGACGTGCACACCATCCACGCGCCGAC
GCTGAAAGACGCGATTGAACAATGGGACGTGACCAATCCCGAAAACACCCGTGCCATCGA
ACGCTTCAAAGCCGCGCCGGGCGGCGTACGCACCACCCAAGCGTTCTCGCAAAACCGTAT
GTGGAAAACCCTCGACCTCGACCGCGAAAAGGCTGTATCCGCGACGTGGCACACGCCTA
CTCGCAAGACGGCGGTTTGGCGGTCTTGTTCGGCAACATCGCCGAGCGCGGCTGCGTGGT
AAAAACCGCAGGCGTGGACGAGAGCATCCTCAAATTCACCGGCCGCGCCCGCGTGTTTGA
AAGCCAAGAAGACGCAGTAGAAGGCATTTTGGGCAACCAAATCGTCGCTGGCGACATCGT
CATCATCCGCTACGAAGGCCCCGAAAGGCGGCCCGGGCATGCAGGAAATGCTGTATCCGAC
TTCCTACCTGAAATCTAAAGGCCTCGGCAAAGCCTGCGCTCTCTTAACCGACGGACGCTT
CTCCGGCGGCACATCAGGTTTGTCCATCGGACACGCCTCGCCCGAAGCGGCGGAAGGTGG
CGCGATCGGTTTGGTACACGAAGGCGATACCGTCGAAATCGACATCCCCAACCGCAGCAT
CCACCTTGCCATTTCCGATGAAGAGCTTGCCGCACGCCGTGCCGAAATGGAAGCGCGCGG
CAGCAAAGCATGGAAGCCTAAAAACCGCGACCGCTACGTCTCCGCCGCATTAAGAGCTTA
CGGCGCGATGGCGACTTCCGCCGACAAAGGCGCGGTGCGCGACGTAGCGCAAATCGAAAG
ATAAGCCCCAAAACGTGCGGCAAATGCTGTCTCGTCTGAACAGTAAAGGTCTGATGATGG
ACAAATTTATCTGGGCGATGGCGGTATTTTCCGCAATTTTGGCCTCGTTATCGGCAGCGG
CTTTAGCGCGATCGAGTATGTAAAAGAGCTGCCGCTCGCCGCCGTTGCCGTGATGCCTTG
CGCGCCGAAGTCGTTGCTGTGGTTGTTGGCGAAGCTGAGGTAGTCGAATCCCGCGTCGGC
AAGGTATTGCCCGTATGCGGAGGGCGTTCGGAATGCATAGCATATTTTGGGGGTTTGCAC
ATTTTTTCGGCGTACCGCCTTCGTCAAACAGCGTGCCTTCGAGGTTGCCGACGGTAATGT
CCGCGTCTTGCAAGGCAGATTCGACGTTTTTCAGAATATTGGTATCGGGCAGGTAATCGA
CCGGATAATTGCTGCCGAGCATAATGTCGCCCACGCCGATAATGGAAACGGTATCGGCTG
TCTTTTCGTCAGGCGCATCCTGTCCGTCCACATCGCCGGTATTTGAAACGGGCGCGGGGT
TTGAACCGTCAATCGGCAGCACGGGGATTCCGTTCCGGCAGGATGCGCCGAGGGCTTGAC
CCCGGCGGTTTGCGGTGCGGAAACGGCATAAAGGGCGAACCTTGACGAATTGAACATCAA
```

```
ATATTCGGGCATCGAAAACAGGTTTGAAACCGCCATCCTGAAGAAAAACGGCGTAAGATC
CGGCTTCGTCTCCTTCGCCCCCAACCTTGCCGCCGTCAAACTGAACGATTATGCCAAAGT
TAGAAAACGGATTACCAAAACCAAACAGAAAGCCGACATCGTCATTGTGATGTTCCACGG
CGGCGCGGAAGGGAAACAGGCGGAACACCTGCCGTTCGATACCGAAATCTTCTATGGGGA
AAACAGGGGCAACGTCGTTGAGTTTGCGCGGCTTGCCGTCGATTCCGGCGCGGATGTCGT
ATTCGGGCAGGGGCCGCACGTTACTCGCGCCGTCGAACTTTACCGCGACCGCTTCATCTC
CTACAGCGGCGGCAACTTTGCCACCTACGGCGCAATCAACACCTCCGGCATCAGCGGCAT
CGCCCCCATTTTTAAAATTATCACCGACAAACAGGGGCGGTTCGTTTCCGGCAACATTAT
CCCCATCACTCAAGTCGGCGATAAAATCCCCAAAATCGACCCCGAGAAAACCGTTATCGG
GCGGATTATTTATCTGAACCGCAGCGATTTCCCCAAGGGGAACGGGCTGGATGTCTCGCC
CGACGGCAGCATCACGCGCCGGTAAAAAGATATTGGAAATGCCGTCCGGACAAATGCCGT
CTGAAAGCCTTTTTCCGGGTTTCAGACGGCATTTTTCAATCGTCAATAATCCACTTTAAT
CCCAGAGGCTTTTTCCCACTTCGGCGACCTCGCCTTCCGGTTCAAACTGCAAGGGATACAG
GTTGAGCTTTTCCATCAGGATTCTGTCGCCGTCCTCATCAGGATTGCCCGTGGTCAGCAG
CTTGTCGCCGTAAAAAATCGAGTTCGCGCCCGCCATAAAGCACATCGCCTGCATTGCTTC
AGGCATATTGCTGCGCCCTGCCGACAGCCGGACATAACTTTGCGGCATCGTAATCCGCGC
CACGGCGATGGTGCGGACAAATTCCGTCCAGTCCAAATCTTCGGCATCGGCAAGCGGCGT
GCCTTCCACTTTGACCAACCGGTTAATCGGCACGCTTTCGGGCTGCGGGTCGAGATTGGC
GAGACTGGCAATCAGCCCGGCACGTTCGGCGCGGGTTTCGTTCATCCCGACGATGCCGCC
GCAGCAGACTTTCAAACCGGCGTTGCGGACTTTGCCCAAGGTGTCCATTCGGTCTTCGTG
TTGGCGGGTGTGGATGATGTCGTTGTAGCGGTCGGGGTCGGTGTCGAGGTTGTGGTTGTA
ATAATCCAAGCCCGCCTCTTTCAAGTCTTCCGCCATACCTTCTTCGAGCATACCGAACGT
GCCGCAGGTTTCCATACCCAAGCCCTTGACGGCTTTGATGATTGCGGAAACCGTCTCCAC
GTCTTTGGGTTTAGGGCCGCGCCACGCCGCGCCCATACAAAACCGGCTTGCGCCGCGCGA
TTTGGCGATTTTGGCTTTTTCGACGATTTCATCCACATCCATCATCTGCTCTTTGCCCAG
ATTGGTATTGTGGTGCGCCGATTGCGGACAATAGGCGCAGTCTTCGGGACAACCGCCGGT
TTTGATGGACAACAGCGTGGAAAGCTGGATTTCGCGCGGGTTGAAATTTTGGCGGTGGAT
TTCGGCGGCTTGGTAAATGAGGTCGAGGAAGGGAAGTCCGAACAGGGCTTCGACATCGCA
TTTTTTCCAATAGCGCGCGGTGGGATGAGGCTTGCACTCGGTCTTACGGCGCAAGGCGAC
GGGGGATACGGTCATAATGTGTTCTTTCGTATTTACAGCGGCGCAATGACGCTGACAGGC
AAACCGCCGGCGCAATGACGGCGGTTGCGGGTAATCAAATGGCTGAAAACAGCGGCGGCA
AGTGTAACGCGTTTGAAAATACGGGGCAAACGGTTTTTCCGCCTTTGTGCCGCGCAGCCG
GGCGATGCCGTCTGAAGGGCTTTCAGACGGCATCGcCCGGGCTATCTCAAAGCTTCCAGC
AGCTTTCCGTGTATTCCGCCGAAACCGCCGTTGCTCATCACCAAAATATGGTCGCCTACT
TCGGCGTTTTTCACGATTTCGGCAACGAAGGCATCGAAGTCTTTGCCGACGTTCAGCCTG
CCGCCCAAAGGCGCGAGGGCTTCGGCGACGTCCCAGTCCACGCCGCCGGCGTAGCAGAAC
ACTTGGTCGGCTTCTTTGAGGCTTACAGCCAGGGCGGACTTCATCGTGCCCAGCTTCATC
GTGTTGGAACGCGGTTCGAGGACGGCGAGGATGCGCGCGCCGCCGACGCGTTGGCGCAAA
CCTTGAATCGTGGTTTCGATGGCGGTCGGGTGGTGGGCGAAGTCGTCGTAAACGGTGATG
CCGTTTGCCGTGCCTTTGATTTCCATCCGGCGTTTGACGTTTTTAAACGCGCCCAAGGCT
TCGCAGGCGGTCTGAATATCGACACCGACATGACGCGCGGCGGCAATGACGGCGAGCGCG
TTCATGCGGTTGTGCCTGCCCATCAAATCCCATTTGACGCGTCCGGCGGTTTTGCCGTCG
AGCAACACGTCGAACGAGCCGTCGGCATTGGCTTCGCCGGCCTGCCAGCCGTGTTCCGTG
CCGAATTTTTCCACCGGCGTCCAGCAGCCTTTGTCCAAAGTATCTTGCAGGCTTTGCTGC
CGTCCGTTGCAGACGATTAAGCCTTCAGACGGCACGGTACGCACGAGGTAGTGGAACTGG
GTCTGTATCGCGCCCAAGTCGGCAAAGATGTCGGCGTGGTCGAATTCCAGATTGTTCAAC
ACGGCGGTACGCGGACGGTAATGCACGAATTTAGAACGTTTGTCGAAAAAGGCGGTGTCG
TATTCGTCGGCTTCGATGACGAAAAACGGCGATTGGCTGTTCGGGTCTTGGCGCGGCGTT
TGCGGCAGGCGGGCGGAAACGCCGAAATTTTCCGGTACGCCGCCAATAAGGAAGCCCGGC
GCGAGGCCGGCATATTCCAAGACCCATGCGAGCATGGAGGCGGTGGTCGTTTTGCCGTGC
GTCCCCGCCACACCGAGTACCCAATGATGGTGCAGCACGTTTTCCGACAGCCATTGCGGG
CCGGAAATATAAGGCAGGCCGAGGTTCAAAATCGCTTCAACCACATCCATCCCGCGCTTG
GCGACATTGCCGATAACGTAAACGTCGGCTTTAAATTCGTCCAACTGAGCGGCATCGAAG
CCTTCATACACGTCTATACCCAAGGCTTCGAGCTGGGTGCTCATCGGCGGATACATCTTC
GCGTCGCAACCGCTGACTTCAAACCCCGCTTCTTTGGCAATGGCGGCAAGCCCGCCCATA
AACGTGCCGCCGATACCGATAATATGGATGTGTTTCATCAAAGTTCCCCAATCGTTCAAA
TTTTGCCGTCCGACAGCGCAAGGGCTGATTCGGCTTCAATCAGTGCGGCTTGATGCCGGC
```

```
     AGCCGAACCGTCTTTCTGTGCATTTCCTTTCGGATTTTGGACGTGTTCGTCCCTCACCGT
     GTCCGAATAATCGCCGACCCCTGCGTCTTCCGCCCTGTCTTTTACTGCCGGTCTAACCGA
     ACTGTACACCCGGTCCCGCCCCAAACCCGCGTTGGTACAATGTTTTCCCGGAGTTTGGCT
     GTAACTGGTTTTACCATTATGGCGGCACGCGTAAACATTTGCCGAAAATACGGTCTGAAC
5    CGCTGTAACAAGCAACATACTTCCAATTATTTTAGATACGCGCATATCAACCTCCTTTAT
     CGTTCTTCTTCAAAAAAGGGAATGTATTTCAATAGCACTTCATCTAATTCTTTCATTCCC
     TGCTCATAATTGAACGGGTATTCCCAACCATCCCCTACTTTGATTTCAGAAATATCTTTA
     AACTTCCGCTTAAGGGCGGACACTTTGTCCATATCGTCATCAATTTCCTGTTGCCGAAC
     GGTATTTTCCGCTTTTCCAAAACCTCGTCATAATAACAAGATAAATTAAGCAATAGCCCC
10   CAAGCACTATTTGCAATTACGACTAATCTATGTTTTTCCCTAGTTAAGTAATCTGCACCG
     CTATCATAGATTGCCCTTGTCGGGTCATAAAAAATTCGCAATTTTTCATAGCGTCCCCAC
     ACTTTAACCGATTCGCAATTTTATATCCGCGATTTTGCAAGCTGCCCATAAAAACCGATT
     GCCTGTCAAGACGGCACTACTTGTTAAAGATGCCCGATAATGCCGCAACTCTTCCGTATT
     TACCGACAAACGCCCTATTTGCTTAGAGCTGTTTTGTTTTCCACAAAACTTTAATTCGTT
15   GATTTAACAAATTTTTTACCAAATTCTTTATTTGTTCGGATTCCATTAGCACGATTTTGA
     GCAATATCTGTCAAAACCATTTCCACCACACCCAAGCCAAAACCGCCGCCGCCACGGCAT
     TGGACAATCAGATGAGTTTCCACTGCCCGTCCTTCCGCAATGCCGCCTTCTTGGGCTTCA
     AAGCACCCGCATAAAAAAACGGCGACAGCAGCATAGAAGCGATACATAAGAAAATCAATA
     CGCCGTAATAGATTTTTTCAGACGGCATTTCTCTTCCTCAATACGCCGCCCGTTGGCGCA
20   TTTGTTCAAACAGGCAGATTGTCGCCGCCATCGCGACATTTAAAGACTCGGTTGCATCGT
     GCATCGGTATCCTGACACACTTGTCCGCCCTATCTAAAACTGCTTTACCGACCCCCGCGC
     CTTCGTTGCCAAACACCCAGGCTGTCGGTTCGCACAAATCTTCGCCGTACAAAACCGCCT
     GCTTTTCCTCGCGCAAGGCGGTGGCAAACACACGGCCTTTATAGCGCACCAACCATATTT
     CCAAATCCGCCTGCGGATAAATCTCCGACAAGAAATGCGCGCCCATTCCGGCTCGCAGCA
25   CTTTGGGCGACCACGCGTCCGCACAACCTTTGCCCAAAATGACCGCGCCGATTCCCGCCG
     CCGCCGCGCTTCGCAACACCGTGCCGACATTGCCCGGGTCTTGCACGCCGTCCAAAACCA
     CGCAATCGCCGCCGGCCGGCAAAGCACCCGCATCTGGAATATCAATCAGCGCAAGCACAT
     CATCCGCACAAGTCAGGCTGCTGATTTTCTTCAATATGCCGTCTGAAACGGAAAAAAACC
     CGTCTTCCGGCAAAACGCCGTCAATTTACGGACTTCTTCAGACGGCATTTTCGCTTCGG
30   GAATATATACCCCGACCGGCATCCCGCCGGATTGCAGGAAAACCTGAAGCAGGTGCACGC
     CCTCCAAAACGGTTTGGGCGTATTGCCGTCTGAACTTTCCTTGCGACAACAGGCGGTGCA
     GGTGTCTGATGTGTTCATTATTGGTCGAACTGATGTGTTTCACTTCACAAGCCTTTTAGA
     AATATGCAACCGGACAATACCCGACTGAACGCCGCCGAAATCTGTTTGCGATATTATCAA
     AATAAAATGGGAAAGTCAGGATGGACGGGCAAAATGCCGTCTGAAACCGAGTATTGGAAA
35   TCCGCACAACAGTTTGCCAACGCCAATGGACGGTTTCCGCTGTCGGCAACAAGCGGCCAA
     ATTGGGCGCAGGACAGGCAAAACCCGTTTCCCCTGAAGGATTTTTTTCACATCCTTATGG
     ATGCCGCCCATGGCCAACGTATCCGATGCCGCTACCGTCCTCAAAATTCCGTCCTGCTCC
     AAAAGATGCTCAGGAAGCCCAAACGGATGCCGCTTCAACACAAATCCCTGCCCCGTCAAT
     ATTTCCCTTAAATTTCCGCTTATCTGCCTGTCTTTCAAAAACCGCAGTTTATCCGTTTTT
40   TCCAGTCGGAACACAAACAGCCTGCCTGCATAATGATGCAATTCAAAGCCTTGCAAGTTC
     CAACGTCCGGTTTTTGCCTCCGTCAAAACCCGGGCAATGTCGGCAAGGGCATTCTGATTC
     GGCACGGGAATGCCGTTTTCCTTCAGAAAATGCCGCAAAATATGGGTTTTCCGGCGCGGG
     GAAAACGTCAGCCACCGCGCCGTATCGAAATAACCGGCCCCGCAAACCCAACGGCAGTCC
     TGAACGACGACCTCGTCCAACAAAGCCAAATCTTCCTGCAAAGCGCGGACATTGTTCAGC
45   ACATGCCGCCCGAAATGGGGAATCTGCGCCGAAAGTTCGGGCAAAATACGGTGCCGGAAG
     CGGTTTCGCAAATAAGCCGTATCGGTATTGCTTTCATCCTCGATATTCGGCAAACCGTGT
     TTTTGGGCATAATCCCATATATCTTGGCGTGAAAAAGGCAGCAAGGGCCGCCAGATGATG
     CCTTTTTCCCCAAAAGGGCGGACGGCGGGCATAGCCGCCAAAGCGCGCAAACCGCCGCCG
     CGCGCGACCGCCAGCATAAAGGTTTCGATTTGATCGTCCCTGTGGTGCGCCAACGCCAAA
50   ACGTCAAAGCCTTTTTCGGCAAACGCGGCATAACGCTTTTGCCTTGCCGCCGCCTCGATG
     CCCAAACCGTTTTTTTCCACGCAGACCTTAACCGTTTCCAGCCCCACCCCGAGCATATCG
     CAATAGTTTTGGCAGAAATCTGCCCAATCGTCGGCACGGGGACTCAAGCCGTGATGGATA
     TGCAATGCATCCGGAATAAAACCGCCCTTTTTTCCGGCGCGGACAAGCAGATGCAGCAAA
     ACGACGGAATCCAAGCCGCCGCTTAATGCCACCGCTGTTTTTTTTCCATTCAGACCTTGA
55   GGAAACAATCCTTCAAGCATTGCTCAAACGCATCTAAAGTCAGCACGGTTCCGTCCCGA
     TAAAGAAAAGCAAGCAGTTTCAGACAAACTGCTTGCTGCTTGTTCTACCTGAATTATTG
     TTCCGAAAATTTGCCGTAAGCCATAATGCGGTCGAAACGGCGCGAAAGCAAATCGGCAAG
```

CGGGATGCTTTGCGCTTCGTGCAGTTGTTTTTCCAAAACGGCTTTTACGTTTTTCATGGT
TTGCCCGAAATCCCGATGCGCGCCGCCCAATGGTTCTTTGATGACGGTATCGACCAAGTC
CAGCTTTTGCAGGCGGTCAGCAGTAATGCCCAAAGCCTGAGCCGCATCCGCCGCCTTTTC
GGCGGTTTTCCACAAAATAGACGCGCAGCCTTCGGGGGGAGATAACAGAATAGGTCGAGTA
TTGCAGCATATTGACGTAATCGCCTAGGGCGACCGCCAACGCACCGCCTGAACCGCCTTC
GCCGATGACGGTACACAAAACAGGAACGCGCAGGCGCGTCAGTTCGTACAGGTTTTTGCC
GATGGCTTCCGACTGCCCGCGTTCTTCCGCGCCGATGCCGGGATACGCGCCCGGCGTATC
GATAAAGGTCATTACGGGCAAGCCGAATTTTTCTGCCGTCTTCATCAGGCGCAGGGCTTT
GCGGTAGCCTTCAGGACGGGGCATACCGAAGTTGCGGCGGATTTTTTCTTTGGTGTCGCG
CCCTTTCTGATGCCCGACGACCATCACGCTTTGTCCGTTGAAACGCGCCAATCCGCCGAC
AATCGCATAATCGTCGGCAAAGTGGCGGTCGCCGTGCAGTTCTTCAAAATCGGTAAACAG
TGCCTCAATGTAATCCAAAGTATAGGGACGCTGCGGATGCCGGGAAACCTGTGAAATTTG
GGCGGGTGTGAGTTTGCTGAAAATCGATTTGGTCAGGTCGTTGCTTTTTTTCTGCAAACG
GTGTATTTCGTCCGAAATATCGACGGCAGACTCGTCTTGGACGAAACGCAGCTCATCGAT
TTTGTTGGTCAGTTCGGCTATGGGTTGTTCAAAATCCAAAAAAACAGGTTTCATAGAATG
AAGCTCTCATCAACAGATTCTGCCGCTATCATACGCTATTTGTGCATATTCCGCAGTTAA
TTTATTGTCCAAAACGGCTTTTCCATACCCTCTTTTTGTGTTCGGACAGCATGGAAAACA
GTGGATTAGTGCATATATACTAGTTATAAGGCGGCGTATCTTATGCTAAACTCGAAACAA
ATTCAATTATTTCAAACAAAATCGTATGAAAGACAAGCACGATTCTTCCGCCATGCGGCT
GGACAAATGGCTTTGGGCGGCACGTTTTTTCAAGACCCGTTCCCTTGCGCAAAGCACAT
CGAACTGGGTAGGGTTCAAGTAAACGGCTCGAAGGTCAAAAACAGTAAAACCATAGACAT
CGGCGATATTATCGACCTGACGCTCAATTCCCTTCCCTATAAAATCAAGGTTAAAGGTTT
GAACCACCAACGCCGCCCGGCATCCGAGGCGCGGCTTCTGTATGAAGAGGACGCGAAAAC
GGCAACATTGAGGGAAGAGCGCAAACAGCTCGACCAATTCAGCCGCATCACTTCCGCCTA
TCCCGACGGCAGACCGACCAAGCGCGACCGCCGCCAACTGGACAGGCTGAAAAAAGGAGA
CTGGTAAAACCATTCCCGCTGCAAACAGAAGCACGAACCGCGTACCGCCGCATTTCAGAC
GGCATTCCCGAAACTTATTCCGCCTCGTCTATCCATGCCTGCTGCACGGCTTCGAGGATG
CGTTCGCCGCAACGGGCGGGGTCGTCGTCAAATTCGGGCAATGCCATAATCAGGTCGCGC
AGTTGGGTAAAGCGCACGGTTCTGGGATCGATGGTTTCGCCGTGCAGGTCATAGAGTTCT
TCGGCGATGCGCTGGGTGTCGGTCCATTTCATATGAATTTCCTTTTATCGTCCGGCATTG
AAGCCGTGTAGAATATGTTTCGGCAAAACTGCCGCCCCTTGAGGATTGCTGAATGTTTCA
ACTCGCCGGACAACACATCAAGCACCAGCCTATGTGTCGTCCTGATCTGGGAGGAGTTGT
CCCTCCCAAACAAATCTGATTCTACCGCCCCGAAGAGCGGGGTTTCAACCGACAAGGAAG
ATTGATGAACAATATGTTTGCCGCAAAATTGTCCAAACTGGTTTATACCGCTTCCGACCA
TCCTGATTCCCTGTCGGAGATGGAGGAGTTTGACCGCCTGATTCTGCTGATACGCAAACT
GTATCAAATATTGGACGGGCAACATATCCTCTCCAGAGTAACGGTTTGCCTTCACCACCA
AAACCGGCGCGACCTGATTGCCTTGGATAAAGCGGCTGCCGGTTGCGATTCGGCAATGTT
GCGCGCCCAACGTTGGCTCATCTACACGCAAATTGCGGAACGCCTTGCCGGGTCGGGCGG
CGGTTTCACGGTTACGGTAGAAAGCGTGTCCGCCGCCTGTCCGGAGCTTGAAGGACGCTA
TCTCGAGCTTGTCCGCCGCGCCGCCGTCTCTTTCGGTTTCACGCAAGGATGGGAAAATCC
GGCAGGCGGGCAGGAAAAAACACAAGCCGTCCCGGATGCCGCATCGGGTCATTCCGTCAG
AAAACCAATCAAAATCAATATAGAAGCGAGAGTGGAACGCTATCCGGCATACTGCCCGAC
CGTCGCCCTAAAAGTATAGTGGATTAACAAAAATCAGGACAAGGCGGCGAGCCGCAGACA
GTACAGATAGTACGGCAAGGCGAGGCAACGCTGTACTGGTTTAAATTTAATCCACTATAA
CCCGCCGGCGGTTTTTCCGGCTGCAAAACCGATAAATACCGGTGCATCGCGTCCGAGTAA
TCCGCCTCGGATGCCGCACTGGATTATTCCGTCAGAAAACCGATAAAAATCAATATATAG
TGAATTAAATTTAAACCGGTACAGCGTTACCTCGCCTTGCCGTACTATCTGTACTGTCTG
CGGCTCGCCGCCTTGTCCTGATTTTTGTTAATTCACTATAGAATCGAAAGTTCCGCCTGT
ACGAACGCCTGTTTTCGGGCGATTGCGCCTTATCCGCGCAACAATGCCGTCTGAAGCGTG
CCGGCTTCAGACGGCCTGTTTTCAGTGTTCTTCGCGCGCGTGGTTGATGGTGTATTTGGG
GATTTCCACAATCAAATCCTCGCCGGCGACAACCGCCTGACAACTCAGGCGCGAATCGGC
TTCCAAACCCCAAGCCTGATCGAGCAGGTCTTCTTCCAATTCGGTCGGCTCTTCTAGGCT
GTCGAAACCTTTGCGGATAATCACGTGGCAGGTTGTGCAGGCGCAGGATTTTTCGCAGGC
GTGATCGACTTCGATATCATGGTCGAGCAGCACGTCAAGGACGGTTTTACCTTCGGGTGC
GTTATCGATGACTGCACCCTCGGGGCATAATGTCGTGTGTGGAAGTACGGTGATTTTGGG
CATTTTTATTGTCTTTCTGTAAAAGTGTTTGTGTTCGTTTTCGGAAAACTGTCTGCCTA
ATGTCGCGGTTCGAGCAGGTCGGCAACATTTTGCCAGCCCGTCAGGCAGGCAAAATCGAG

```
GGCGGTATAGCCTTCCGATGTCGTTGAGGCAGGATTTGCGCCGTATTCAAGCATGGCTTG
AACCATAAGTGCATTTCCTGCGATGGCTTCATGATGAAGCGGCGTATAGCCGTCTTCGTC
CTGTTCCCGCAGATAATCCGAGTTTTGGGACAACTGTTGCCGAAATCGTCAATACAGTT
CCGGCACATCGGATGCTCTTCCAGATTTTCGGGATGTTCTTTTTCTTCATACACCAGCAA
TATCTGCCCGGGATCGCCGAAATCGATTCCCCATGCGGCATCGTGTTCGGTGCGCTCCTC
TTCCGTCATCTGCCCGCGCATTGCCTGTATGGTAAAGCCGCCGTAGGGGATGCCGTTGCA
CACGAACATCCAGTCGCTGATGTCGTCAACCGGAACGCAAACGCTTTCGCCTTGTTCGAC
ATTGGTCAGTTCGCCGGGTTCATTGTTCAGCACACCGTAAATATAAAGACCGTCAAAATA
AATATCGTCGATCCACATATGTTCGCAAATTTCGCCGTCTTCGCCGTCTTGGAAAAAAGG
GACTTTGACCATGGCAAAATCCAAGGCGGAAATAATGCGGCGGCGTTCCCAAAAAAGCTC
GCGCCAAAAATATTTGAATGTTTTACGGGCGCGTTCGTCGGCACGGTTTACCGGTTCGTC
TGCCTGTTCTACATAATAAATGACGGAATCGCCCATCATATCTGCTCCTCAACGTGTACG
GTATCTGTTTGCACCTTACTGCGGCTTTCTGCCTTCGGCATCCGATTCGGATTTGAAAAG
TTCCAAATATTCGGAATAGGCTTTTTCCAAATCCGCCCGCGAAAAACAGGTGTAAATATG
GATGCCGTCTGCAATTTCGTCGGTCAGCCTCGTGCCGCTTTTGCCGAAATATGCTTCTTT
AAAAAGGCGGATTTTCGATTTTTTCGGCTTGTAGAATGCCGCGCCCGCCAAAAGCCGGGG
CAGCGCGTAAGGGTATTCCCGGTGTCCGCGCCGTACCAAATCAAGCAGTTGTTTGCGGCC
TGACCCGGCATTCCCTTCCTGCCTGCGTTCGTGGACGCTTTTTTCAAATTCCGATTCCGC
CGTTTCGTTTTTCGGGAACACGATTTCGCCGCGAAGCGATAAAAACAAACGTTTCACAAG
GTTTTCGTCCACGGCGAACAATTCGGTATCGCCTATCCTGCTTTTGCTGAAAATTTCATG
GAGCAGGTTTTCTTTTTCTTTGTAATTGTCGGTTTTGACGGCGAGGATGCGTTCCAATCC
GGCAACGTTCGCATAACCGTTGTTTTCCAAATGGCGCATTCTGCCTTCAAAATTGCTTAC
ATCCGAAATGCCGATTTTATACACGCCCTTGATGACGGTTTTCATCAGATAGACAATGCC
TGACTTTTCCATATCGATGTTTTTCAAGTGTTTTCGAGCCTTCAGACGGCATCGGATTAT
TTCTATGCCGTCTGAAACCGTTTAAGTATCAAATATTATCGACACTCTGGCCTGTCAGCG
CGCGTTGGATGTTGCGGTTCATGCGTTTGGCGGCGAAATTGTCGGTGATGCTGCCGAGTT
TGGCGGCGGCGGCACGGATGTCTTCGGCTTTTCCGTCTTTCAGACGGCCTTGCAAATCGG
CGATGCCTTGCCGAATCTGTTGCAATTCTTCGGCATCCAGCAAATCGCTGTCCAACTCGA
GGGCGGCGTTGACGGCATCGGTCAGGCTTTCGGCTTCGACTACGGCTTCGGCACGGGCGC
GTGCCGCCATATCTTCGGCGGCATTGCTCATGCTGTCTTTGAGCATTTGGGTGATGGTGT
CGTCGTCCAAGCCGTAGGAGGGTTTGACTTCGATTGCGCCTGTACGCCGGTGCTTTGTT
CTTGGGCGGAAACGGACAGCAGCCCATCCGCATCGATTTGGAAGGTTACGCGGATACGCG
CCGCACCCGCCGCCATAGGCGGAATGCCGCGCAGGGTGAATTTGGCAAGGCTGCGGCAGT
CGGCAACCAGTTCGCGTTCGCCTTGTACGACGTGTATCGTCATCGCGGTCTGACCGTCTT
TGAAGGTGGTAAAGTCCTGCGCGCGCGCGGTGGGGATGGTGGAATTGCGCGGGATGATTT
TTTCCGCCAAGCCGCCGTAGGTTTCCAAACCGAGCGACAAGGGCGTAACGTCCAGCAGCA
GCCATTCGCCGTCGGTTTTGTTGCCTGCGAGGACGTTTGCCTGTATGGCGGCGCCGAGCG
CGACGACTTCGTCGGGGTTGAGGTTGTTCAGCGGGGTTTGTCCGAAGAAGGTGGCGACTG
CCTGTTGGACGTGCAGCATACGGGTCGAACCGCCGACCATAATCACGCCTTTGACTTCGT
TTTTACCGACACCGGCATCTTTCAACGCCTGTGTGACCGGTTCGAGCGTTTTCATCACCA
AATGCTGCGTCAGGTTGTGGAACTCGGCGCGACTGATGCTTGTGTCGATTGCCATGCCGT
CTGAAAGCGTCGCCTGAATGCGCGCTTCGGTTTGCGTGGTTAATTGTTCTTTGGCGGCGC
GGACGAGCGAGAGCAGGAGTTGGCTGTCTTGTTCGTTGAGTTGGGAGAGTCCGTTTTGTT
CGAGCAGGCGGCAGAACAGGCGGTGGTCGAAATCGTCGCCGCCCAACGCGCTGTTGCCGC
CGGTGGCTTTGACTTCAAACAGTCCTTTGGTCAGTTGCAATACGGATACGTCGAATGTGC
CGCCCCCTAAGTCGTACACGACAAACGTGCCTTCCGAGGCGTTGTCCAGCCCGTAGGCGA
TTGCGGCGGCGGTGGGTTCGTTGAGCAGGCGCAATACGTTCAAACCCGCCAGACGCGCGG
CATCTTTGGTGGCCTGGCGTTGGGCATCGTCGAAATAGGCGGGGACGGTAATCACCACGC
CGACCAAATCGCCGCCCAAGGTTTCTTCGGCGCGCGATTTAAGGGTTTTGAGGATTTCCG
CCGACACTTCGACAGGCGTTTTCACCCCCTGCCGCGTATGCAGTTCGATAACGCGTTGAT
TGTCGCCGAAACGGTAAGGCAGGTAGTGCGTATTTTGATGCAGATCGGCAAGCGTCCGCC
CGATAAGGCGTTTGGCGGAGCTGACGGTGTTCAGCGGGTCGGTTTTTTGGGCGGACAGGG
CGGTTTTGCCGACTTCAATGCCGCCGTTTTCCAGATAGCGGACGACGGAAGGCAGGGTAA
CGCGCCCTTCGGCATCGGGCAGGCAGGCGGCACTGCCGCTGCGGACGGTGGCGACCAAGC
TGTTGGTCGTACCCAAATCGATGCCTGCCGCCAAACGGTGCCGGTGCGGGGCGGCGGACA
TACCCGGTTCTGAAATCTGCAAAAGAGCCATAAATTCTGCCTGTCGGTGCGGTGTGTAAA
GGAAGGAAAGCGGCATTTTAACAGAATTTGCGCCGATAGTTGAGCAAACCGCTAAGGATT
```

-88-

```
AGGTCGTGCCGCCGAAATTGCCCTCTACCGCCAAATGCCGATAAAATCCGCCTTTCCCGC
CCATCATTAGGAATATAAATCGTGAAAGGACTCGACTATTGCCGCCAAAAAGCAGAAGAA
AGCCGCTCCAGTTTTTTGTCGGGCTTCCGTTTCCTGACTCAGGAAAAACGGGATGCGGTA
ACGGTTTTATATGCTTTTTGCCGCGAATTGGACGATGTGGTTGACGAATGTTCCAACCCC
GATGTTGCACAGGCGACATTGAACTGGTGGCGCGGCGATTTGGACAAGGTATTCGGCGGC
GCGATGCCGGAACACCCCGTCAATCAGGCCTTGCGGCAAGTTAAGGAAACCTTCAAGCTG
CCGAAATATGAACTGGAAGCCTTAATCGACGGGATGCAGATGGATTTGGTTCAAGCCCGT
TACGGCAGTTTTGAAGAATTGAAACTGTATTGCCACCGCGTCGCAGGCGTGGTCGGCTGC
CTGATTGCGCGGATTTTGGGGTTTTCAGACGACCAAACGCTGGAATACGCCGACAAGATG
GGACTTGCGCTGCAACTGACCAACATCATCCGCGATGTCGGCGAAGACGCGCGCAGGGGG
CGGATTTACCTGCCGATGGAGGAAATGCGGCGGTTTGACGTACCCGCAAGCGTGATTTTG
CAATGCAGCCCGACGGGCAATTTTGCCGAATTGATGGCGTTCCAAATCAAACGCGCCCGC
GAAACCTACCGCGAAGCCGTATCGCTGCTGCCTGATGCCGATAAAAAAGCCCAAAAAGTC
GGACTGGTCATGGCGGCGGTTTATTACGAGCTATTGAACGAAATCGACCGAGACGGCGCA
CAAAACGTCCTCAAATACAAAATCGCCCTCCCTTCGCCGCGCAAAAAACGCATTGCCCTG
AAAACCTGGTTATTCGGATTCAAACCGCGCCCCGGCACGCCGGAACGGGCATAAGGCGCA
TACCGCCCGCCGCCCGTCAGGCAAACCCGATTCCCACAGCCCCGCCGGACGGGGTTTCAA
CCATCGTCTGAAAGTCTGCATCGTAACCGCGCAATCCCGTTGGCGTTCGCGCTTTGAAAT
GGAATTGCTGGGAATTTAAACAGGAGCAGAAGTAAATGAAAGCAGTCAGGGATATAGCCT
TATGGCTGGCAGTAACGGTTTGGATCAACTTTTTCCCCGACAGTTACCGCTATGATACCG
TTCCACAGGGACGGTACGGATACTGGCATGCAGACCATCCGTGGTATCCCTATGCGCGCT
TTCTGCTGCCTTTATTTTTAGCCTGTATCCTTTTCTACCGTCATTTTCGGAAACGGAAAT
AGATACGGCTGCAAAACCATTGGAGGAATAAATGATGAACACGCCGCATCCGCGCCCGAA
AATCGCCGTCATCGGCGCAGGCTGGGCAGGACTGTCCGCCGCCGTCACCTTGGCGCGGCA
CGCCGACGTTACCCTGTTTGAAGCCGGCCGGCAGGCGGGCGGCAGGGCGCGCACACTGGC
CGGAAATACCGACGGTTTCGGTTTTTTGGACAACGGGCAGCACATTTTGCTCGGCGCATA
CCGGGGCGTGTTGCGCCTGATGAAAACCATCGGTTCGGATCCCCGTGCCGCCTTTTTGCG
CGTACCGCTGCACTGGCATATGCACGGCGGTTTGCAGTTCCGCGCCCTCCCCCTGCCCGC
GCCGCTGCATATTTTGGGCGGCGTGCTGCTTGCCCGGCGTGCACCGACTGCATTCAAAGC
CAAACTGCTTGCCGATATGTCCGATTTGCAGAAGTCCGCACGCCTCGGACAGCCCGACAC
GACAGTGGCGCAATGGCTGAAACAGCGGAACGTGCCGCGTGCCGCCGTGATGCAGTTTTG
GCAGCCCTTGGTTTGGGGCGCGCTCAACACGCCTTTGGAAACCGCAAGCCTGCGCGTGTT
GTGCAACGTTTTGTCCGACGGCGTGCTGACGAAAAAATCCGGCAGCGACTATCTCCTACC
CAAGCAGGATTTGGGCGCAATCGTCGCCGAACCCGCCTTGGCGGATCTTCAACGGCTCGG
CGCGGACATCCGCCTCGAAACGCGCGTATGCCGTCTGAACACCCTCCCGGACGGGAAAGT
GCTCGTCAACGGCGAAGCTTTCGATGCCGCCGTCCCCGCCACCGCGCCCTACCACGCCGC
CGCGCTCCTGCCCGAAGGCACGCCCGAACACGTTCAGACGGCATATCAAAACCTTCGCTA
CCACGCCATCACCACCGTCTATCTGCGCTACGCCGAACCCGTCCGCCTGCCCGCCCCGCT
GACCGGCCTTGCCGACGGCACGGTGCAATGGCTGCTTTGCCGGGGCAGGCTCGGACTGCC
TGAAAACGAAGTGTCCGCCGTCATCAGCGTTTCCGACCGCGTCGGCGCGTTTGCAAACCG
GGCGTGGGCGGACAAAGCCCACGCCGACCTCAAACGCATCCTTCCGCATTTGGGCGAACC
CGAAGCCGTGCGCGTCATCACCGAAAAACGCGCCACAACCGCAGCCGATGCCCCGCCGCC
GGACTTGTCGTGGTTGCACCGGCACCGCATCTTCCCCGCCGGCGACTACCTCCACCCGGA
CTACCCCGCCACGCTCGAAGCCGCCGTACAATCAGGTTTCGCGTCGGCGGAAGCCTGCCT
GCAAAGCCTGAGCGATGCCGTCTGAAAACGCCGGCCGACATCGGGACGCTTTACAAGGTG
CGGCAAAACGCTAAAATACCTTAACCGACAACCAAAAAGGAAAAGTATGGCGACACTGT
CCGACAAAACCATCTTAGTAACCGGCGCATCGCAAGGTCTGGGCGAACAGGTCGCCAAAG
CCTATGCGGCGGCAGGCGCAACCGTGATTTTGGTTGCCCGTCATCAGAAAAAACTGGAAA
AAGTGTATGACGCGATTGTCGAAGCCGGATACCCCGAACCATTCGCCATCTGCTTTGACC
TTATTAGCGCGGAAGAAAAAGAATTTGAACATTTCGCCGCCACCATTGCCGAAGCCACGC
AAGGCAAACTGGACGGCATCGTCCACTGCGCCGGCTATTTTTACGCCCTCTCGCCGCTGG
ATTTCCAAACCGTCGCCGAATGGGTCAACCAATACCGCATCAACACCGTCGCACCTATGG
GGCTGACCCGCGCCCTGTTCCCGCTGCTGAAGCAGTCGCCCGACGCGTCCGTCATCTTCG
TCGGCGAAAGCCACGGCGAAACACCCAAAGCCTACTGGGGCGGCTTCGGCGCGTCCAAAG
CCGCGTTGAACTACCTGTGCAAAGTCGCCGCCGACGAATGGGAACGCTTCGGCAACCTGC
GCGCCAACGTCCTCGTCCCCGGCCCCATCAATTCCCCGCAACGCATCAAATCCCATCCGG
GCGAAGCCAAAAGCGAACGCAAAAGCTACGGGGACGTGCTGCCCGCATTTGTCTGGTGGG
```

CAAGTGCCGAAAGCAAAGGGCGGAGTGGCGAAATCGTTTACCTCTAAATCCGGAAAAGGC
AGGCATCCCGCCCGCGCCCGCGATTCCGTTTGAAAAATATCCGTACCTTCCGCGCGCATCC
GTCCCGCACAGACAAACACCTTGACTTAAATTTACATAAGGACAATAATGACAACCCGTT
ATTTCCTTAAGyTGACCATAGGGTAAATG

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 8>:

gnm_8

TACCAACCCGGATTTGCCAATACGTTACGCAAAATCACGTTCGGCACGCGGGTCGAGTAA
TAGCCTAAACCGATATAGGATCTGTTGATCATGAAAGTCGACGCAATGCCAAGCAATTTT
GCCAGCGCGTCCGCATCGGTCAGGGCATCGGGCAAATCGAGTTCAGACGGCATACGGATG
CTTTGCGGCACGGTGTTGCCGACAAAATCGTCCATACkTTTCTCGCCGACAGCGGCAAGC
AACGCCGCTTCGTCGCCAAAACTCAAATGCCGCGCGGCAAATTCGTCGGGGTTGAACAGT
TCGGACAGTTTCATTTCTACTCCTTCGGGTTTGTAGGGCTGCCATCAGGCAGAATTTTTA
GACATCGGATGATTCGGGCAAGGGTAGCACAAAAGACGGGATAATGGCGGACAATGCGCC
AGAATGCAGCAGGTCAGGACAAGCAGCGCCACAAGCGGCAGCGATAAGGGAAAGCCGCCG
CCCAAAACCATGAAACCTGCAGGCACCAGCCAAGCTAAGGGATGCGCCGGAAGCGGAAAA
ACAATATTGAGCAGAACCAAAATCACGACAAACAGCGGCAGACCCGCCATCAGGTTGGCA
CGCCTGTATGTTGCGTACGGGTCGGATGCTTCTTCAGGTTCGCAATATTCCATGATTTCA
GCCTGTCCGGGCTTTATCCACAGCAGGCTCGGACGGTCGGTCATGCCGTCTGAACCGGCA
GGCCGTCTTTTTCAAAAAACGCCATACCGCTGCAACTTCATGCGGCTGTATGGCGTAGGC
TTTGCACTTCAGACGGCATATGCGTCCCGAAGCAGTTTGGTGTCCCAGTCGGTTCATGAT
TATATAAACAACTTGGGTGCGGATAAACCTTTGTTTATCTAAACCCCTGTTTTCTCAAAA
ATTGATTCAAATCTTCGGCAAATTTCCGATAGCCTTTGCCGTTGGCGTGGATTTGGTCGG
ATTTCAGATTATTATCGCCCAAAATTTCCGCCCACGCGCCGCCGAACAGCGGAATGCCGT
ATTCCTCGGACAAATCCTCATACAGCGGATGATCGCTCAAATGCCCGAACAACGCACCCA
GTGTGATGTGCGGCACGCCGACGAGGACGGCGGGGATGTTTTCCTTCTGCACGGTTTCGA
TGATTTTCGCGATATTGGCGCGGGTCTGCTCCTTGGGAACTTTGCGCAGAAAGTCGTTGC
CGCCTATGCCGACAATCACAAGCTTGGGTTTGCGTGCCAACAGCGCGGGCAGGCGCGACA
GGGCTTGGGCAGATGTATCGCCCGATACGCCGCCGTTGACAATATTCCAACCCGTCAGTT
TTTGCAGTTGCGCGGGGTAGGATTCGCCAGGGTTTGCGCCGTAGCCGAAGGTAAGCGAAT
CGCCCAAGGCAAGTACGGTGCTTCCTTCGGGAATTTTGGCGTGGGTTCGGGCGGATTTTC
TGCCGCAGGCGGTAAGCAGCAACGCGCCTGCGCCGAGGAGGAAGGTTCTTCTGTTCATTG
GTTTTTCAGATGGCATCGAGCCATTTCGGGTGGTATTTCAGGGTTTCACGGTAAACCGGA
CAGCTTTCGGCGTGCGCGCCTTTGAGGTAGCCGGTACTCATCAGAAATTCGCCGACGATT
TCGCCGCCGACGAATTTGAAATGTTTTTTAAAGAGTTTAACCCATTCGTCTTTGCTTCGC
GGATGGTGCGTGTCGAGCCAGTTCTTGAACGAGCCGTATTCTTGTTGCAACGCTTGGATT
TGCCGTGCATTGAAAATGGCGGCATCGATTTTCAGGCGGTTGCGGACAATGCCCGCGTCG
GCAAGCAGGCGTTCGCGGTCGGTGTCGTCGAAGGCGGCAACCGTATCGATGTCGAAACCT
TCAAATGCCGTCTGAAACGCCTGCCGCTTCTTCAGCATCAGCGTCCAGTTTAATCCTGCC
TGATTGATTTCCAACACCAGCCGCTCAAACAATTCATTGTCGTCCTCAATCGGAAAACCG
TATTGCGTGTCGTGGTAATGTTTGTTCGGGTTATCGGTGTTTTCGGGAAGTGAGGCGGCA
AATTCGCAATAGTTCACGGTTTACTCGACCATCTGTTGCGCCGCCTGTTTCAGTCCCTGT
TCGAGTGCGGCGGTCATCGCGGCGTAGCCGTCACCCTGCTGTTCGGTTTCGATATGGAAG
GGTCTGTTCGTACCGTCGGGTAGGACGGCGTAGCCGCTGATGAGGGTTTTGCCCGTGTAG
CTGCCTTGGAATGCGTCGATATAGACCGTCCATTTTTCGGTACTGCCGCTGCGTGAGGCA
GGAACAAAGATGCGTGTGCTGTCCAAACGGTTGAATGCATTGCTCAACGCCGCTTCGAGC
ATATCGTCCAAGGTGTCTGCCCAGACGTGGTTTTGTGCGGTGTTGAGGCGGTAGGGGTCG
GTTTGATAGACCAGTCCGCCGCGTTTGAGCGGTTCGGCAAGACGGACTTCGACGGCAGTT
TCGCCGCCTTGCGTTGCAGGACGGATGTAGCGGCTGTCGGGCAACACGAAATATTGTGTG
CTTTGCACAGTACCGCAGGCGGCAAGCGACAGGGCGGCGGCAATCGGGAAAAGGCGCATT
ATCGGCTTCCTTTCGGGATAGGGTCTTTGCTGCTGCTGTTGAAAATCAGCGCGTTGGGTT
TTTCTTTCAAAGTATTAATCACGGGTTGAACGTCTTTTAAAGTTTTGTCCAAACTTTGCA
GCGTATTTTGTACGTCGCCGTAGATAGGCGATTGCGGCGATACGCCTTGCAGGGTTGTGC

```
GCAACTCTTTCAGGGTTTGGTTCAGTTCGTTCGGAATGTTTTGTGTCTGCGGTTTGCCGA
CCAGTTTGTCGATGGAGCTTAGGGCGGCATTGGCAGATTTGAGTGTGGATTTGAGCTCGG
CAAGCGAACCGTTCAATTCGGCAACCGTCTTATCTAAAGGCAGTTTGTCGAACTTGTCCA
GCAAATCCGCCAATTTGACCTGCAAATCGTCCAAACCGCCGCCCTGGGTCGCGATAACGG
```
5
```
TATCGCCTGCATAAACGGTATGCGGTCGCAGCTTAGGTGATGCGGAAGGCTGATCGTTCA
ACTCAATCATTTTGCTTCCGGTCAGCAGGTTGTTGCTGGAGATGGTGGCGGTCAGGCCTT
TGTTTAAGGCCGTCTGAAATTGTTGTTTCCAATGTTCTTTGCTTTGTTCGTCGGCATTGA
TTTCCAAACGGGAAGGTTCAATGCGGATGCGTACGGGTATCCAGCCGTTTTCAAACAGGT
GCAGGCTGTCGTTGCGGTCGAAATAAGGAACGTCGGAAACCACGCCGACATTCAGCCCTT
```
10
```
TGTACTCGACGGGCGAACCGACGGTCAGGCCGCGCACGGATTGTTTGAAAAACGCGGTGT
AGTACAGCGAGCGGTCGTCAGGCAGGTTGGCGACTTCGCTGCGGCTGTCGTAAAGCGTGA
AGCTGTCTTCGCTTTTGACGTTTTTACTGTTTTTGGTTTTCGGCGAATCAAATGAAATCG
CGCCCGACAGCAGGGCAGGCAGAGGGGCGGAATTGAGTTTGATGCCGCTGCCTGTGGTTT
CGATATTGATGCCGCTTTCCAGCCAAAAACGGCTGGCGGAATGAATCAGTTTGTCGTTGG
```
15
```
GGCTTTGGATGAAGATGGTGTAATGCACGCTTTGGTCGGACGGGTCGAAATGCGCGCTTT
CGACTTGCCCGACCATAAAATTTTCATACAAAACAGGGCTGTTGACGTTGAGGATGCGGT
CGTTTTTACCAATCAAATTCAAGCGCAGCCCGCTTTGCCCGATGGCGGTAACGGGCGGAA
TGTCCTGCACTTGGAACACGTCTTTTGCCTCGTCGCTTTTGCCGGGTGTAAAGGCGATGT
ACGAACCCGAAAGCAGCGTACCCAAACCGGTTACGCCGCTTTGGTCGATACGCGGCTTGA
```
20
```
CCACCCAAAACTGGGTATCGCTGCGGATGAGGCCGGATACGTCCGCATTGAGTTGGGCGG
TTACTTCCACGCCTTTTTGGTCGTCGCGCAGTTTGATTCGGGTAACGCGTCCGACATCGA
TGCTCAATACTTTGATGACCGTATTGTTGACCTCAATGCCTTCCGCGCTGTCCATCAAGA
GCGTAACCACAGGCCCCCTGTTGCGGATTTCCTTAACCCAAAGCCAGCCGCCGGCAATCA
GCGCGATCAGCGGAACCAGCCAGACGGCAGAGAGGAAGGTGTTGTTTTTGCGGACGCGTG
```
25
```
CTTGGGCGTGTCCGTTTGGAGGAGGGCTGTTGTCAGTCATGTTTTTCCGTTTCATTGAAA
GCAATGCCGTCTGAAGCGCGTTTGTCCCAAAGCAGGCGCGGGTCGAAATAATAGGCGGAC
AGCATCGTCAGAATCACGACCAGGCAGAAATAGACTGCCGCACTGCCCGGAATGACGCGC
GCGGCATAAGTGTGGAACGAACACATCAAAATAATAATCACAAAAATATCAATCATCGAC
CAGCGGCCGACCGCTTCGGTGATGCGGTAGAGGTGCGACAATTTCTTTGCACCCGTTGGC
```
30
```
AAAGCGAAGCGGGCGGACGCAATCAAAACCGACATTGCCGCAATCTTCAGTACCGGCACC
AAAATACTCGCGCTGAAAATAACCGCCGCAATCAGCCTGTCGCCCTCGTCCCACATATAA
GCGATGCCGTTAAGGATGGTATTGACCTCCGTGGCGGCAGGATTGGACGAAATCATAATC
GGCAGGATATTGGCAGGGAAATACAAAATAACCGCCGCCGTCAGAAACGCCGACGAAATA
CTCAGACTTTTCGGCCGTCGGCGGTACAGTTCCGCACCGCACACGCCGCAGGGGGATTCG
```
35
```
GCACTGTCGCGGAAATACAGGCAGCGGCTGCAACAGGTTTTACCTTCCGATGCCGTCTGA
ACCGCATTATCCCCCGTCAGCCGCCCGATTTGAAAATACACCCAATGCTGGGGAACCGAT
ACCGAAGTCCGAATCAGCATAACTGACAGCGCGAACATCAGATAAAACGCCGGCCCGAAG
CGAACCTCTGCCACAGACGAGAGCTTGATATACGCCACCAAAGTGGAAACAAAAAACACA
TCCACCATCATCGCCTGTCTCAAGCGCACCATCACACGCGTTGCCAAACGCAGCGCAGGA
```
40
```
TACGCCTGTTTCCGTATCAGCGCGGCATAGACATACAGGCACAGCAGCAGAAACAGAACC
GGCGCGCCGAAAGTCAGCACAAACATCACTTCGGCCAAAAAACCATAATCCTGAAACACC
ATCAGGCGCATCATCTCGGGCAGCGAAAGGACGGATGCCGCACCCGGTATCCCGACCTCG
ATATACGTCATACCGTAAGCAAACGCCATTAAAATCAGCGAAGCCGCCGCATAGGCGGGC
GGGGCGGAAAAAGGATGCCTGCCCACCCTGAAGAGTTTGTGTCCGCAACGGGGACAGAAC
```
45
```
GCCGCTTCTCCACTGTCCAACCGGGGTACATCCGCGCGGCAGCCGCATTCCGGACAATCT
ACCGTATGCGGCGGCAGGGCTTCGTCGCAGCAGTTGCCGCGAAGGCTGTGGGGGATATTT
TCGGCAAACGGCTTCATCGGGAAAGTGGCAAATATAAGTGGCGGCATTATAAAGGAAAAA
AGGCGATACACCCAATCAGGATGCAAAACCGGCAGGTTCGGCAGTATGAACAAACCCTTG
GTGTCCGGCAAAAATATTTTTTGAGCGGTTGTCCGCCGACTGCCGAACCCATTTGATAAA
```
50
```
ATCCCGATTCTGTAAAGAATAGTAAAATACCTGCTTAAAAACATCACGCAAATGATATTT
TTTCCAAAAATATGTGATAATAAATTTCGTTTATGATTCTTTATTATTTTTATAGTGGAT
TAACAAAAATCAGGACAAGGCGGCGAAGCCGCAGACAGTACAAATAGTACGGAACCGACT
CACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCG
TACTGGTTTTTGTTAATCCACTATATATGCGGGCAAGTGCGGATTTTGCCCGCACCGCAT
```
55
```
CCTTATCCCTTACCGACAAAGGAAAAAATATGAGTGAAACCGAAAATCAAGCATTGACAT
TTGCCAAACGCTTGAAGGCGGATACCACGGCGGTTCACGACAGCGTGGATAACCTCGTTA
TGTCTGTCCAACCGTTTGTCAGCAAAGAAAACTACATCAAATTTTTGAAACTCCAATCCG
```

```
TTTTCCACAAGGCTGTCGACCACATCTATAAAGATGCCGAATTAAACAAAGCCATTCCCG
AGCTGGAATACATGGCGCGATACGATGCCGTAACGCAAGACCTTGCAGATTTGGGTGACA
AACCTTACGAATACGGCAAACCGCTGCCGCATGAAACCGGCAACAAAGCAATCGGCTGGC
TTTATTGCGCCGAAGGATCCAATTTGGGCGCGGCATTTTTGTTCAAACACGCCCAAAAAC
TCGATTACAACGGCGAACACGGCGCGCGCCACCTCGCACCCCATCCCGACGGGCGCGGCA
AACACTGGCGCGCTTTCGTCGAGCATCTGAACGCTTTGAACCTGACTCCCGAAGCCGAAG
CGGAAGCCATCCAAGGCGCGCGCGAAGCCTTTGCATTCTACAAAGTCGTGTTGCGCGAAA
CCTTCGGCTTGGCAGCCGATGCCGAAGCACCGGAAGGAATGATGCCGCACAGGCACTAAA
AAATAATCGAACCAAATAAACAAGAATCGAACCAAATAAACAAGGTCTCGGCATAGCTGT
TTGCAGGGACCTTTAATTACACGGCGCGGCTTTGTTTACATGGATTACTGTCTTATTAAA
TATTAATGATTATCATAAAATCTATTATTCGCTAACCGATGGATGAACAATCCATACATC
TTGAGTTGATAATATGAAACCATTACAAATGCTCCCTATCGCCGCGCTGGTCGGCAGTAT
TTTCGGCAATCCGGTCTTGGCAGCAGATGAAGCTGCAACTGAAACCACACCCGTTAAGGC
AGAGATAAAAGCAGTGCGCGTTAAAGGTCAGCGCAATGCGCCTGCGGCTGTGGAACGCGT
CAACCTTAACCGTATCAAACAAGAAATGATACGCGACAATAAAGACTTGGTGCGCTATTC
CACCGATGTCGGCTTGAGCGACAGCGGCCGCCATCAAAAAGGCTTTGCTGTTCGCGGCGT
GGAAGGCAACCGTGTCGGCGTGAGCATAGACGGTGTAAACCTGCCTGATTCTGAAGAAAA
CTCGCTGTACGCCCGTTATGGCAACTTCAACAGCTCGCGTTTGTCTATCGACCCCGAACT
CGTGCGCAACATCGAAATCGTGAAGGGCGCAGACTCTTTCAATACCGGCAGTGGTGCATT
GGGCGGCGGTGTGAATTACCAAACGCTGCAAGGCCGTGATTTGCTGTTGGACGACAGGCA
ATTCGGCGTGATGATGAAAAACGGTTACAGCACGCGTAACCGTGAATGGACAAATACTCT
CGGTTTCGGTGTGAGTAACGACCGCGTGGATGCTGCTTTGCTGTATTCGCAACGTCGCGG
TCATGAAACCGAAAGTGCGGGAAACCGAGGCTATGCTGTGGAAGGGGAAGGCAGTGGCGC
GAATATCCGTGGTTCGGCACGCGGTATCCCTGATTCGTCCAAACACAAATACCACAGCTT
TTTGGGTAAGATTGCTTACCAAATTAACGATAACCACCGCATCGGCGCATCGCTTAACGG
CCAGCAGGGACATAATTACACGGTTGAAGAGTCTTATAACCTGACCGCTTCTTCCTGGCG
CGAAGCCGATGACGTAAACAGACGGCGCAATGCCAACCTCTTTTACGAATGGATGCCTGA
TTCAAATTGGTTGTCGTCTTTGAAGGCGGACTTCGATTATCAGAAAACCAAAGTGGCGGC
GGTTAACAACAAAGGCTCGTTCCCGATGGATTATTCCACCTGGACGCGCAACTATAATCA
GAAGGATTTGGACGAAATATACAACCGCAGCATGGACACCCGATTCAAACGTTTTACTTT
GCGTTTGGACAGCCATCCGTTGCAACTCGGGGGGGGGCGACACCGCCTGTCGTTTAAAAC
TTTCGTCAGCCGCCGTGATTTTGAAAACCTAAACCGCGACGATTATTACTTCAGCGGCCG
TGTTGTTCGAACCACCAGCAGTATCCAGCATCCGGTGAAAACCACCAACTACGGTTTCTC
ACTGTCTGACCAAATTCAATGGAACGACGTGTTCAGTAGCCGCGCAGGTATCCGTTACGA
CCACACCAAAATGACGCCTCAGGAATTGAATGCCGAGTGTCATGCTTGTGACAAAACACC
ACCTGCAGCCAACACTTATAAAGGCTGGAGCGGTTTTGTCGGCTTGGCGGCGCAACTGAA
TCAGGCTTGGCGTGTCGGTTACGACATTACTTCCGGCTACCGTGTCCCCAATGCGTCCGA
AGTGTATTTCACTTACAACCACGGTTCGGGTAATTGGCTGCCCAATCCCAACCTGAAAGC
CGAGCGCAGCACCACCCACACCCTGTCTCTGCAAGGCCGCAGCGAAAAAGGCATGCTGGA
TGCCAACCTGTATCAAAGCAATTACCGCAATTTCCTGTCTGAAGAGCAGAAGCTGACCAC
CAGCGGCACTCCCGGCTGTACTGAGGAAAATGCTTACTACGGTATATGCAGCGACCCCTA
CAAAGAAAAACTGGATTGGCAGATGAAAAATATCGACAAGGCCAGAATCCGCGGTATCGA
GCTGACAGGCCGTCTGAATGTGGACAAAGTAGCGTCTTTTGTTCCTGAGGGTTGGAAACT
GTTCGGCTCGCTGGGTTATGCGAAAAGCAAACTGTCGGGCGACAACAGCCTGCTGTCCAC
ACAGCCGCTGAAAGTGATTGCCGGTATCGACTATGAAAGTCCGAGCGAAAAATGGGGCGT
ATTCTCCCGCCTGACCTATCTAGGCGCGAAAAAGGTCAAAGACGCGCAATACACCGTTTA
TGAAAACAAGGGCTGGGGTACGCCTTTGCAGAAAAAGGTAAAAGATTACCCGTGGCTGAA
CAAGTCGGCTTATGTGTTTGATATGTACGGCTTCTACAAACCGGCTAAAAACTGACTTT
GCGTGCAGGCGTGTACAACCTGTTCAACCGCAAATACACCACTTGGGATTCCCTGCGCGG
TTTATATAGCTACAGCACCACCAATGCGGTCGACCGCGATGGCAAAGGCTTAGACCGCTA
CCGCGCCCCAGGCCGCAATTACGCCGTATCGCTGGAATGGAAGTTTTAATCTGGTATTAT
TGAATTAATCGCCTTGTTGAAAATTAAAGCCGTCCGAATTGTGTTCAAGAATTCATTCGG
ACGGCTTTTTACCGTAAATCTGTGTGATGGGGTTTTATATTGATACAGTATCCGAACTCA
GGCAGGGGGTAATGTTGCAGGATTAAAAATGCCGTCTGAAAAATGTTTCAGACGGCATTT
TTTGGTTGCCGATATGTTAACGGACGACGTTGGCGCGCATGACCACGCGGACGTGGAACG
AGCCTGCCTGACAGTCGTATTGTCCGCCTTGCAGCGGCTGCTTGTCGAAGTAGCTGTGGA
AGCCGGTAACGCCGCGTCCGCAAGGGTGGCGGCAGATGCCGCATTGTGTTTATAATGCCG
```

-92-

```
TGTCAGACGTTTGATTTATGGGAAAATAATGATGCTTACCAATCAGGAAGTAACCGGTGT
CAAACTGGGATACCGCAAAGCCGTTTTATAGTGGATTAACAAAAATCAGGACAAGGCGAC
GAAGCCGCAGACAGTACAGATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGA
GAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTAT
AAATAGCAAGGTGTGAATAAAACGGCGGATATAATCAAATATATGTAATGAGATTCCCAA
AATCTTGGTAATGATGTATATTAGTCAAGTTAGCTAATCATGAGAAGTGTTATGTTTCAA
GCAAATATTCATCAGGCAAAAACCAATTTGAGTCAATTGATTCAAAGAGCAGAAGCAGGG
GAAATCGTTATTATTGCGAAGGCAGGTAAGCCTTGCGTCCAACTAATCGGTATTGAAAAA
CCGGCACGAAATGCAGGAAGGTTGAAAAAATTCAGTCATATGGAAAATACGGATATTTCA
CGTATTCTTGAGGATGACAATGAAACGGCAGCTTTATTTTTTGAGGAGTCGGCTCTGTGA
GAAAGATTCTGCTTGATACCCATGCGTTGCTGTGGTGGTTGTTGGATGACAAGAAACTGG
GGATATCTGCACGCAAACTGATAGAAAATCCGAGAAATGCGATCTTTGTCAGTGCAGCAA
GTATTTGGGAAATTTCCATCAAGCAGAACAAGGGGTTGTTGAAATTACCGGAAGAGTTTT
TTGATGTGCTTCAAGAAGAGGATTTTGAAATGTTGCCTATAGGTCTGTTTCATGCAAAAC
AGGCTGGAAGCCTTCCGGAGATACACAAAGACCCTTTCGATAGGATGTTGATTGCACAAA
CCCAAGCGGAAGGCTTTGAACTGATGACTGTCGATGAATATATTCCGCAATATGGAATTA
GAGTTGTCAACGCATCAAGCTGACAAATACAAAAACTGTGTACACAAGAAAGACCGCCGA
GGCGGTCTTTTCGGTTATTGTCTTCGCTTAAAAGCCAGACTTCTGTCGTGGACTATAGGT
GTGTCCCGATCTGAATCTGCCGCACAATAAGGCAAGGGGATTAAAAATGCCGTCTGAAAA
ATGTTTCAGACGGCATAATGGCTTAGGGGTTCAACACGCGTGCGATGAGGGCTTTTTCTT
TACCCTGCATATTGGGGATTTTGACCTGAATGCCGTTGCCCGGGGCAACATCGACAGGCT
GGCCTTTGCGGGTCATTTGTTCCAATTTGATGGTTTGGTTGCCGCTCGGGTGGATGATTT
CGAGTGAATCGCTGACGGCAAAGCGGTTTTTGACTTCCACTGTTGCCCAGCCGTTTTCAT
CGATTTCGGTAACGTGTCCGACGTATTGGCTTTGTTTGGCGGTGGAATGGCCGGTCAGGT
AGTTTTGATAATCCTGAGTTTGGTGGCGTTCGAGGAAGCCGCTGGTGTAGCCGCGGTTGG
CGAGGCCTTCGAGTTCGCTCAACAGGCTGTAATCAAACGGACGGCCTGCGACGGCATCAT
CAATCGCTTTGCGGTAGGACTGGGCGACGCGTGCAACATAATAGAGCGATTTGGTACGGC
CTTCGACTTTGAGGCTGTCCACGCCGATTTTGGCGAGTTTTTCGACGACTTCGATACCGC
GAAGGTCTTTGGAATTCATGATGTAGGTGCCGTGTTCGTCTTCCATAATCGGCATCATTT
CGCCCGGGCGGTTGGATTCTTCAATCAGGAAAACTTTGTCGGCGTAGGGATGGCGTTTTT
GACCGTTGATGCCTTCAAAGTTTTGGTTGGCTTCTTCTTGGGCTTTTTCAAAGTTGAAAC
CTTGCAGAAGCTGGGCATCGCCTGCATCGCTTTCCGTGGCATTGTGAACCTTGTAATCCC
AACGGCAGGAGTTGGTGCAGGTGCCTTGGTTGGGGTCGCGGTGGTTGAAATAGCCCGACA
ATAGGCAACGGCCTGAATAAGCGATGCACAATGCGCCGTGGATGAAGACTTCGAGTTCGA
TGTCGGGGCATTCTTGGCGGATTTCGGCGATTTCTTCCATACTCAATTCGCGCGACAGAA
TAATGCGTTCGACGCCGATGTTTTGCCAGAATTTCACGCCCCAATAGTTGGTGGTGTTCG
CCTGTACGGACAGATGGATCGGCATTTCCGGCCATTTTTCGCGCACGGTCATAATCAAAC
CCGGATCCGCCATAATCAGCGCGTCGGGTTTCATGGCAATCAGCGGCTCCATGTCGGCAA
CGAAGGTTTTGAGTTTGGAATTGTGCGGCAGGGTGTTGACGGTTAAAAAGAATTTTTTGT
TGCGCTCGTGCGCTTCTTTAATGCCTTGTTCTAAAACATCAAGTTTGGCAAATTCGTTGT
TGCGGGCGCGCAGTGAGTAACGCGGGCTGCCGGCGTAAACGGCGTCTGCGCCGTAGTCGT
AGGCGGCGCGCATTCTTTCCAATCCGCCGGCGGGCAATAAGAGTTCGGGTGCTTTCATCG
TGTTTCCTTTTCGGTTGAAACCCCGCCCTTTAGGGCAGTAGAATCAGACTTTATTTGGGA
GGGGCGTAACCCCTTCCGAATCAGGGCAACATATAGGGCGACGCTTTATGTGTCGTCCTG
TGTGTTGAAACATGATTTGTATGCTTTGTAAAAATGTTTCAGACGGCATTGCTGCAAATG
CCGTCTGAAAAGGGTTTGAGGATGGGCGGATTATCCGCCTTTTTGTATTTTCGGTCAATT
TTGACGGGAAATTTATAAGGATTTATCAAGTATTTGCCTGCTTGGGATATAATGCGGTAG
TTTGAATGCGAGAGAGAATGTGATGAATCCTAAAATCGTGTTTTTCGACATTGACGATAC
GCTGTACCGAAAATATACGGATACTTTGCGCCCTTCCGTGAAAACGGCGGTGGCGGCTTT
GCGCGGCAAAGGTATATTGACGGCGTTGGCAACGGGGCGGTCTTTGGCGACGATTCCCGA
AAAGGTCAGGGATATGATGGCGGAAGCGGGAATGGATGCCGGTAACGATAAACGGACA
GTTTGCGCTGCTGCACGGAAAAACCGTGCGCGAAGTACCGATGGATGCCGGTTTGATGGG
CAGGGTTTGCGCGCATTTGGATGGCTTGGGCATGGATTATGCGTTTGTCGGCGGAGAGGG
GATCGCTGTGTCCGCGCTGTCGGAATGCGTGTGCCGCGCCTTGAAGCATATCGCCAGCGA
TTTTTTTGCCGATAAGGATTATTTTTCAAGCAAACCGGTGTATCAGATGCTGGTGTTTGC
GGAGGAAAACGAAATGCCGCTTTGGTCGGATATTGTGGAACGGGAAGGCTTGAAAACGGT
GCGCTGGCACGAGGAAGCGGTCGATCTGCTGCCTGCGGGTGCGTCGAAAACGGACGGCAT
```

```
CAGAAGCGTGGTTGAAGCATTGGGATGGGAAATGGCAGACGTGATGGCGTTCGGCGACGG
TTTGAACGATGTGGAAATGCTGTCAGAAGTCGGGTTCGGCGTGGCAATGGGCAACGGGGA
ACAGGCGGCGAAAGAAGCGGCGAAATATGTTTGCCCCAGCGTTGATGAAGACGGCGTGTT
GAGGGGCTTGCAAGATTTGGGCGTGATTTGAACGCATCATAACAACCCTGCCGGTTTCAG
ACGGCAGGGTCGGTTTTCAGCCCTTCATACAGCCTTCGTTTTGAAGCAGGGTAAATAAGG
GCGCGCCGCTTGCACGGATATTCTTGCCGCCTTGAAGGTCGGTAAATTCCAAAATGGCGG
CGGCTTCGACAATTTCTCCGCCCGAGTTTGCGGATCAGTTCCAGTCCGGCAAGCATCGTGC
CGCCCGTGGCAATCAAATCATCGACCAGCAGCACGCGCGAACCGAGTTTGACGGCATCGG
TGTGGATTTCCACCGCAGCTTCCCCGTATTCGAGCGCGTAGCTTTGCGATACGGTTTCAA
AAGGCAGCTTGCCTTTTTTGCGGATGGGGACGAAACCGACGTTGAGCTGGTAGGCGAGTG
CCGCGCCGATAATGAAGCCGCGCGCGTCCAAACCGGCAACGATGTCGATTTTCTGATCCA
TATAGCGGTAAACCAATAAATCAACCAAAAGGCGGAAGTATTCCGCGCTTTGAAGGACGG
GCGTGATGTCGTGGAATAAGATGCCTTTTTGCGGCCAGTTTTCGATTTTGCGGATTTTGT
CGGCAAGCGCGCCGACACTCATAGCTTCGGGATGAACCAGCATTGCGTGTTCCAAGTTTG
ATGTTTTTAACGCCATATTGTAGCCGTCAGCCTGTCGCTTGCCAAATCAATCAAAACAAT
AGCGGCAAAATATGGGCATCGGCAAATAGGAAACTGGGTGTCCATTGTGATACAATCGGC
TGGAAAATATACAGGTAAAAAATATGTCCGCTTATCGAAAAGGCAACATCTTTATCATTT
CGGCCGCTTCCGGCACGGGCAAAACCACGCTGGTGTCGCGGCTGTTGGCAAACCATAACG
GTTTGCGCGTTTCCGTGTCGCACACGACGCGCCCGCCGCGTGAAGGCGAAGCAAACGGCG
TACATTATCACTTTGTTTCCAAAGAAGAGTTTGAGTCGCTTATCGCGCAGGAAGCTTTTT
TGGAATACGCCGACGTATTTGGCAACTATTACGGCACAGGCGCGGAGGGTGTGAATGCGT
TGGCGGCGGCAGGCTATGACGTGATTTTGGAAATCGACGTTCAGGGCGCGGCGCAGGTTC
GCGACGCGCTGCCCGAAGCCGTCGGCATCTTTATCCTGCCGCCTTCTTTCGACGTACTTG
CCGCGCGCCTCAACGGACGCGGGACGGACAGTCGGGAAGTTATCCAAAGGAGGCTGTCGA
AGGCAAGGCATGAAATCGAGCAGTCCGTATTGTTTGACTTTGTCGTGGTCAATGACGACT
TGGCGCGAGCGGAGGAGGATTTGCGCCATATTGTGAATGCCTGCCGTCTGAAAAGGTCGC
GGCAACTGGGGTTTATTGCAGATTTGTTGGAAAATTCCTAGAAAACGGCGAAAATACCCG
GTTTCCCAATTTAAATATTTTTGAAAGAAAGCAAATAATATGGCACGTATTACCACCGAA
GACTGTACCGGAAAAATTTCCAACCATTTTGACCTGACATTGGTAGCGGCTCGCCGCGCC
CGCCAGCTTGAGAACGGCAACACGCCGCTTGTGGACGATGTCCGCAATAACAAACCGACC
GTTACCGCCTTAAGGGAAATCGCCGCCGGACATATCGGTACAGAACTGTTGACGCGCAAT
AAATAAATTCTGCCGGAAACGCACGCCGGAACACTTTGCCGCCGTGCAGTCCGACGGTTT
GAAATGAAAAACACATACATACCGAAAGCCGTCTGAAATGCCCGCCCCCCAACCTTCCGC
CCCTTACGACCCCCTGACCGCCGAAGCGCGTGCCCTGCTTTTCCATACCGCCTCCTACCT
CAAGCCCGAGGAACAGGCGGAGCTTGAAAAAGCTGTCGCCTATGCGTTTCGCGCCCACGA
CGGGCAAACCCGCAAAAGCGGGGAGCCCTACATCACGCATCCGATTGCCGTTGCGACGCA
GCTCGCCCTTTGGCATATGGACATACAGGGTCTTTGTGCAGGCGTGATGCACGACGTATT
GGAAGATACGGGCGTGACAAAAGGGGAAATGGCGGCGGTGTTCGGCAATACGATTGCCGA
GATGGTGGACGGTCTGTCCAAGCTTGAAAAACTCAAATTTGAAGATCATGCGGAGCATCA
GGCGGAGAGTTTCCGCAAACTGATTTTGGCAATGACCAAAGATGTGCGCGTGATTGTCGT
CAAACTTGCCGACCGCCTGCACAATATGCGGACGCTCGGTTCGATGCGCCCGGACAAACG
CCGCCGGATTGCAAGGGAAACCCTTGAAATCTATGCACAGATTGCCAACCGTATAGGTTT
GAATAACGCATATCAAGAGCTTCAGGATTTATCGTTCCAAAACCTGCATCCCAACCGCTA
CGAGACTTTAAAAAAAGCGATGGACAAGAGCCGGAAGAACCGGCAGGACGTTGTCGGCAA
AGTCTTGCGCGCATTCGGCCAGCGGCTGGTAGGCGCGAATATAGAGGCCAAAATCAAAGG
CAGGGAAAAAAACCTGTACGGCATCCATCAGAAAATGATGGCGAAAAAGCTGCGCTTTGC
CGAGGTTATGGATATTTACGGTTTCCGCGTCATTGTCAACAGCATTCCAGCCTGTTATGC
CGCACTCGGCGCATTGCACACCCTCTATCAGCCCAAGCCCGGGCGGTTCAAAGACTATAT
CGCCATTCCGAAAAGCAACGGGTATCAAAGTCTGCATACGACTTTGGTCGGCCCTTACGG
CTTGCCGATTGAAGTTCAGATACGTACCAAGGAAATGGATGCTGTTGCCGAAGGTGGAAT
CGCCGGACATTGGAGCTATAAATCATATTCTTAAGACGGTCGATCAGGCGGTGCTTCACAC
AAACCGGTGGCTGAAAAATATCTTAGATTTGCAGGCAAGCAGTGCCAATGCCATTGAGTT
TCTCGAACACGTCAAAGTCGATTTGTTTCCGAACGAAATCTACATCCTTACGCCAAAAGG
AAAAATCCTAACTTTGCCCAAAGGGGCAACGCCTGTCGATTTTGCTTATGCGGTGCATAC
CGATATCGGGCACAAAACCGTTGCCGCACGTATCAACAATATCATGATGCCGTTGCGTAC
GAAGCTCAAAACCGGTGATTCTGTTGAAATTATCACATCCGAACACGCCAAACCCAATCC
CGCGTGGTTGAATTTCGCCGTGTCAGGCAGGGCGCGCAGCGCCATACGCCAATATATTAA
```

-94-

```
AAACCTTAACCGGCACGATGCGGTCGTTTTGGGAGAGAGCCTCTTACAAAAAGCCCTGTC
CAGTTTGCTGCCCAAAGATGTCCTGCTTTCAGACGGCATCAAGGAAAAATATCTTGCCGA
TCTCAACGACAAGCAGACATCGTTTGAAGAAGTGCTGTACAACGTAGGGATGGGGCATAC
CCTGCCTGTTTATGTCGCCATGCACATTGCCCGAGTTGGCAGGGGAGCATTTCGGCAGCGA
```
```
GGTCAGGCTCAGTTCCATTAAAGTCGATGGGCAGGAAAGCGGGCATATTCATTTTGCAGA
GTGCTGCCACCCTGTTCCCGGCGATTCCATCCGTTTGCTGTTGGTTAAGGGAAAAGGCAT
GATTATCCATAGGGATACCTGCCCGACGTTGTTGAAGTCCGATCCCGAACAGCAGCTGGA
TGCAGACTGGGAAAATATGAACGGGCAGAACTACCGTGTCGGGCTTCAAGTCCAATCGGA
AGACAGCCACGGCCTGTTGGCATTAATGGCGCAAGCGATTTCCGATTCCGGTGCAGACAT
```
```
TGAGTCGGTCGAAACACCGTCTAAATCCCAGTCGGGAACGGAAGGTTTTGTCGAATTCAA
ATTCTTATTGAAAGTCAAGAATCTGAATCAATTGAATCAGATTATTCAAAATCTGCATAG
TATTCCATATATCCGCAAAGTCATCAGAAGTTGAAGCAGGTAAAACGGGTTGCCTTTTGA
TTAACAGGCAACCCGTTTTATGGTTTATCCGTTCAATTGCTTATTTGCTCAAATATACGG
CAAGCCTTTCAACAATCCGCATTGCCGCTTCATCTTTACTTGTTTCGGGAAAAGACAGTT
```
```
CCCCGTCGTCCCCGATAATGGTAATCCGGTTGGTCGGTTTGCCCATTGCGATTGAAACAT
CATTGGCAACGATCATCGGTAGCTTTTTCTTAATACGTTTTTCCCGCGCATATGTCATTA
CATTCTCCGTTTCAGCGGCAAAACCGATGCAGAACGGCGGGTTCGGTAATGAGGCAATAG
AAGCCAAAATATCGGGGTTCTCATCCAATTCGATGGATAACGGTTTGGCATTTTTATCTT
TTTTGAATTTTTGAGTACTCCTATTCTTAACCCTATAGTCTGAGACGGCGGCAACAGAAA
```
```
TAAAAGCATCTTGTTTGTCGATTAAACGATGCACTGCGCGATGCATATTTTCGGCACTGA
CGGCTTGAACCGTATCGGATATGCCGAAAGGCAGCGCGGTTTGAAGCTGTCCGTGAATCA
GGCTGACTTCTGCACCGGCGGCACGGCACGCCCGCGCCAAAGCCACGCCCATTTTCCCGC
TGGAGATATTTGTGATGCCTCGGACAGGGTCAATGGCTTCAAATGTCGCACCTGCGGTAA
TCAAGACTTTTTTGCCCTTTAAAATTTTCGGTGTCCATAAATCCGGAAGCAGATCCAGCA
```
```
ATTCGGCAGGTTCCGGCATCCTTCCCATACCATTTTCTCCGCAAGCCTGTTCGCCCAAGC
CCGGCATATAGACAGTAATGCCGTCTGAAACCAGTTGTGCGATATTCCGTTGGTTGGCAG
GGTTGAGCCACATTTCCACATTCATCGCGGGCGCGATGGCAAGCGGACATTTCCGTGCGG
CTGCCAGACTGGTCAGTAGGTTATCTGCCACGCCGTTACAGATTTTTGCCACGGTATTCA
TACTTGCCGGCGCAATCAGAAAAACATCCGCATTCCGGGTCAGGTTGATATGTTCCATAC
```
```
CGTTTGAACCGTTGCCGCCGTGCGTGTCGGTCAGGACAGGATTGCCGCTTAAAGCCTGAA
AAGTCAGCGGAGAAACAAATTCAGTTGCCGAGCGGCTCATAACCACCGTAACCGAATGCC
CCTGTTTTTTCAGCAGTCGCACCAACTCGCAAGACTTATACGCCGCAATACTGCCCGTTA
CACCTAAAAGAATATGTTTGCCCATTTTGACAATTTCTAATTACGAAGAAAAAACAGCAG
CCATTCTATAACAAAGTACGGATACATTAGATACCGTTTGGATACAAAATGCCGTCTGAG
```
```
TCCCCGAGTTTCAGACAGCATATTCACAAAGGCGCACCAGCCGGAGGAGGGAGAGGAAAG
GATTGTTGGAGGCGGCGCAGTATTTAGCAGAAATAAAAAACCTTATCCGACAGCGACATG
ACGAATTTCCCCAAAAAAATCCCGCTGAAAGCATTGACCGTTTTTCCCTGTGGGCGTATA
GTTCGGTTCTTCGCTGCTGCAGAAGTGGCGGACGAACTGAAAAGTATAGCACAGAATGTT
GGGGATATCGAGAGATATCTTGACAGGCGGAAGGAATACTTTATAATTCGCAACGCTCTT
```
```
TAACAAAACAGATTACCGATAAGTGTGAGTGCCTTGAGTCTCACACTGTTTGAAAGACAG
ACAAGATAATGTTTTGAACATTGTCCTGTTGGTTTCTTTGAAGCAGACCAGAAGTTAAAA
AGTTAGAGATTGAACATAAGAGTTTGATCCTGGCTCAGATTGAACGCTGGCGGCATGCTT
TACACATGCAAGTCGGACGGCAGCACAGAGAAGCTTGCTTCTCGGGTGGCGAGTGGCGAA
CGGGTGAGTAACATATCGGAACGTACCGAGTAGTGGGGGATAACTGATCGAAAGATCAGC
```
```
TAATACCGCATACGTCTTGAGAGAGAAAGCAGGGGACCTTCGGGCCTTGCGCTATTCGAG
CGGCCGATATCTGATTAGCTAGTTGGTGGGGTAAAGGCCTACCAAGGCGACGATCAGTAG
CGGGTCTGAGAGGATGATCCGCCACACTGGGACTGAGACACGGCCAGACTCCTACGGGAG
GCAGCAGTGGGGAATTTTGGACAATGGGCGCAAGCCTGATCCAGCCATGCCGCGTGTCTG
AAGAAGGCCTTCGGGTTGTAAAGGACTTTTGTCAGGGAAGAAAAGGCTGTTGCTAATATC
```
```
AGCGGCTGATGACGGTACCTGAAGAATAAGCACCGGCTAACTACGTGCCAGCAGCCGCGG
TAATACGTAGGTGCGAGCGTTAATCGGAATTACTGGGCGTAAAGCGGGCGCAGACGGTTA
CTTAAGCAGGATGTGAAATCCCCGGGCTCAACCCGGGAACTGCGTTCTGAACTGGGTGAC
TCGAGTGTGTCAGAGGGAGGTAGAATTCCACGTGTAGCAGTGAAATGCGTAGAGATGTGG
AGGAATACCGATGGCGAAGGCAGCCTCCTGGGACAACACTGACGTTCATGCCCGAAAGCG
```
```
TGGGTAGCAAACAGGATTAGATACCCTGGTAGTCCACGCCCTAAACGATGTCAATTAGCT
GTTGGGCAACCTGATTGCTTGGTAGCGTAGCTAACGCGTGAAATTGACCGCCTGGGGAGT
ACGGTCGCAAGATTAAAACTCAAAGGAATTGACGGGGACCCGCACAAGCGGTGGATGATG
```

```
TGGATTAATTCGATGCAACGCGAAGAACCTTACCTGGTCTTGACATGTACGGAATcCTCC
GGAGACGGAGGAGTGCCTTCGGGAGCCGTAACACAGGTGCTGCATGGCTGTCGTCAGCTC
GTGTCGTGAGATGTTGGGTTAAGTCCCGCAACGAGCGCAACCCTTGTCATTAGTTGCCAT
CATTCAGTTGGGCACTCTAATGAGACTGCCGGTGACAAGCCGGAGGAAGGTGGGGATGAC
GTCAAGTCCTCATGGCCCTTATGACCAGGGCTTCACACGTCATACAATGGTCGGTACAGA
GGGTAGCCAAGCCGCGAGGCGGAGCCAATCTCACAAAACCGATCGTAGTCCGGATTGCAC
TCTGCAACTCGAGTGCATGAAGTCGGAATCGCTAGTAATCGCAGGTCAGCATACTGCGGT
GAATACGTTCCCGGGTCTTGTACACACCGCCCGTCACACCATGGGAGTGGGGGATACCAG
AAGTAGGTAGGATAACCACAAGGAGTCCGCTTACCACGGTATGCTTCATGACTGGGGTGA
AGTCGTAACAAGGTAGCCGTAGGGGAACCTGCGGCTGGATCACCTCCTTTCTAGAGAAAG
AAGAGGCTTTAGGCATTCACACTTATCGGTAAACTGAAAAAGATGCGGAAGAAGCTTGAG
TGAAGGCAAGATTCGCTTAAGAAGAGAATCCGGGTTTGTAGCTCAGCTGGTTAGAGCACA
CGCTTGATAAGCGTGGGGTCGGAGGTTCAAGTCCTCCCAGACCCACCAAGAACGGGGGCA
TAGCTCAGTTGGTAGAGCACCTGCTTTGCAAGCAGGGGGTCATCGGTTCGATCCCGTTTG
CCTCCACCAATACTGTACAAATCAAAACGGAAGAATGGAACAGAATCCATTCAGGGCGAC
GTCACACTTGACCAAGAACAAAATGCTGATATAATAATCAGCTCGTTTTGATTTGCACAG
TAGATAGCAATATCGTACGCAGGG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 9>:

gnm_9

```
GTAGCCGGCGCACGACAAGCCTTGCGGAGCGGCATCTGCCGAACAAGCCTCCCTCGCCGA
AGAACTGGGCATCAGCATTGACCGCAAGTTTAACGAGCAGCTCAAAGGCGTGTCGCGCGA
CGATTCGCTCAAACGCATCCTCGCGCACGGCGGCAAAACCGTCAGCGAAGCCGAGTTCGC
CGAACTGACCCGCCGTAAAAACGACAACTACGTCGAGATGATTCAGGCAGTCAAACCCGA
AGACGTGTATCCCGGCATTTTGCCCCTGCTGGAAGCATTGAGGGCAAACGGCAAAAAAAT
CGCCCTTGCGTCCGCCAGTAAAAACGGCCCGTTCCTGCTGGAACGCATGGGGCTGACCCA
CTTCTTCGACGCCATTGCCGACCCTGCCGCCGTCGCACATTCCAAACCCGCCCCCGACAT
CTTCCTCGCAGCAGCCGAGGGCGTAGATGCGGACATCCGCCAATGCATCGGCATTGAAGA
CGCCGCCGCCGGCGTCGCCGCCATCAAAGCCGCCGGCGCCTTGCCCATCGGCGTGGGCAA
AGCCGAAGACTTGGGCAGCGACATCGCGCTGGTCTCCGGCACCGCCGAGCTGACCTACGC
CTACCTGCAAAGCGTGTGGGAACAGTCGGGCAGGTAAAACGCGTCAGATAAAGTGTCAAG
GAAGCAAAAGACCGTCTGAACAGTGTTTCAGACGGCCTTTTTGCTTTTAGAACAGAATGA
TAACCCAACTTACGCAACCCTAAAAACTAAATGCCAATCTCTTAACCATGCTATTCAAAT
TTATTTGAACGATTTTTTTTCTAACCAGCCAACCTTAACAATCACTATTAAAATGCGCGC
CGATGTTCTGTCTCCGCCTGTATGCGGCTTGGGCGACGGCGAGGCTGCATTCGAGCAGGT
TGCGGTTTTCGTATTCGGACGCGGTGTGCGGTTCGGCTTGGTTTTGCTTCCAAAGCTGCA
GTTGGGCGATGGCGCGGCGCAGGCCGGTATCGTTGCGTAGGATGCCTAGATGGCGTTGGT
TGAACGTTTGCAGGACGGGGCGGCTGAATGTGTTTTGAAGGTCGTCTGAAAAGATGCCTG
CTTCGGCGGAGAGGCTTTCAGACGGCCTTTGGAATGGTTCGGCTTGGAATGCTTGTCCGT
CTGCGATGGCTTGGGCGCAGAGCCTTGCGGTCACGACGCATTCGAGCAGGGAGTTGCTGG
CAAGGCGGTTGGCTCCGTGCAGCCCAGTGCAGGCGGTTTCGCCCAAGGCGTAGAGCTGCG
GCAGGGAGGTTCTGCCGCAGGGGTCGGTTTGGATGCCGCCGCAGGTGTAGTGTTGCACGG
GGCGGACGGGGATGGCTTGGCGCGTGATGTCTAGGCCGCATTGGGATAAACAGTGTCGAT
GGATGGATGGGAAATGCCGGCGGACGAACGCTGCGGGTTGATGGCTGATGTCGAGCGAGA
CGAAGTCTTGCGTTTGTTTGGCGATTTCGGCTGCGATGGCGCGGGCAACGATGTCGCGCG
GTGCGAGTTCGGCGCGGCGGTCGTAATGCGGCATAAATCGTTCGCCCGCTTGGTTGGTCA
GGATGCCGCCTTCGCCGCGCACGGCTTCGGAAATGAGGAAGGTGCGTCCGTTTTCAGACG
GTCTTGCCAAGCCTGTGGGGTGGAATTGGATAAATTCGAGGTTTCCAACTGCGCAGCCTG
CGCGTATCGCCATGGCGATGGCGTCGCCCGTGCATTCGGGCGGCGTGGTGGTGGCGGCGT
AAATCTGTCCCAAGCCGCCGCCTGCGAGTACGGTATGGCGGGCGCGGATGCGGTAGGTTT
CTTGTGTTCGGCAGTCGAGGACGGTCAGTCCGCACGCCGCGCCTGATTCGGTTTGAATGT
CCAACGCCATCTGCCGCTCGCAAACGCGGATGTTCGGGCGGCGGCGTATTTGGGCAATCA
GGCTCTGCATGACGGCTTCGCCCGTGTAGTCGGCGACGTGGGCGATTCGTCGGCAGGTAT
```

-96-

```
     GCCCGCCTTCACGCGTCAGGTGCAGGCCGTTATGATTCCGGTCGAACGCCACGCCCTGCG
     CCAGCAGCCATTCGATTGCCGGTTTGCCCTGCGACAGGATGGCGCGGACGGCGGCTTCAT
     CACACAAACCCGCGCCCGCTTCCAAAGTATCGGCAACGGCGTGTTTTTCGATGTCGTCCTCTC
     CCGACCACGCCGCCGCAATCCCGCCTTGCGCATGACGGCTGGCGGTGTCGTCCAGCCGGT
  5  TTTTGCACAAAATAACGATGCGGAACGATTCAGGCAGCGACAGGGCGAGCGTCAGTGCCG
     CCAGCCCGTTTCCGGCAATCAATACGTCGCAATCGGTTTGCATGGTGTTGTCCTTGTTTG
     AGAGGCCGTCTGAAACGGTATAGTGGATTAATCAATGCCCCGACATATGCGACATGGTAT
     TGAGAAGCACCACGCCCAGCAAAATCAAACCGATGCTGACAATCCCAATGAAATCAGCTT
     TCTCACCGAAAAACACCACGCTGACTAAAGCCGTTAAAACCAGTCCCACGCCTGCCCAAA
 10  TGGCGTATGCTGTAGCCAGCGGCATGGTTTTCAGTGTCATAGACAAGGCCCAAAAACACA
     CCGAAAAGCTGACTACCACGCCAATAGAAGGCCACAGTTTGCTAAACCCGCCACTCAGTT
     TGAGCATGGAAGAACCGCAGACTTCGCTTAAAATTGCTACAGTCAGAAAGAGCCAGTGCA
     TTTGCATGTTTTTACCTGATAAATGAAAGAAAGTATAATTATATCAATGCAATAAAATAA
     AAAAACAGTCTTGTTGTTAAAGATTTTTTGTGTGCAAATCCCGTCTTGGGAAAGCAGGCG
 15  GGCGGTATTTTCAGGCTGCACCCATTACGAACGACAAATCAGGCGGGGCCCATGCCGTTG
     AACACATCTTTTTTCTTCAGCCCTGCCGCAAAGTCGAGCATACGCTGCAAAGGCAGTTTG
     GCGGCTTCGCCCAGCTTCCTGTCCAACAGGATTTCGTTACGTCCGCTTGTCAGGGCGTAT
     TTGATGCCGCCCAGCGAATTCATCGCCATCCACGGGCAGAACGCGCAGCTTTTACAGCTT
     CCACCGTTGCCCGCCGTCGGCGCGGCGATAAATTGTTTGTCGGGCGCCTGCTTTTGCATT
 20  TCGTGCAGGATGCCCAAATCGGTCGCCACGATGAATTTTTTTCAGGACGCGATACGGCG
     GCTTTGAGCAGTTTGCTGGTCGAGCCGACCACGTCGCCCAGTTCGATGACGCTTTGCGGC
     GATTCAGGATGAACCAGCACCACCGCTTCGGGGTGTTCCGCCTTCAACGCCGCCAGCTCT
     TGCCCTTTGAATTCGTTGTGAACGATGCACGAACCCTGCCACAACAGCATATCCGCGCCC
     GTTTCGCGGCAGATGTAGTCGCCGAGGTGGCGGTCGGGTCCCAAATCAGCTTCTCGCCG
 25  CGTGATTTCAAATACGATACGATTTCTAACGCCACCGAAGACGTTACCACCCAATCGGCA
     CGCGCTTTCACGGCGGCGGAAGTGTTGGCGTACACCACCACCGTGCGGTCGGGGTGTTGG
     TCGCAAAACGCTGAAAACGCTTCTTCCGGGCAACCCAAATCCAAAGAACATTCCGCCTCC
     AAATCAGGCATCAGCACCGTTTTTTCAGGGCAGAGGATTTTCGCGCTCTCGCCCATGAAG
     CGCACACCAGCCACCACCAGCGTACCGGCTTCGTGTTCCGCACCGAAGCGCGCCATTTCC
 30  AGCGAATCGCCCACGCATCCGCCCGTCTCCAAAGCCAAATCCTGAATCAGCGGATCAACG
     TAATAATGCGCCACCAAGACCGCGTTTTTCTCCTTCAGCAAAGCCTTGATTTCGTCTTTC
     AGACGATCTGCCGTCTCGCGGTCGGGCGTGTCGGCAACCTTCGCCCACGCCTGACGGATT
     TGGCAGGCGGAAGTCGGCGTTTGGATGAGTGGCATATCGTAGTCGAACGAGCGGCGGGCG
     GCGGTTTGCATGATGTTTCCTTGTAGCTGTTTTTCAGACGGCATGAAGGTTTGCCGTCTG
 35  TTTTTCAAACTGTTTTTACATTATGCTCAACTTGAGTATAATATGCAAGGTCGTCTGAAA
     ACAGGTTTGCAATACCGTAAAAACCGACCCGCTTCGTTCCGACAAACCGCTTTGGTTTACA
     ATAAAGCCTTTCCCACCCGCAGAAAGCCGAGCATGGATGCCTACCCCGAAGCCGAAGCCC
     CGCCGCAAAGCATCGTCGAGCTGGTTCCCGTATTGATTGCCGTTACCGACGGCGGCCTGC
     GGGTATTGACCGTCGCCCAAGGCATGCTCCTGCCCAACGGCCCGCTCTCCCCCCTGCGCA
 40  ATTCCTTGCAGGCAGGCGTAAAACTGTGGGTCGCCAAGCAGACTTCGCAGCCTATGGGCT
     ATGTGGAACAGCTTTACACCTTTGTCGATACCCACCGCCGCAACGAACACGGCATGCCCG
     TGCTGTACGTCAGCTATTTGGGGCTGGTGCGCGAGGCAGCCGACAGCATCCTGCACCCGG
     ATGCGAAATGGCAGGACTGCTACGGCTATTTCCCGTGGGAAGACTTGCGCACCGACGGCG
     GGCAGCGCGACGCCGTCGTCGGCCGCCTGCGCATTGGGCAAACTCGGCGGACACGGAGG
 45  AAGTGCGCCAAAAGCGGCTCAAGCGCATTCATTTGTGCTGGGGGGTCGAACCGGAAAACT
     GGTCGGAAGAATACGTTTTGCAACGCTATGAAATGCTGTATGAAAGCGGCCTGATAGCGG
     AAGCCGCCGAGCCGCAGGCAAACTTCGACTTCGCGCTTACGGGGCAGCCCATGCGCCACG
     ACCACCGCCGCGTACTGGCGACCGCCCTGTCTCGCCTGCGCGCCAAAATCAAATACCGCC
     CCGTGATTTTTGAACTGATGCCGCCCGAATTCACGCTGCTGCAACTGCAAAACAGCGTCG
 50  AAGCCATCAGCGGCAGATTGCTGCACAAGCAAAACTTCCGCCGCCAGATTCAGCAGCAAA
     ACCTCATCGAGCCGTCGGATACCGGCGTATCGGGCAGCAAAGGCCGTCCCGCGCAGCTTT
     GCCGCTTCCGCGACGACGTCCTGCCCGACAGGCTGATTTCGGACATCGGACTGCCGCTGG
     GCAGCCGTTAGCCCGTTTTCAGACGACCTATAGTGGATTAACAAAAATCAGGACAAGGCG
     ACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTGAGCACCTTA
 55  GAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACCGGTTTTTGTAAAATGAAG
     TTTTGCCCCATCGGTGCAACATCAATCTTTTTCAACAAAGGAAACCCCATGCCGTCTGAA
     AAAACCCTCTTTCCCCTGCCCGACACCCTGTTGCGCCCCATAGTAGAACAAGCCTTGAGC
```

```
     GAAGACTTGGGCAGGCGCGGCGATATTACGTCCGCCGCCGTCATCGCCCCCGACAAAACC
     GCCAAACTCTTCCTTGTCAGCCGCGAAGACGGCGTTATCGCCGGCATGGACTTGGCGCGT
     CTCGCCTTTCAGACGATGGATCCGTCCGTCCGCTTCCAAGCCGAAATCCGAGACGGGCAA
     GCCGTCCGCGCAGGTCAGACGCTTGCCGCCGTCGAAGGCAACGCCCGCGCGCTGCTCGCC
  5  GCCGAACGCACCGCGCTCAACTACCTCACGCACTTAAGCGGCATCGCCACCGCCACCGCG
     CGTGCCGTTGCCGAAGTCGCCGAATACGGTACAGACATCGTGTGCAGCCGCAAAACCATC
     CCCCTGCTGCGTGTCCTGCAAAAATACGCCGTCAGGGCAGGCGGCGGCGGTGTGAACCACCGC
     ATGGGTTTGGACGACGCCGTGCTCATCAAAGACAACCACCTCGCCTATTGCGGCAGCATC
     GCCCAAGCCGTGCAGCAGGCAAAACAGGCTGTCGGAGCATTGACCTGCGTGGAAATCGAA
 10  GTGGATACGTTGGCACAACTGGACGAAGCCATCGCAGCGGGCGCGGAACGGATTTTGCTG
     GATAACATGGACGACGAAACCCTGAAAGAAGCGGCAAACCGCTGCCACACGCAAACCGCC
     CACCCCCACACCATCTATTGCGAAGCATCGGGCGGCATCGGCTTCGACCGCCTGAAGCGC
     GTGGCGCAAACCGGAGTGGACGGCATCGCCCTCGGCTATCTGACCCACAGCAGCCGTTCG
     TTGGACATAGGTTTGGATTTCGTGGCGTGAGTTTTAGGGTGCGGGCGGCTGTCTGATATG
 15  TCAGGCAAGGAACCGCTTAACCCTAATCCGGTTATTGCCTCAGGGAGGAAATGCCGTCTG
     AAAGATTCTTCAGACGGCATTTTTCGTAAAGGTCGTGATGCTTTAGAAAAAACAGCATTT
     CAGGCAGGTATTTTGTTTGCCCGACAGCGCGGCGGCATCGGTAGGGCAGGAAAAAGGACG
     GGGGGCGGCAGTTTTATGCCGTCTGAAAGCCCGCCTTTACGCTTGTTTGCAAAAAAAGTG
     GGAAAAGGAACATACAATCCTGTACAATCATCCATAAATATTTGATTTATAATACGATTT
 20  ATAAAGATAATCACAATCATCCATATCTGCCGCCCGTCAATCCGCTTGGCGGGCGGCAAA
     GGTTTTAGGAATACCGATGAACACAATACCGCTCCACACCATACTCAAACTTATGGCGCA
     TCCCGAACGTATGGCGATACTGATTCAATTGTTGGACAGCGAACGCAATATCGCCGAACT
     GGCAAAATCCTTATCCCTGCCGGCCACCGCAGTTTCCAACCATTTGAACCGCCTGCGCGT
     GGAAGGTCTAGTCGATTTTACGCGTTACCACCGCATTATCGAATACCGCCTGGTTTCCGA
 25  AGAAGCGGCGGCGATTCTGCACACGGTTCGCGATTTGGAAAACAAACGCGTGGCATAGTG
     TTAGAATCCTTTCCTTTTGCCGTCTGAACGTTTCAGACAGCATTTTTCGGAAATGTTATG
     AAAATCACCACTTGGAATGTCAATTCGCTCAATGTGCGGCTGCCGCAGGTGCAAAACCTG
     CTTGCCGACAATCCGCCCGATATTTTGGTTTTGCAGGAACTCAAACTCGATCAGGACAAA
     TTTCCGGCCGCCGCTTTGCAAATGATGGGCTGGCACTGTGTTTGGAGCGGGCAGAAAACC
 30  TACAACGGCGTGGCAATCGTCAGCCGCAGCGTGCCGCAGGACGTGCATTTCGGTTTGCCC
     GCACTGCCGGACGATCCGCAACGGCGCGTGATTGCGGCAACCGTCAGCGGCGTGCGCGTC
     ATCAATGTCTATTGCGTCAACGGCGAGGCTTTGGACAGCCCCAAATTCAAATATAAGGAA
     CAGTGGTTTGCCGCACTGACGGAGTTTGTCCGCGATGAAATGACCCGCCACGGCAAACTG
     GTGTTGCTGGGCGATTTCAATATCGCGCCTGCCGATGCGGACTGTTACGACCCTGAAAAA
 35  TGGCACGAAAAAATCCACTGTTCGTCCGTCGAACGGCAGTGGTTTCAAAACCTGCTGGAT
     TTGGGACTGACCGACAGCCTGCGCCAAGTCCATCCCGAAGGCGCGTTCTATACCTGGTTC
     GACTATCGCGGCGCGATGTTCCAACGCAAACTGGGCCTGCGTATCGACCATATTTTGGTG
     TCGCCTGCGATGGCGGCGGCGTTGAAGGATGTCCGCGTCGATTGGGAGACGCGCGCGCTG
     GAGCGTCCGAGCGACCACGCGCCGGTGACGGCAGAATTCGATTGGTAAAAGACCGTGTTT
 40  TGATATGGCGTTGACAAGCATCCTTATCTTCAATTTATTCAATAGGATAGCTTTCTATCT
     GACTGAAAAATAATTGCCTTTCCCCGGCAAACAGCCGAAATCGGCGGATTGTTCAAACAC
     AGCCTATTTTCCTGAAAAATTTATGAAATACATAGGGTTAATATCAGATTTTGGAGCAGT
     AAAATTTATTATGTACACTAATCCAAAACAAAATCAAATATTGAAAACTAGATTTATTTT
     CGAATAAATAGAAAGCCGTCTTATATATAGTAATAAATTAATAACCCTGTTTTTCCTATT
 45  GCCTTTATTGTGCCATGCAGTTGAGTTTGATGAAACTCAATATAACGACTGTAAAGATAA
     ATCTATGTTATGTGCTGTCAGAATTGATTCTCCCAAAGGCAATAACTATAGTGGATTAAC
     AAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGCAAGGCGAGGCA
     ACGACGTACTGGTTTAAATTTAATCCACTATATAAATCTATGTGGTTTGACAATGGCAAG
     TTAGTATTTATATCCTTTACTAATCAACAAATGGAAATCAAAGTCGCCCATCTCTAGCG
 50  ATGTTTATTAGTGATGACAAAAATATCCAGTACCAATATTGATGAATTTTTAGCATCTTTC
     GATCCTGATAAATATCGAATATTTCATGATCCAAGATATAAATTTTTACCTAGTATGTCG
     AACTCATTGTAATCCTTATTCTCTTTTTGATATTGATAGCAAATATAAACCTGATGAGAA
     AGATAAAATCTTTTTTTCAATCCCGACAGATAACACAGATTTTTATAAGGGTTTTTATTT
     AAATAAGGATTATATAGAAGGTATATATCCTAGTAGGCATAATGGCAGCTATTACAAAAT
 55  ATAGTGGATTAAATTTAAACCAGTACAGCCGTTGCCGTACTATTTGTACTGTCTGCGGCTT
     CGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATCTGCATCAGTTTCATGAAACGCAA
     GTCGGAAGCGTCAAACAACTGATTGCCCATTTTGACCGGCTGATTGACGAATTGGACAAA
```

-98-

```
CAAATCGACGACCACACCCACACGCATTTTGACGGCAAAGCCCAAGTGGCAGAACAAATC
AAAGGCATCGGTTCGATAACGACGGCTACGCTGATGGCGATGCTGCCCGAATTGAGGCGG
CTGTCGCACAAACGGATAGCGGGTTTGGCCGGCATTGCCCCGCACCCGAGGGAGAGCGGG
GAAACCAAATTCAAAAGCCGCTGCTTTGGCGGGAAGGTCTGCGGTGCGTAAGGCACTGTAT
ATGGCTACCGTGGCAGCGACACGTTTTGAACCGCTTATTCGGGATTTCCACCAACGCCCG
CTGTCCGAGGGTAAGCCGTATAAGGTTGCCGTTACGGCATGTATGCGCAAACTGCTGACG
ATATCGAATGCCCGGATGCGTGATTATTTTGCCGAAAACGATACCGCCGAAAACGGTATC
TAAACGGCTTGATTTGAGTTTTGGTATTTTTGCCCGACGGGGTGAAAAATACAGTTGCTA
CGGCTCGATGAATCGTCAGAAATACCTGCATCGTCATTCCCGCGCAGGTGGGAATCCAGA
CCGGTCGGTGCGGAAACTTATCAGGTAAAACGGTTTCTTGAGATTTTTCGTCTTGGATTC
CCACTTTCGTGTGAATGACGGAATGTAGGTTCGTGGGAATGACGTGGTGCAGGTTTCCGT
ATGGATGGATTCGTCATTCCCGCGCAGGCGGGAATCTAGTCTGTTCGGTTTCAGTTATTT
TCGATAAATGCCTGTTGCTTTTCATTTCTAGATTCCCACTTTCGTGGGAATGACGGGATT
TTAGGTTTCTGATTTTGGTTTTCTGTCCTTGTGGGAATGACGGGATGTAGGTTCGTAGGA
ATGACGTGGTGCAGGTTTCCGTGCGGATGGATTCGTCATTCCTGCGCAGGCGGGAATCCA
GTCTGTTCGGTTTCAGTTATTTCCGATAAATGCCTGTTGCTTTTCATTTCTAGATTCCCA
CTTTCGTGGGAATGACGGTTCAGTTGCTACGGTTACTGTCAGGTTTCGGTTATGTTGGAA
TTTCGGGAAACTTATGAATCGTCATTCCCGCGCAGGCGGCAATCTGGAATTTCAATGCCT
CAAGAATTTATCGGAAAAAATAAAACCCTTCCGCCGTCATT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 10>:

gnm_10

```
GTCGGTTCGGTTTTGATGCAGCGTATGAAAGAAGAAAACGACTTCGCCCACATTCCTGAA
GCGTTTTTCTTTACCACTTCCAACGTCGGCGGCGCAGCCCCTGATTTCGGTCAGGCGGCT
AAAACATTATTAGATGCCAACAATGTTGCCGAACTCGCCAAAATGGACATCATCGTTACC
TGCCAAGGCGGCGATTACACCAAATCCGTCTTCCAAGCCCTGCGCGACAGCGGCTGGAAC
GGCTACTGGATTGACGCGGCGTCCTCACTGCGCATGAAAGACGACGCGATTATCGTCCTC
GACCCTGTCAACCGCGATGTCCTCGACAACGGTCTCAAAAACGGCGTGAAAAACTACATT
GGCGGCAACTGCACCGTTTCCCTGATGCTGATGGCTTTGGGCGGCCTGTTCCAAAACGAT
TTGGTCGAATGGGCAACCAGCATGACCTACCAAGCCGCTTCCGGCGCGGGCGCGAAAAAC
ATGCGCGAACTCATCAGCGGTATGGGCGCGGTTCACGCCCAAGTGGCGGACGCGCTTGCC
GATCCTGCCGGCTCGATTCTCGACATCGACCGCAAAGTATCCGATTTCCTGCGCAGCGAA
GACTATCCGAAAGCCAACTTCGGCGTACCGCTCGCCGGCAGCCTGATTCCGTGGATTGAC
GTGGATTTGGGCAACGGCCAGTCCAAAGAAGAATGGAAAGGCGGCGTGGAAACCAACAAA
ATCCTCGGCCGCAGCGACAATCCAACCGTGATTGACGGCCTGTGCGTCCGCGTCGGCGCG
ATGCGCTGCCACAGCCAAGCCATCACTCTGAAGTTGAAAAAAGACCTGCCTGTTTCCGAA
ATCGAAACGATTTTGGCAGGCGCGAATGACTGGGTGAAAGTCATCCCCAATGAAAAAGAA
GCCAGCATCCACGAGCTGACTCCTGCCAAAGTTACCGGCACGCTGTCCGTCCCTGTCGGA
CGCATCCGCAAACTGGGCATGGGCGGCGAATACATCAGCGCGTTCACCGTCGGCGACCAA
CTTTTGTGGGGCGCTGCCGAACCGCTGCGCCGCGTATTGCGTATCGTGTTGGGCAGCCTG
TGAGCCCTGTTTGAATGGAAATGCCGTCTGAAGCCTGTTTCAGACGGCATTTTCCTTGCA
ACCCTGCCGGATAACGCCCTGCCGGCACTGCCGACGTAAAAAATAAAGGATTCCATTTCC
GGCGGTATGCGGCAGCCCGACTTTATCCGAACCTGATGCGCCTGCACGTCAATGAAAACA
GCCCGATTGCGGACTTCCTGCTACAGCCGAAATTCCGATAAGGCAAGCGTTCACGCCAGC
AACATTTCCTGCATCAGCTTCATACCCCACTGCCAGCCGCCGAGCATGCCGTTCAAACTG
CCCGAATGCGGGGAAACCAACAGGCGGGCGTTCCACAAATCCGCCTGTTTTTGCGCCCAA
CCGTGCGGCACGCCGCCGTGTTCGGGTACAACCAATGCGGCACGGCAGGGACAGCGGACG
CGTTGGAAAGCGTGTTCCGCATCGTCGGGAAAAATATCGGGACGCTGCGGTACAAGGATG
ATGTTGGCAATTTTCTTCCGTGTCAGGATGTCTGCCTGATACAGCCACGCCAAAAATGCG
GCCGCGCCCGCACCGTGTGCGACAACGGCGACGTATTTGCCGCGTATGCGTTCAAATGCC
GTCTGAAGCCCTGCCTGCCATTCCCCTATGCTTTGACCGGCCGACGCTTCGGACATCTGC
ACGACGGGATAACTGATCGCCCAACGGTCTATCCACATCTGATCCTCTCCGGCATCGCGT
ATCAGCCAAAGCGTCAAATCTTCGAGTTCAAAACCCTGCATACCGCCCCGCCTATTTCAG
```

-99-

CAGGTCCCGGAGGGTAAAGGCGATGAGCAGCGAAGCGGGTACGCTCAATATGGCGCAGAC
GGTCAGGCAGGCAAAAATATTCACCACCCGCCGCCAGCCTTTCCAACCCAAACATTTGGA
CGCAATCAGCAGGCAGGGCAGGCAAATCAGCAGCCACACCAACGCCCATATCGGGTTTGC
CTTGGTCGGCGCAAGCCAGCCTTGCATCCGCGACAACATAAATATCGCCCACACCAACAT
5   GGGCAGGATAAACGCAGCGACGACCCATGCCGCGCCTATTCCTGTTTTTCCGTCCACATT
CCAATCATATTTACCCAAAACCTTATTCGGCAGCATAGTCATACTCCACGACCAGCGGCG
CATGGTCAGAAAATTTTTCATCTTTATAAACGTGTGCGGACACGGCTTTGGCAGCAAGTT
CGGGCGTAACCATCTGATAATCGATGCGCCACCCGACATCTTTCGCATACGCCTGCCCTC
GGTTGCTCCACCAAGTGTAGCTTGCGCGTTGGCATTGCCGGAAGAAAGCAGGCTGCTGTT
10   GAAATCTTCCGTCCAGTCCCAAATCAGCCCGTGCATATCATAAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 11>:

gnm_11

GGAATTTCGTGTCAAGCTTTCGTGTGTGAAAATTTTTGCAGTGGAAACGTGGACGGGCGG
15   TTTGACGATGACATACCACTGTTTCGGAATATCCATTTCGTCCAGCCTGTCGCCTATACC
CCGCGCAAACGCATTTTTGCCGAAAATAAAAAACGGTACGTCCGCCCCCAGAGCCGCGCC
CGAATCAATGAGCTGCCGCTGCGTCAGACCGCCCAAACCCGCCCCTGTCGGGATTTTTTGTC
AACGGTTGCCGCATCCGAGCTTCCGCCGCCCAAACCCGCCCCTGTCGGGATTTTTTGTC
CAGCCATATTTCCACGCCGGCGGGGTTGCCGCGCATATTTTTGCAGCAACGATGCGGCACG
20   GTAGCTCAAATCTACTTCCTGCCGGCATGCCATCAACCGGATTGTGCAGGATGATTTTGCC
GTCGTCCCTCGGTTTCAAATATACGGTATCCTGCAAATCTATCAGGCAGAATATGCTTTC
GATATTGTGATAACCGTCTTCCCGCCTGCCGGTAATCCTCAAATCGAGATTCAGTTTTGC
AGGTGCGGAAAACGCCTGCCGTCCGTCCGCAATATTCATCGTCCGCCTTATCTCGTGCG
CGCCGCACAGCGTTCCGGGGGTTTCGGTTTCAGACGGCATACCGATTTCGGTGAAAACCAG
25   CCTGATGTTCAAATTTCCGTTATTCAGTTGCAACGTTCGGACTTGCCCCCCACTGTCGGC
GGTTCTGCCGACAGTCCAACCGTATTGTTCCAATATGCCGTCCGGCAGGATGCGGTAAGG
CGCGCCCGCCACACGCCTGCCATCTGCCCAGATATGCAGATATTGGATTGGCAGTTTGAA
ACCGACCAGCTGCCTGCTCAATTCTTCCGCACTTTCCGCCTGATAGACATTTCCTTTGCC
GTCCACTGCCAATGCGCCGTCCCTGTCTTGACACAACTGCCCGAGCGTACTGCCCAAAGG
30   GGTATTGATATTGATGGTTTCCACGGGCGGTTGGTATGTCCAATCGAAATTTGCATACGA
ACCTTTCCCTTCCGCTTTCACTGCCAACCGCCCTTCTGCTGCAAAACTGCTGATGTGTTC
GGACGGCTGCCACAGGTTTTCGTTATTTTGAGGTAATTGCGCGCAAGCGGTCAAAAGCAG
GATGACCGATGCGGATACGGTGTGTTTCATCAGAATTTCCTTAACGGATGCCATCCTGCC
GGCCGATGGGTTCGGCGTGCCGTGCAAAACGCGTGCGAACTGCGTGCCGTTTGCCCGAAT
35   GCCCCGGCTTCCCGGCAAACCTTATGCCGTCTGAAAGGATGGACCTGCATTATTTCCGAG
GTTTTCGGGAAGGTTGGGGCAATGCGATGCCGTGACGTTTGAGCGTTTCCCGCCATATTT
TCTTGTCTCCCGTAAGGTGTGCCGCCTGCGTCCATACGTCAACCGCCTGATCGCGTTCGC
CCAATGCCCACAACACTTCGCCCAAATGGGCGGCAACTTCGGGCTCGGGGTCGTTTTCAA
ACGAATACCGCAGATACGGCAGCGCGCTTTCCGCGTCGCCTTTCAGGTAATACGCCCAGC
40   CTATGCTGTCGTTGACAGCGGTATCGTCCGGGTTGATTTGGTATGCCGTCTGAAGCAGGG
CGAAACCTTCGTCCAAACGTTTGGAATCGGTCAGCAGGCTGTAGCCCAGATTATTCATAA
TCTGAGCGTTATCGGGTGCAAGCCTGAACGCCCTTTCAAGATCTGAAATCATTTTTTTCC
GCTTGCCAAGCCGATCGTAAACAACTGACCGCTGTACCAATGCCTCTGCCTGTAACTCTG
TATTACTGCCGGCAGGCGGTTTTTCGATAATCTTGTCCAACCCCCTCAAAGCCTCCCGTT
45   TATCGGGCAGCTTCGACAGGGCGAGCATCTGTATTTTGGACAAATTGTCTGCCGTAAAAT
ACCGCCCCTGCTGTTCGGGAAGTTTCCGCACCCTGCCGATCTGCCGCAAAGCCGCCCTGC
CGCCGTCCAACTCGACAGCCGCCGCAGCCGCCAGCACACCTTTGTCGAACAGGTATTCCG
GCGCGGATACTTTTTTCAGCCACTGCCTGACTTTGGCGTAATCCCTGCGGTCGGCATACA
TCATCGCCGCCGTTAGCGCCGCCCTGCTCCGCTGTTCCTCCGTCCCCCTGCCGTATGCCT
50   TTTCGGCGTAGCCGTCGATAACGGAAGCACCTTCTTTTCGGTTTGCCGCCAATATCGCTG
CCTGAATATACAGGTCTGCATTCGGATTGCGTTCCAACAGCACGTTCAAACGCGCATAGG
CATCATCCAGCCTGTGCAGGGAAACCAGATTCATAATTTCCATTTCCTGCCAGACGGCCG
AAAGGTTTTGGGTGTCTGTCTGCTCGAAAAAGCCGTCGAGTATTTCGGGATATTTGCGTG

-100-

```
CAGTCAGACGCAACGTCATTAAAGTGGGGGGCAATATTTCCGTATCGAGCTTCGCCAAAC
GCTGCAAAGCTCCGATTGCCTTTTCCTTTTCGCGTCCCTGTACGCTGAACACCACATCGG
CAACCGCCGCTTCGGGCAGATGTTCATATTTCAACGCCGCGCGGCGAACCGCTTTCGATG
CTTTTTGCGCCAACCCGTCCTGTTGCACGGCGGCTTGTGCCAACAATAAAAACACCCTGC
GGTTCTGTCCTTCGTCCGCCTGAGCCAGCACTTCTTCCAGTCCGTCCAGATGCTGATTTC
CTCTTTCCCTCAGCACGTTCCGCAGCCACCCGCCCGTTTTTGCGCCTTACCCGGTATAG
GCTCAATCTGCCGCCATTTCTGATAAATCATTTCCGCCTGTTCAAACGCGTTCAGCGACA
CGGCCATTTCCAAGGCGCGTTCGGCGACTTCGGGGGATTTTGTGCGTTCCAACATCAGCA
TATAGGTTGCCAGAGCCGTTCCCGCCTGCCCCTTTTGCAAGGCGGTTTCCCCTCCCAGCA
ACGTAAATATCTGATTAACCCGCTCGCCCACTGCCGCAAGCCGTGCGCGTTCGTTTTTGA
TTTCTTCCTCGCTGTAACGCTGCTGCTTTCTGAAAACCTTTCCGACTTCCTTCGGCTGTT
TCATATCCCCCGCACCGCCTCCGGCGGCAGATACCTGTCCGGCAATCAAGGTTGCCGTCA
ACACAGTTAACATTTTGAAACGGTTAGGTAACATAATCATCCTTTATCCGACAGCCGTCC
GAACCTTCAGACGGCATATAATCAGGCGTAACTTTATCACAAGCAGAATCGTTTGTAGAT
TTGCGAAACCCCGTTCAAAAAATAAATGCCGTCTGAAACGCAAATCCGCTTCAGACGGCA
TTCCCGACGCTTGCGGTTTAAGGGAGTTTTATTTCCAAATTGTCAATCAGGCGCGTCGTC
CCCAGACAGGCGGCGGCCAAGACCACCAGTTTCTTATCTCCCGCCCGCGCCACTTCGAGC
GTATCGGCGCGGCGGATTTCGACATAATCGACCACCCAGCCGTATTCTGTCAGGGATTGG
ACGGCACGTTTTTCCAAACCTGCATAATCCAAACTGCCCTGCACCAAGGATTCGGCAACA
GCCTTTAATTCGCGGTACAGGCGCGGTGCTTCGTCGCGTTCCGCCGCACTCAAATACTGG
TTGCGGCTCGACAGTGCCAACCCGTCTTCCGCGCGCCCTGTATCAACAGGCACTATTTCA
ACATCAAAATTCAAATCTTCGACAAAACCTTTAATCACGGCAAGCTGCTGGTAATCCTTC
TTACCAAAACAGGCAATGTCCGGGGAAACGATGTGGAACAATTTAGAAACAACCGTTGCC
ACACCGCGAAAATGCCCCGGGCGGAATTTGCCGCACAACTCATTTTGCAGATTGGGCGGT
TCGACGTTGTAACGCTGTTCCACGTTCGGATAGAGTTCTTTCTCATCGGGCGCGAAAACA
ACGGCAATGCCTTCGGCGGCAAGTTTGTCCGCATCCTGTTGCAAAGTGCGCGGATATTTG
TCGAAATCCTCGCCCTGACCGAATTGCAGGCGATTGACGAAATGCTGACCACGACACTG
TCCGCGCGTTTTTTCGCCTCACGCACAAGCGCAAGATGTCCTTCATGCAGATTGCCCATG
GTCGGCACAAATGCCACCTTTCCCGCATTTTTACGCCACGCGCGCAGTTCTCGAATGGTA
TGTATGATTTGCATAACGGTAATCCTTATCCTTCGGGCTTCCTGCCCGACAAAACGCGCC
GATTATACGCGCCGCGCACGGCAAAACAAAATGCCGTCTGAAACGGCTTTCAGACGGCAT
GCTGCATGTAAACCGCTCAATCTGCAAAAATATGTTCCGCAGCAGGGAAGGTTTTGGCTT
TGACTTCGGCAACATACGCCCGAACCGCCGCTTGAACACTATCATGCCCCTGCATAAAGT
TTTTGACGAATTTCGCCGTCTTACCCGGGAAAATGCCGAGCATATCGTGCATCACCAAAA
CCTGCCCGTCGCAATCCGCACCCGCGCCGATGCCGATGGTCGGACAGGAAACAGTTTCAG
TTACCTTTTTTGCCAGTTCCGCCAGTACGCACTCCATCAGCACGACCGCCGCCCCCGCAT
CGTCATGCGCCTTGGCATCGTTAAGCAACGCCTGCGCCTTGCCGCCGCGCCCCTGAACTT
TATATCCGCCGAAGGCAAACACGGATTGCGGGGTCAGACCGATGTGCGCACAAACCGGAA
TACCGCGCATTTGCAAAAATTCAGTCGTTTCCGCCATCCACACGCCGCCTTCGAGTTTAA
CCATATGCGCGCCGGCAGCCATCAGTTCGGCGGCGGCGGCAAACGCCTGCTCCTTACTCT
GCTGATATGCACCAAACGGCAAATCGCTGACAATCATCGCATTTTTTGCACCGCGTGCTA
CACATTCGGTGTGATAACACATATCGCGCAGGCTGACGGGCAGCGTCGATTTCCGCCCCT
GAACCGCCATCCCCAAAGAATCGCCGACCAGCAGCATTTCCACGCCGGCATCGTCCATCA
GCGCGGCAAAACTGGATTCGTAAGCGGTCAGCATAGCGATTTTTTCGCCCGCCGCCTTCA
TTTTTTGCAGTGTGTTCACAGTAATCATCAGATATTGTTACCCCGCCCTTTTCAGACGGC
CTTTTCAGTTTGAAACGGGCTATTATAGTGAAATGCCCGCAGCCCTGCCACCGACCGTGC
CGCAAATGCAAAACAGCCCGACTGTTTTACACAATCGGACTGTCAAATCTGGTGCCGGCA
CCAAGAGTCGAACTCGGGACCCCCTGATTACAAGTCAGGTGCTCTACCAACTGAGCTATA
CCGGCTTACTGAAATGTTTTGCAACACCATCAGCAGAAATGGTGCCGGCACCAAGAGTCG
AACTCGGGACCCCCTGATTACAAGTCAGGTGCTCTACCAACTGAGCTATACCGGCAAAGA
AAGCGAATTATGCAGGCAATGCCGCACCTTGGCAAGGAATTTATCCGAAAGCCCCGGCAA
ATCCGAATAAGTAATTTATTTGAAAAGAAATTAATTTGAAACAGAACAAGCATCGGCATT
CTGATAAAAATATCCGCCTTTCAAACCGACCGTTCACACCGATGGCAAGACATCCCTACCG
CCGCCTGCGTCCTGCAAAATCCGGCTTTCCCGAAGTCGGCATTTCCGAAGAAGGCAATAT
CCGTTCGCTTCACTTGGGCAGCGACACCGTTCAAAGCTCGATGAACCTCGACCACCCGTC
CGAGCTGGTGCTCTCTTACAGCCGCGCGATGATGGGCTGGCTGCTGTTTACCGACGCTCT
TCCGCAACATATCACCCAAATCGGCTTGGGCGGCGGCTCGTTTGCACGCTGGATAGATAC
```

```
CTACCTGCCCGACACGCGCCAAACCGCCGTGGACATCAATCCGCAGGTCATCGCCATTGC
CCGCAACCTGTTCGAGTTGCCTTTCGAGGGCGAGAAATTTGAAATTATTGAAGCAGACGG
TGCAGAATATATCAAAGTCTTCCGCCACAACACCGATGTGATTTTGGTGGACGGGTTCGA
CGGCGAACAAATCATCGATGCGCTGGTTGAAGAACCGTTCTTCCGAGACTGCCGCAACGC
ACTCTCTTCAGACGGCATATTCGTAACCAACTGGTGGAGCGGCGACAAACGCTACCAACG
CTTCATCGAACGGTTGTTGAGCGTTTTTGAAGGGCGCGTCTTGGAACTTCCTGCCGAAAG
CCACGGCAATGTCGCGGTAATGGCCTTCCAAAGCAGCCCCAAAGAGCAAAACATAGACAA
ACTCAAAAAACGTGCCGACAAACTGAGCAACGCATACGGATTGGACTTCCACCGTATGCT
TGCCGGCCTGAAAGCGTCCAACCCCAACAACGGCAAGCATTTCCACCTTTAAGCAACTAT
CTTCACGGCTGCATCGGAACATGCGGAAAATCAAGAGGAAATCATTATGCTGAAACCCGA
AACCATACACATATCCGGTCCTGCCGGCATTTTAGAAACCATCCATATCCCGTCCGAACA
AGTACCGGCACGCGGTGTTGCCGTCATCAATCATCCCAACCCCCTCCAGGGCGGAACAAA
CACCAACAAAGTCATCCAAACTGCCGCCAAAGCCTTAAGCAAACTCGGCTTCCACTGCTA
CCTGCCCAACCTTCGCGGCGTAGGCGGCAGCGGAGGCACACATGATTACGGACGCGGCGA
AACGCAAGACTGCCTCGCCGTCATCGATTATGCCCGCGCCCAACACCCCGAAGCCCCCGA
ATTTGCCTTATCCGGCTTCTCCTTCGGCGGTTATGTCGCCACATTTGCCGCACAAGCGCG
CACACCCGATTTATTGCTGCTCATCGGCGCGGCAGTCTGCCACTATACCGACCGTCCGGA
ACCGTCCGCCGTTCCCAACGTTGCCAAAACGCTGATGATACACGGCGCGGAAGACGAAGT
CGTCGAAATCGGGAAAGCACTGAAATGGGCGGAACCGCAAGATTTGCCCGTCATTACCAT
CGCCGGTTCCACGCATTTCTTTCACGGCAAACTCATCGTCCTGCGCGACACCATCCTCCG
CTTCGCGCCCGTATGCCTGAACGGATAAAACCCCTTTCAGACGGCATCGATAATGTAAAA
CCCGTATCGGCGGCATCCGCCGATACGGGTTTGCGTTCCCTCTCATTATAGGCAAAATCC
GCTGCAAAACACCCTTTCCCGACCCGACAAAGGATCTGCAAACGCAATCTTTTTTGCCAA
TAGCTTCAAAGGTTTCCGATAATCCTCGCTGCCCGCTTCAGACGGCACGGGATAGAGCGC
GTCATTCAACAGCGGCATACCCAAACCCATCATATGCACGCGCAACTGGTGTTTCTTGCC
CGTATGCGGCGTAAGGCGGTAAAGGCTGAATTCCCCCCTGTTTTCAATCAGTTCGACCGT
CGTATGTGCGTTTGGTTCGCCTTCCGCCTCTTGCGTCGTAAAAAATTTCTCACCCCTCAC
CAAACGCGAAACCACATCGAGCGGATACGGCAAATCCGTCCTTGTCGGCGCAAGCGCCTC
ATACGTTTTCCATACCGTTTTGTTTTGAAACATCGTCTGATAGGCTCCGCGCGTGGCAGG
ATTGTGCGACAGCAGCATCACGCCTGCCGTATCCTTGTCCAAGCGGTGCAGCGGCGTAAT
GTCCTCAACATTCAAATGCTGCAATTCAGGCCGCAAACGCAGGCGCGTGAGCAGGGTTTC
CCGCAAAAACCTGCCGCTGGGGATGACGGGCAGAAAATGCGGTTTGTCCACCACAATCAA
ATGCTCATCAATATGCAAAATCTTTTCTTCAAACGGAATACGCGGCTCGCTCTCACGGCT
GGTTTCACGGTAATAAAACACCACCTTACCCGGCTCGAACAAAGAATGTTCGTCCAACGC
CGCACCATCCGAACCGACCACAAAACGCTGTTCAACCGCCTGCGCCAATCGTCCGCGCC
CACAAAAGGAAAGCGGATGCACAGAAATGCAGCAGCGGCAGCCCGTAAAACTGCTTTTC
ATGCGGCAGCACCAAATAACTGGGTTTGACACCGTTCAACAGCGGAAGAGGATTATTGCG
TTTTTTCATGCGGCGGATTGTAACCGTTTTTCACAAACTTTTCAGACGGCATATCGAAAC
ATAATTGACAAAAACAAACATATTGTTTTTTATGATTTAAAAATTTATTTAGACAAGATT
ATCGGATATTCATTATTATTAGTAAATAAGAATTAATATCAATAGGAGAAATATGAAGCG
CATCTTTTTGCCCGCCTTGCCCGCCATCCTGCCTTTATCCACTTATGCCGACCTGCCCTT
GACGATTGAAGACATAATGACCGACAAGGGAAAATGGAAACTGGAAACTTCCCTTACCTA
CCTGAACAGCGAAAACAACCGCGCCGAACTTGCCGCACCGGTTTACATTCAAACCGGCGC
AACCTCGTTTATCCCCATTCCGACCGAAATCCAAGAAAACGGCAGCAATACCGATATGCT
CGTCGGCACGCTCGGTTTGCGCTACGGACTGACCGGGAATACCGACATTTACGGCAGCGG
CAGCTATCTGTGGCACGAAGAACGCAAACTCGACGGCAACAGCAAAACCCGCAACAAACG
GATGTCCGACGTATCCCTCGGCATCAGCCACACTTTCCTTAAAGACGACAAAAACCCCGC
CCTAATCAGCTTTCTTGAAAGCACGGTTTACGAAAAATCGCGCAACAAAGCCTCGTCGGG
AAAATCCTGGCTCATCGGCGCCACCACCTACAAAGCCATAGATCCGATTGTCCTTTCCCT
CACCGCCGCCTACCGCATCAACGGCAGCAAAACCCTTTCAGACGGCATCCGCTACAAATC
GGGCAACTACCTGCTGCTCAACCCCAACATCTCATTTGCTGCCAACGACAGAATCAGCCT
GACCGGAGGCATCCAATGGCTGGGCAGGCAGCCCGACCGGACGGACGGCAAACGGGAATC
CTCCAGAAACACATCCACCTACGCCCATTTCGGCGCAGGTTTCGGTTTCACCAAAACCAC
GGCTTTAAACGCATCCGCACGTTTCAACGTTTCAGGGCAAAGCAGTTCCGAACTGAAATT
TGGCGTACAGCATACATTTTAAGCAGGTTTTGATTTTCCAACCTTGTAATCCAAAGGAGT
TATTATGAAAAAACAAATTACCGCAGCCGTAATGATGCTGTCTATGATTGCCCCCGCAAT
GGCAAACGGATTGGACAATCAGGCATTTGAAAAAATACGTATTCCACACGCAGGCAGATGC
```

```
GCCGATGCAGTTGGCGGAGCTTTCTCAAAAGGAGATGAAGGAGACTGAGGGGGCGTTTCT
TCCTATTGTGGCAGGTGCTTTGATGGGAGGGGCAATTAGTGCTTGGGCTAATCACGGCAT
TTCTAAAATTAAAACAGGGCAATTTGCTTCAACAAGAAGTACCTTGGCTGCAACCGCTGG
TGGTATGATAGGCGGCGGATATAGCAGTGCGATGTTGCGCGGTGCAGGGATTACTACTAG
TGTTTTTGCCCGTTCTGCTTGGAAAGGGGGAAATGCTATTCCTAATGCAGTTATTCGTGC
AAATGGTGCAGCATTAAATCAGTCTTCTAGCGCCGCAATGGGAAAACATAGAAGATAAAC
GAAATGGATGATCTAATACTATATTTTTATCAGGTATATTCGGAAATCAAGTTGCTGAA
TATATTATAAAAAACAACCGTGAGATAAAAGTTCCCTTTATTGTGCTTTACGCAATATTT
TTTACGTTGATTTATACTGTGGCTTGTTGTTTCTCAGTCTAATCTATTGGGTCAATGGT
GCGGAGATTGCATGGAAGGGGATAGGTATTTTCAGTATGTCGGTCAGTTTTTGTATAGTC
TTCTGTCTTTATTTGATTGACAAGGCAGGAAGATGTAAGGATAAGAAACAATAGGGATCA
GATGCGGCAGCAAACGTAGATTGGGTCTAGGCTCAACCTGCGTTTGCTGCATCTTTGGAA
GAAATAGTGGATTCGAAAAAATAGGAAGAATTCTGATTAATGGTATGCGAGGTGTAGCAG
TGGGGACTGTTGCTGGTGGCATAAATGGTTATGCAGGTTCTACGGGTAAGAACACTGACA
TTCGCCGTTAAATAATAAATAAACCAACTTCCAACCAAACCTGCTATCGGTTTGGTTGGA
AGTGAGAGGAGGTAAGGTAGTGTTTGCTGTTATTTTCTTTTCGACATTGGGCTGTATTTT
AGCATGGATAAGAGATATTCCTAAAATAAAATCAAAAAAATTTTGGCAAGATCCTTATA
TATTATAGGAATAATAAATGTAATAATCAGCTATGTATTAATTAAAAATATATTGGTTTC
TGTTTCGGATGGAGGTGGAATAAAATATGTTGCAATATATTTATCAAATCTTTTTTTTTG
GACAGTATTGATGTATGTTCTTGTGAAAGATTATCTAAAAAGCCAAGCTGAAACCCAGT
ACACAACTCATCAATAAAAATCCCTTTTGCACGGAACAATGACAATATTCAAATTGCTGG
ATTTGCAATCTGATTTACCTATTGAAATTGGGTGTGCAACATACGTTCTAAGCAGGGCTT
TGATTTTCCAACCTTGTAATCCAAAGGAGTTATTATGAAAAAACAAATCACCGCAGCCGT
AATGATGCTGTCTATGATTGCCCCCGCAATGGCAAACGGCTTGGACAATCAGGCATTTGA
AGACCAAGTGTTCCACACGCGGGCAGATGCACCGATGCAGTTGGCGGAGCTTTCTCAAAA
GGAGATGAAGGAGACAGAGGGGGCGTTTCTTCCATTGGCTATCTTGGGTGGTGCTGCCAT
TGGTATGTGGACACAGCATGGTTTTAGTTATGCAACGACAGGCAGACCAGCTTCTGTTAG
AGATGTTGCTATTGCTGGCGGATTAGGCGCAATTCCTGGTGGTGTAGGCGCCGCAGGAAA
GGTTGTTTCCTTTGCTAAATATGGACGTGAGATTAAAATCGGCAATAATATGCGGATAGC
CCCTTTCGGTAATAGAACAGGTCATCCTATTGGAAAATTTCCCCATTATCATCGTCGAGT
TACGGATAATACGGGCAAGACTTTGCCTGGACAGGGAATTGGTCGTCATCGCCCTTGGGA
ATCAAAATCTACGGACAGATCATGGAAAAACCGCTTCTAACTCCTCCTTTTTTTCTATTT
GAAGATGTGTCTTTGGATATATTTCAAGGATTGTCGGAATTGGAAAAGAAAATAGAGCCG
CAGGATTTGATGGATGATGTTTACCGTGCTTTTGATTCGGTTGGAAATATTCTGAATTTC
CGTATAGTAGAAAAAGAGCAAAAAGGGTTTTGGGTAAGTACCAAAATCAAAACAGTTGTA
TTTGATTCGGCAGATATGTCTTCTGATGATCTTTTTCTGAAATGCTTACAGTCTTCATAT
AAGGCTTATTTTGAAACTGAACCTGCCGGTTTAGATAAACGGCAGCTGATGAAAACGTTA
ATTCAAAAATGCGGATTCAGTTGTTGACGAAAAAATGGATTCTGAACTAACAGAAACTGA
TTTCGACCATGTATGAGGTAAAAAATGTCTTTCGGCTATTTGATTGCAACATCGCAACCT
TGCGAATTGTTGACAAAATCTCGAGGTGAAACTTTTTCTTTAATTATGGATAAGATGGAT
TTATGGATTTATTTCAGATTTTGTGAAGGAAATATTTATACAATAAGGAAGAATGAAACT
GAATCTTGTCTTACAGAAAGAGGAGGCGAATGGTTGAAACATATTTATGAATTTAATCGG
GGAAGTTTTATTTTTTCTTATGTGCTTCTAAAAAAGAGAGAAAGCGAAGAGAATTTTACA
GAAATTGTTTTAAAATCAATAAAAAATAATAAAATTTTGACAGTTAAGGTACGGTCAGGC
TTGCATTTTGACTTAAGAAATATTTATCGTATTGAGATGTAATAATGCAATTGATATGTG
CCGATTGGACAGGTATAGGAAATTTTATGAAAACCTTCGAAAAAACATGGTCTGCACAAT
ATCGGGATATGGAAATTTCAGTACGGAATTTTTGGAATTTGGAGCGGACAGGGGCGGAAG
TCTATATCAACGGAAGGCGGGTTTATCATAACGAAGCCGAAATGGCGTCTGCTTCTTTGC
GTTAGCTAATGGGGGAATACCTGGAATTTGAAGAAAGCGGTACGAAAATTACCGTTGAAA
TCGGCAGCGCGTGGCATTTTAATGAAACTATAAGAAATATTAATACACATTTAAGAGGTA
CGAAACTTCCAGGTTCTAACTGGAGAGTTCAAGATAAGGGGCATTTTCATCTTTGGAAAA
GATAATAGATTTTAAGGTAAGGGAGACTAATTTTAATCAGGCATGGCGTGTTATACGCGC
CATGCAAATAGATAATATATCCGATGAACAGGTTGTGATTGTCAGAATGTCTTGTTATCT
TAAGAAAGATGAAATTTTTAAGAATATAGAAAGATATGGATATCAGTCATCAGATATTAA
GAAAATTAGTCCTCCTTTTCCATTAAATATTTTACCTGTTCCCAAACCTTATTATTTTTA
TCTTTATGATACCCATTTGAATCAAATTTATGATTTGGCTTGGTCATGTAATGATTTTTT
AATGTTTGAAATATTTATTTTGGATAGGGAAAGCATCAAATATATAGATAAAGATAAACT
```

-103-

```
TTTTAAATCTAGAGAAACACTATATTCGAATTTTAAATCTATTAAAAATCAATGCAAAAA
TTATTTTTTTTGCGGTTTTGATTTTGATGCCCCTTACTTTAAAAGCGGTGTGAGTCAGGT
GGCAGATTATAATTTTGTTCCTGATGCATTTTCTTTATTCTTTATTTAATCAAATTATTT
GAATAAGCGTAGGGTGGGCACTTGCTGCCCACGCGTTCTGTTTCAAGTTTATTATTGGGT
GAATATTTGGAATTTGAAGAAAACGGTACAAAGATTGCTGCGGAAATCGACAGTGCATGG
CATTTTTTGGGCGCGGCTTGTCGGATTTCAATAAATGGAAAGTATTATGCGGGTAATCGG
ATTGTTTGGTTTGCCAAAAAAGCCGAAAGCTAGGAATAATTTGACAAGGGCAGCCTGAAA
GATTTTCAGGCTGCCCTTTATGTGGACAATATGATGAAGTTCAAATATGTTTTTCTGTTG
GCGTGTGTTGTCGTTTCTTTATCTTATCGTTTGAATGCTGCACCGATGTTTAACGATAAT
CCTGTTGTTTACGGAAAAATCAAAGTGCAGAGTTGGAAAGCGCGGCGGGATTTCAATATT
GTAAAGCAGGATTTGGATTTTTCCTGTGGGGCGGCTTCGGTGGCGACGCTTTTGAACAAT
TTTTACGGGCAAACGCTGACGGAAGAAGAAGTGTTGAAAAAGCTGGATAAGGAGCAGATG
CGCGCGTCGTTTGAGGATATGCGGCGCATTATGCCTGATTTGGGTTTTGAGGCGAAGGGC
TATGCCCTGTCTTTCGAGCAGCTCGCGCAGTTGAAAATCCCCGTCATCGTGTATCTGAAA
TACCGCAAAGACGACCATTTTTCGGTATTGCGCGGTATAGACGGCAATACGGTTTTGCTT
GCCGACCCGTCGCTGGGGCATGTTTCAATGAGCAGGGCGCAGTTTTTGGATGCTTGGCAA
ACCCGTGAGGGAAATTTGGCAGGTAAGATTTTGGCTGTCATACCGAAAAAAGCCGAGACA
ATTTCAAATAAATTGTTTTTCACACAACACCCAAAACGGCAGACGGAGTTTACAGTCGGA
CAAATCAGGCAAGCACGTGCAGAGTAAGTCAAATGCCGTCCGCAAACCACCTCCAACCTC
ACAAACCCTTTAAAATCCGCTATAATCGCCCGCAATTTGATTTAAGCATTCTTACTTGAA
ATGGCACAAAAAATCCAATCCGTCAAAGGCATGAACGACCTTCTGCCTGTCAAGCAAAAA
GATTTCAAACTGACGGCTGCGTTTTGGCAGGCGTTTGAAGATACGGTCGGCCGCTGGACA
CGCGCTTACGGTTATCAGCAAATCCGTACGCCGATTGTCGAGCAAACCGGTTTGTTTGTC
CGCTCCATCGGCGAGGAAACCGATGTGGTCGGCAAGGAAATGTACACCTTCTCCGATTCA
AACGATTCTTTGAGTTTGAGCTTGCGTCCTGAAGGTACGGCTTCCTGCCTGCGTGCGGTG
GTCGAACACAACCTTCTGTACAATAGCCCGCAAAGCTGTGGTATATGGGGCCGATGTTC
CGCCGCGAGCGTCCGCAAAAAGGCCGTTATCGTCAGTTCCATCAGGTCGGTATCGAGGCT
TTGGGTTTTGAAGGGCCGGATATTGATGCGGAAATCATCGCGATGTCTGCCGACTTATGG
GAAAAATTGGGTATCCGCGAATACCTGACTTTGGAAATCAACAGCTTGGGCAACCGTGAG
GAACGCGCGGCACACCGTGCGGCATTGGTTGAATATCTGACCCGTTATGAAGATAAATTG
GATGAAGACAGCAAACGCCGTCTGAAAACCAATCCTTTGCGCGTTTTGGATACGAAAAAC
CCAGATTTGCAGGAAATCTGCAACGCGGCGCCGCGTTTGGTGGATTACTTGGGCGAGGAT
TCGCAAAACCACTATGTACGCTTCAAGGCGATGTTGGATGGTTTGGGTATCCAATATATT
GAAAATCCGCGCTTGGTTCGCGGTTTGGATTATTACAATCAGACGGTTTTTGAGTGGACG
ACCGACAAACTCGGCGCGCAGGCGACTGTGTGCGGCGGCGGCCGTTACGATGGCTTGATT
GAAGAACTCGGCGGCAAACCTGCGCCGTCTATCGGCTTTGCAATGGGTATCGAGCGGCTG
CTGCTTTTGGTGAGCGAATACGGCTCTCTGGAAGTGAACGCTGCGCCTGATGTCTATGCA
ATGCACCAAGGCGAAGGGGCGGACTTGCAGGTGATGAAATACGCACAAGCCTTGCGCGCG
CAAGGTTTCAATGTAATGCAGCATTCCGGCTATCAAAGCCTGAAAGCGCAAATGAAAAAA
GCCGACAACAGCGGCGCACGCTTTGCCCTGATTGTCGCGCAAGACGAACTGGCGAACGGT
ACGGTTACGCTCAAAGACATGAACGGCGCACACGGTCAGCAAACTGTCGCCGCCGAGGAT
TTAACCCCTACTTTACAACAATGGAAGAACGCATAAATGGCAGCCCATCTCGAAGAACAA
CAAGAGTTAGACAACTTTAAATATTTTTGGAAAACCACGGGCAAATGGCTGTTTGCCTTG
CTGATTTTGGCGGCACTCGGCTACTTGGGATACACGGTTTACCAAAACCGTAAAGTTTCC
CAAAATCAGGAAGCGGCGGCGGTGCTGGCAAACATCGTAGAAAAGGCGCAAAGCAAAGCC
CCGCAAAGCGAAATCAATGCCGAATTGACCAAACTCCAACAAAGCTACCCGCATTCCATT
TCCGCCGCCCAAGCCACACTGATGGCGGCGGCAACCGAATTTGACGCGCAGCGTTACGAT
GTTGCCGAAGGCCATTTGAAATGGGTGTTGTCCAACCAAAAAGACAGCCGTGATTCAAGCG
TTGGCGGCGCAGCGTCTGGGCGTTGTGTTGTTGCAACAAAAAAAAATACGATGCCGCGCTT
GCCGCGCTCGATACGCCGGTTGAAGCGGACTTCGCCCCCCTGCTGATGGAAACCAAAGGC
GATGTCTATGCCGCACAGGGAAAAAGCCAGGAAGCCTTAAAAAACTACGGACAGGCTTTA
GAAAAAATGCCTCAAGATTCTGTCGGTCGCGAATTGGTTCAAATGAAACTTGATTCGCTG
AAATAAATGCCGTCTGAAATGCCACCCTCTCTTCAGACGGCATTTCAGACAACACTATCC
TACGGCAATTCCCGTAAAACCCATCCGCCGTGTCCAACGGACACCTGCTCGTGTTCAGTT
CTCCCGAACGGCACTTGACACAGAAAGACTCAATCATGAAACCAACCATCGCGCTTGTTG
GTCGCCCCAACGTCGGCAAATCTACTTTATTCAACCGTTTGACGCGCACCAAAGACGCGC
TCGTGCATGACCTGCCCGGTCTGACGCGCGACCGCCATTACGGACACGGCAAAGTCGGCA
```

```
     GCAAACCTTATTTGGTCATCGATACCGGCGGTTTCGAGCCGGTTGTGGACAGCGGCATTT
     TGCACGAAATGGCAAAACAAACCTTACAGGCTGTCGATGAAGCTGATGCAGTTGTGTTTT
     TGGTGGACGGCCGTACCGGTTTAACACCGCAAGACAAGATTATTGCCGACCGTTTGCGCC
     AAAGTCCGCGCCCTGTTTATTTGGCCGTGAATAAAGGCGAGGGGGGCAATAGGGCTGTAC
5    TTGCCGCCGAGTTCTACGAACTTGCTTTGGGCGACCCTTATGTTATTTCAGGTGCACACG
     GCGATGGTGTGTATTATCTGATTGAAGATATTTTGGAAAAATTCCCCGAGCCGGAAGCCG
     AAGAAGCCGATGCAAGACATCCTGTTTTTGCCGTTATCGGTCGTCCAAACGTCGGCAAAT
     CTACGCTGGTTAACGCCATTCTCGGCGAAGAGCGCGTCATCACCTTCGATATGGCAGGTA
     CGACGCGCGACAGTATCCATATCGATTTCGAGCGCGAAGGCAAACCGTTTACCATCATCG
10   ATACCGCAGGTGTGCGCCGTCGCGGCAAAGTGGATGAAGCAGTGGAAAAATTCTCCGTTA
     TCAAAGCGATGCAGGCGGTTGAAGCGGCAAACGTCGCTGTTTTGGTATTGGACGCGCAGC
     AGGACATCGCCGACCAAGATGCGACGATTGCAGGTTTCGCTTTGGAGGCAGGCCGTGCTT
     TGGTGGTGGCGGTCAATAAATGGGACGGCATCAGCGAAGAACGTCGCGAGCAAGTGAAAC
     GCGATATCAACCGCAAACTGTATTTCCTCGATTTTGCCAAGTTCCACTTTATTTCCGCAT
15   TGAAAGAGCGCGGTATAGACGGTTTGTTTGACAGCATTCAGGCTGCCTACAACGCGGCGA
     TGATTAAGATGCCGACGCCGAAAATCACGCGCGTATTACAAAGCGCGATCGAGCGTCAGC
     AACCGCCGCGTGCCGGCTTGGTGCGTCCGAAAATGCGTTATGCCCACCAAGGCGGCATGA
     ACCCTCCCGTAATTGTGGTACACGGCAATTCGCTGCACGCGATTTCCGACAGCTATACGC
     GCTATCTGACCCAAACGTTCCGCAAAGCCTTCAATCTGCAAGGCACGCCGCTCAGAATTC
20   AATACAATGTTTCGGAAAACCCGTATGAAAATGCGGAAGACAAACCGAAGAAAAAACCGC
     TGCGCCGCGTCAGCCTGAGCAACCGTATTGAGAAACGCGAAGGCCGAAAGGAAGAGAAAA
     ACCGCTTCAAGAAGAAAACCAAAGTCAGTGTGAAAAAACAATTCAGCAAATAATTCCCGA
     CATTTCAAACAATAGGAAACATTATGTGGTTCAAGCAGATTAGTTTTTATCCGCTCAACA
     AAGAAAGCTGCCTGAGGCAGACGTACTTGCCGACAAACTTGCTGAAGCTGAATTTACCC
25   ATTGCCAAGGCTTAGACTGGTTCAGCGAAGGCTTTACCGCACCGGTTTCATTCTCCCCTG
     AACTCGTTTTCCCTGCCGACTTTACCTTGCGCGTCGCCCTGAAAAAAGAAGAAAAAGTCC
     TGCCTGCCGGCGTCATCCGCGATATTTTGGAAGAGAAGGTAGCGGAAATCCAAAACAATG
     AAGCCCGCAATGTCGGCCGTAAAGAAAAACAAGAGCTTAAAGAGCAAATTACAGACGACC
     TGCTGCCCCGAGCGTTTACCCGCAGCAGCCGTACAGAAGCGGTGTTTAACACCCGCCACG
30   GCTACCTGCTCGTCAATAACGCGGCTTCCGCCAAAGCAGAAACATCCTGACCAAGCTGC
     GCGAAGCTTTGGGCGGTTTGGAAGCCTCGCTGCCGAATACCAAGCAATCGCCCTCTTCCT
     TGATGACCGGCTGGCTGTTGCAAGGGCATTGCGAAGGCGGTTTTGAATTAGACAGCGATT
     GCGAACTCAAAGGTACGGGCGATATTGTTCCCGTCGTCAAAGTATCCAAACAAGATTTAA
     CCGCCGACGAAGTGGTTCAACACGTCAAAAAACGGTAAAACCGTTACCCAACTGGGCTTGG
35   TGTGGCGCGAACAAATTGCCTTTATCCTCACTCAAGACTTCACACTCAAGCGCATCCAAT
     ACCTCGACGTATTGCAGGAAGAAGCCGAAAGCAACGGCGACGATGCCGCCGGCCTTGCCT
     TCGCCTCGCAAATTCTGATGGCGGAATCCGTCAGCACCATGTTGGAAGAACTGGTTTCCT
     ATTTGGGCGGCTGGCAAGATTGATTTTTCAGACGGCTTTTTCACGACAAAATACCGTCAA
     CCAAAATCCAATGGAATAACCCTTATGCTTAAACATCTCGCATTCCTACTGCCCGCCATG
40   ATGTTCGCCCTCCCCACTTCGGCCGCCGTCCTGACTTCCTATCAAGAACCAGGCTGCACC
     TACGACGGCAATGTCGGCAAAGACGGTAAACCCGCCGGCAAAGGCACATGGCGCTGCCAA
     GACGGGCGCAACTATACCGGTTCGTTTAAAAACGGCAAATTCGACGGGCAAGGCGTTTAT
     ACCGTTGCCGCCAACCGCGAAATATTTATCGAACCGTTCAATTCCGACAGTACCAAATTC
     CGCAACATGGTACTCTCGGGCACGTTCAAAAAAGGCTTGGCACACGGCAGATTTACCGTC
45   TCGCAAAACGGCGAAACCCTCTTCATTATGAAATGCGAAAACGGCATGATTAAAGAAGTG
     AAACTGCCCAAAAACAAATAAGCCCCGTTTTCAGACGGCCATCCCCCAATGCTTTGTCCGA
     ACACTGCAAGAAACAAGGAAAACATTATGAGCATCAAGTCCGACAAATGGATACGCCGAA
     TGAGCGAAGAATTCGGGCATGATCGACCCTTTCGAGCCGAACCAAATCAAAGAAGCCGACG
     GCAAACGCATCATCTCyTACGGTACGTCCAGCTACGGCTACGACATCCGCTGCGCAAACG
50   AATTTAAAATCTTCACCAACATCAACAGCACCATCGTCGATCCCAAAAACTTCGACCCGA
     AAAACTTCGTTACCGTTGAAGACGACTGCTGCATCATCCCGCCCAATTCCTTCGCACTGG
     CGCGCACGGTCGAATATTTCCGCATCCCGCGCAACGTCCTGACCGTCTGCTTGGGCAAAT
     CCACCTACGCCCGCTGCGGCATTATCGTCAACGTTACCCCGTTCGAACCGGAATGGGAAG
     GCTACGTTACCCTCGAATTTTCCAACACCACCCCCCTGCCCGCCAAAATCTACGCAGGCG
55   AAGGCGTGGCGCAAGTCCTCTTCTTCGAGAGCGACGAAATCTGCGAAACCTCATACAAAG
     ACCGCAACGGCAAATATATGGGGCAAACCGGCGTTACCCTGCCCAAAGCCTGAAATATAA
     ATGCCGTCTGAACCCTTATCGTCGGGTTTCAGACGGCATTTGCCGTTCACCTCAAATCAG
```

-105-

```
AACTGAACCGTCCCATTGACGCTGATGCTGATTTCCTCCACACCAGGCGCGGCGGAATCC
GCACCCTCCATATTGACGCTTGCCGCCATCGGCATGGCACGAAGCATTTTTGCCTGAGCA
GCTCCCCCTCCCGCGATATGGCTGCCGATGTGTCCCAAATTCAATTTGACGATTTTATAA
CCGGACGCACCCAAAACGCCCGCCAACTTTTCGGCACGCGCCTTGAAACGCAAAACGGCA
TCCTTGCTGACCTGATCGATGACCTCGTTGCGGCGTTCGCGCGACACATGGAAATCCGTA
TATTCCAACGCGGCATCTGCTTGAATATCGGCAATAAAACGGTTTAACTCATCAAAATCT
CTACCTTCGACCTTAAATTCCGCACGCTCCTCCCAGCCTGTTTGAATGCGTCTGCCGTTG
GTATATTGATAGCGCGGCATCGCACTGCGCGATACCAATTCGGTTTTAAAGCTACCATTT
TTCGATTTTCTGATGAACTTGTTGAATTTTTTAACAAACTCAGCATTGACGGCATTTTTG
TCCCGTCCTTCCGCCGTCACTTGGAAACGTGCGGACATTGTATCCTGAGCCACCTCGACA
CCCGCCGATTCGGAAAATTCGACAATATTGTAATTCAATGCTTCAGCCGCTGCCGGAAAA
GATACCGCCGACAGCGAAGCCGCCAAAACAAGACGCAACATATCCGCCTCCTTACCGATA
AAACTGCCAATCTAACACACCGGCGCGCCAAATTGCATTAGCGTAAGGCAACAATTTAAA
TATTCGGTCTGCGTCTGTCTTATAATAACCGCCTTTCCGATACGGAATCCCACTATGCCC
GAACCCTTGCACGTCCTCGTCATCCCCTCATGGTATCCGCAATCCGAACAGGATGTGGAC
GGGATTTTTTTCAAAATCAGGCACTGGCATTGCAGAGGAAAGGCATCAAAACCGCCGTGC
TTGCACCGATGTTCCGCTACTTGCGGAAAGAAACAGCAAGCATCCTGACCGACCCTTACG
GTTTTGCAAAATATAGTGGATTAAATTTAAACCAGTACAGCGTTGCCTCGCCTTGCCGTA
CTATCTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATCG
GCAAAGCGGTTTGGACATCTATGCATGGCACGGCATGTATTTCTTCCCCCGCTTTCCGTT
CATCGACATCGACCGCATCCGCTGGGTGTGTGCGGGTTTGAAAGCTTTCAAACACTACAT
CCGCGAAAACGGGCTGCCCGACCTGATTCACGCCCACTGTATGAACTATGCCGGCATACT
TGCCTTCAAGATTTCCCAAAAATACGGCATCCCCTATGTCGTCACGGAACACAGCAGCAC
CATTACGCGCGGTTTGGTGCGCCCGCACCAATGGCAGCCTATGAAAAATGCGGCGGCACA
CGCCGCCGCACGTCTCGCCGTCAGCCGCCATTTCGCACACGTCCTGCAACACAAATACGG
CTGCGAATGGCAGTACCTCCCCCAACATACTGGGCGGAATATTCAACCGACCGTTTGAAC
AAAGAGAAAAAAACAACAAACCGCATTTCGTGTTCTGCACCGTCTCGCACCTTCGCCGT
CTCAAAGGACACGATGTCCTACTCACTGCCTTTGCCCGGGCGTTGGCACAATGCCCGCAA
CTGCGCCTGAACATCGGCGGCAGCGGACAGGAAGAACAGCGGCTGAAACAGCAGGCGGCA
GACTTGGGCATTACCCATGCCGTTACATTTTTGGGCGCATTGCAGCCCGAAGCAGTCTTG
GATTTGATGAGGAACAGCGACGCATTCGTCCTTGCCAGCCGCACAGAAACCTTCGGCGTA
GTCTATATCGAAGCACTGTCCCAAGGATTGCCCGTCATTGCAACACGCTGCGGCGGTGCG
GAATCTATTGTTTCAGACGGCAACGGATATTTGGTTCCTGTTGACGACGACGATGCCCTT
GCCGACGCACTCATCAAAATGTGTGAACACCACTCTGATTTCGAACCTGCCCGACTTAGA
GAAAACTGTCTGAACGAATTTGGCGAAAATGCCGTTATAGGCAGGTTGATCGGCATTTTC
CGACAGGCAATCGCAGAATACGGTAAGAAAATACCGGTGAAATATAGTGGATTAACAAAA
ATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGT
GCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTT
TAAATCTAATCCACTATAGATTAAAATCACACAATATCCAACTATTCGGACCTTCATATG
ACACATACCGTCCACCTGCATTTAGAAGAAACCGACAACTTGGCGTTGCAGCGTCTGTGC
GGTTCTTTTGACAACAACCTTGATTTACTTGCCAAAGCACTCGATATCCACATCAGCCGC
CGTTTTGAACATTTCACTTTCAACGGCGCATTTGCACACGCCGGCAAACGCGCACTGCTC
AAACTCTTGGAAACGGCGCAGACGCGCGACCTAAACGACGGCGACATCAGGCTTGCCGCC
GTCGAAGCCCAAACCGAAGATGCCGGTCATCAAGAAAAAAAAACCATGACCACGCCTATTAT
TTCCGCACCAAGCGCGGCAGCATCGGCGGCAGAACGCCACGGCAAAACGGCTATATCCGC
GCCCTGCTCAACCACGACATCGTATTCGGTCTCGGGCCGGCAGGTACGGGCAAAACCTAT
CTCGCCGTTGCCGCGCCGTCGATGCGATGGAAAAACACCAAGTCGAACGCATCATTTTA
GTGCGCCCAGCCGGTCGAAGCCGGCGAGAAACTGGGCTTCCTGCCCGGAGACCTGACCCAG
AAAGTCGATCCCTACCTTCGTCCGCTTTATGATGCCCTCTATGACCTGATGGGCTTTGAC
CGTGTAACCAAGCTGATTGAAAAAGGCCTGATTGAAATCGCCCCGCTCGCCTATATGCGC
GGCAGGACGCTCAACGGCGCATACATCATCCTCGACGAAGCGCAAAACACCACGCCCGAA
CAAATGAAATGTTCCTGACCCGCATCGGCTTCGGCGCGAAAGCCGTCATTACCGGCGAC
ACCAGCCAAATCGACCTGCCCAAAAACATCAAATCGGGATTAAAAGATGCGCGTGAGAAA
CTGCACAACGTGGAAGGGCTGTATTTCCACACCTTTACCGGCGAAGACGTTGTCCGGCAT
CCTTTGGTGCAAAAAATCGTCGAAGCCTACGAATCGGCAGAACACGACTGACATTCCAAT
GCCGTCTGAAACCCGATGCATGGAAAATCAGGCAGAGAAAAACAGATACGGAAGCCAAGC
TCCGTATCCGTATCCGTTTCTTTATCCGTCCAACCGATACATCAATCGAATTTTCTGCAT
```

```
CGGATTGCCTCATCTTCGCAAAACATTGCCGAAGTTTCGCGGTTGCACGCCTGACGCACT
TTCTGCCGCGCCACGCCTTCATTCCGATCGCTTGCCTCAAACGTCTTCTGAAAAGGCGTA
ACGCTGCATACATACATGGTGGAATTTGAACCGAAAAGGTCGATTTTGACGGTATTGCCG
CCGCTTTCCAATACGGCGACACGGTGTTCCAACTGCGCCAGACGTGCTTCCAAATCGCCG
ATTCTGTCGGCAAATGCAGGCATGGCGGCACACGCGGTCAAAATGCCCAAAATACATTTT
TTCATCAATTTTTCCTTGTTGCTTGAACCCTGCCCACCCGGACATCCTTTTTCCGAGAGG
CAGGGTTAGACTTTATTTACGGGGATGAATCCCCTTACAAATCAGGATAATGCATAGAAC
GGCACTTTATGCTTCATCCCATGTGTTGAAACTTCATTGCTCCATGTCTGTTGACCCTTA
TTCCCAATCCGTTCCCACAACCTTCGGCTTGGGTTTGCGCCTGCGACGGCGGCGTTTTTT
CGCCTGTCCTTCGTTTTTTCGTGTCGGGCGGCGGCTTCGTTTTTGGTCATCTCCGACCG
CTGTTCCGTCGATGCCGTCTGAAACGCCGTCCACCACTCGGCAAGGGCGCGGTCCGCATT
GCCGGTTTCGGCGCGCAAGAGCAGGAAATCATAGGCGGCACGGAAACGCGCCTGTGCAAA
CAGTTTGTGCGGCCTTGCGCCTTTGCGGTTTTCAAACTGCGGCTGGAACATCCAAATTTC
GCGCATCGTGGCGGAAAAGCGTTGCGGCACGCCCCAACCGCGTTCGACGGTTTCGCGCAT
CGTATTGATTGCATCGGACAGGGCGGGCGCGGGTTTCAAACCCTGTTGCAGATTGCTTTT
CCAATGGCGTTCCAACTCGGGCCACATCAGAGCCGCCAATACAAAACCGACCGAAACCGA
TTTGTCGGCACGCAGCCGCTCATCGGTATTTTTCAGGGCAAGCACCGTCATTTTTCCGGC
GATGCCGTCTGAAACGCGCAAGGCATTGAGCAGCAGATGGATGTCGTCCGGTATGTCAAA
TCCGTTCAAACGTTTTAGACACTCGCGAGCGTGCCCTGAAAACAGCAATTTCATAATTTC
GTCGAACAGCCTCGCTACCGGTTCGTGCTTCAGACGGCATATCGATTCGGCAATCGGTGC
GGCGGTTTCTTCCGACAGCTCAAAGCCCAATTTGCCCGACAGGCGGATGGCGCGCAAAAT
CCTGACAGGGTCTTCCTGATAGCGTTCGGCGGCATCGCCAATCATAACCAGCCTGTGGGC
GGCAACATCGGCAATCCCGTTGTGGAAATCCAAAATCTCTTCTTTTTCAGGATCGTAATA
CAAGGCATTGCAGGTAAATCGCGCCGCATCGCATCTTCTTCGATGCTGCCATAGGTATT
GTCTTTCATAATCCTGCCGCGTGCATTCTGATGTACTTTCGCACCGCCGCGAAACGTCGT
TACTTCGATAGTCTCTGCACCGTTCATCACATGGACAATCTGAAAACGCCTGCCGATGAT
GCGGCTGCGGCGGAAGAGTTTGTGCACCTGTTCGGGCGTGGCATCGGTTGCGACATCGAA
ATCTTTGGGTTCGATGCCGAGCAGCAGGTCCCTGACCGCGCCGCCGACCACATAAGCCTG
AAACCCCGTCCCTTTCAGGCGGCGTATGACGCTTTCGGCGGCCAAAGCTCAACATTTCGGC
ACGGATGTTGTGTCTTTCGGCAGGAATGACCGTTTTACTTTCCGCTTTTTTTACTGCTCCG
ACCGGAAGGCAGCATCTTATTCAACCATTTTTTCAGCATAAATATTCTGACCCGAAGAGC
GGCATCTCCACAGGCAACCGTGTTCAGACGGCATCAGGCGCGGTTTGCAAGATGCCGTAA
CCATAAACAAAAGGCGTAGAAACTACGCCGTCCGAATCACGCCGCCCTCGCGGCGGCAAC
GCGTCATTATAACAGATTGCCCTCCAAAAAAATCAGACCCTGCTTTTGTGGCAGAGTCTG
AAATTTGATGCGCCTTCTCCGATTGGGAACATTCCCGTCGTACAAACAGGCAAATGAAGG
AACAGAAATCACATTCAAACAGTGTTCCGCCGCCTCTACGCGGCTTCCCAGTAATCGATA
TACAGCTGCAATTCGAGATTGTTGCGCCATTCGTTGGCAACGGGGCGGTAAACCGTGCGG
ATGTATTCGGGAATGTCTTCGCTGCAACGCCAAAACATCGCTTCAAATTCGCAGCCGTCT
TTTTGCAGCCAGACTTTTTTGTGTTTGCCCTCCGCGCCCAAAGGTTGCTGGCGGACGACG
TGGAACTCGTCGGTAAAGCTCGGCGGCGCGAAGCCCTGCCCCCAAACGTGACGGGCAAGG
TTTTGCGCCTGTTCCAACGTGATGTCGCAGGCGGGCAGGCTGCCGTCGGTGATGAAGGTT
TGCGACAAATCGTCTTCGCACACCATTTCGCGCACGGCTTCTTCAAAGGTCGTCTGAAAC
GCGGGAATGTTGTGTTCAAGTATGCTCAAACCCGCCGCCATCGCGTGTCCGCCGAATTTC
AAAATCAAATCGGGATGGCGTTTGGACACCAAGTCCAAAGCATCGCGCAGGTGCAAATTG
GGAATGGAACGTCCCGAACCGCGTACTTCGCCGTTGTCGGCAGGCGCAAACACGATGGTC
GGACGATAAAAACGGTCTTTGAGGCGGCTGGCGACAATGCCGACCACACCTTGATGGAAG
TCGTCGCGATACGCCACCAAAGTCATCTGACCTGAAGGCAGGGTTTCGGGGAAATCATTC
AGTGCGTCTTGCAGCATAGACTGCTCGATTCGCGGCGCTCGATATTGAGGTTGTTTAAC
TGAGCCGCCAGTTCCTGAGCTTCGGAATCATCTCGCGCCAACAGGCAGGCGATGCCGACC
GACATATCGTCCAGCCGTCCGGCGGCGTTGATGCGCGGGCCCAACGCAAAACCCATATCA
AACGGCTGCGCCTTGCGCCAATCGCGCCGCGCCACTTCAAACAAGGCGCGGATACCGGGG
CGCATTTTGCCGGAGCGCATCCGTTTCAAACCTTGCGACACGAGGATGCGGTTGTTGTGG
TCGAGAGGGACGACATCGGCAACCGTGCCGAGTGCGACCAAATCCAAAAGTTCGCCCAAA
TTCGGCTCTTTGATGCCGTCTGAAAAATAATTGCGGCGGCGCAATTCGGCACGCAACGCC
ATCAATACATAAAAAATCACGCCCACGCCCGCCAAGCTTTTGCTTGGAAAACCGCAGCCT
TTTTGGTTCGGATTGACGATGATGCAGTCGGGCACGGTCTCGGCCGGCAAGTGGTGGTCA
GTAACGATGACATCCAAACCCAGAGCCTGCGCCCTCGCCACGCCTGCGATGCTGGCGATA
```

```
CCGTTATCCACCGTAATCAGCAAATCCACGCCCTGCGCGGCAGCGATTTCGGCAAGTTCG
GGCGTTAAGCCGTAGCCGTGTTCAAAGCGGTTGGGCACAAGGAAATCCACTTTCGCCCCC
ATCGCCGCCAAACCGCTCATACCGACGGCACACGCCGTCGCACCGTCGGCATCATAGTCG
GCAACAATCAGGATTTTTTCCTTGCGCCCAACCGCATCCGCCAAACGGCGGGCGGCGGCT
TCGCAATTCGTCAACGATTGATAAGGCAGGAGGGAAGCGAGTTTGTCGTCCAATTCGGCA
GGACTTTGCACACCGCGCGAAGCACAAAGCTGGGCGATTAAAGGATCGGCACCGGCGGTG
AGCAAATGATTAAAAACGTCGGTATTGACGGATCGGGTTTGGATTTTGACTGACATAACG
TGGGGTTTTACTGTGCGTGTGTGCTTAAAATGCCGTCTGAAAGCTTTTCAGACGGCATTG
CTGTTCATTTGCGGGCGGCATCCACGACCGCACCCAGAGCCGCCGCAGGCAAGGCCAGTA
CCGCGCCCGCCGCATCCAGTATCAAAAAGGGGGGCGTATATAAGATATTTGCAAACAGCT
TGGATTTGTCGGTATGTTCTTCAGTAACCGTGTAATAAATATCGGCAGGCACACTTTGCT
CAAAATGGTAATCGGCGTTCAGTTTTTGCGGTGTGGCGTAGTATTTGCCTTTGGCGGATA
CGCAGCGCGTGTAAATGGTCCGATTGTCGAGTTTGACCGCTTCAAACCCGAGCTGTTTCA
GCTTGGCGATGTCGGCAGGCTTGTCGGTATCGTAGCGCAGGCAAAGGCCTTCGGTACTGA
AATTCTGGCTGCCAGGCGATTCGAGTTTGACCGGCAGGGCTTGGTGGCGAGCATAGCTCG
GGGTATCCTCAACTATTTGGAAGGGTTTGTCCAGCCCTGCCTTCAAAATGCCCGTCAGCT
TCGCCGAATCTTCGGGATTGACGACGAACCAGTATTTTCCGCCCATCATCACCAGGCTGC
CCTTTTCCAATTGGGCATTGTCTTCGGCAACCACACCGAAGGCGCGGATTTGGTCTTTGT
CAACGTGTTTGCGGGTGATTGTTTCGCTGACCGGGTTGTTCATTCCCCACAACATCAACG
TACAGCCGTTCAGCATCAAGGTTGCCGCCAAAACGGCGGCGGTCGTTTTACGGAACAACA
TTTTATCCTCCAATCTAAATAACGGCGGATGTCGTCTGAAAATATGCCTAAATTTCCGCG
TCCCCGTTTTCCATCACGGTTTTCAACTCTTGAAACAGGGCGCGGAAATTTTTTGGTGGT
TTGTTTTGCTCCTGCTCTTTTTTGGTATTGCGGATGAGTGTCCTCAGCTTGCCCGCGTCC
GCATGCGGAAAATCCGACATAAACTGCGTCAACGCGCCGTCGTCTGCCAACAGCCGTACG
CGCGCCTGTTCCACGCGTTGCAAAAAGGCGTTGTGCGCCGCATCGTCGCCGCGCAGCTTG
GCAAGAAACGCCTCGATGGGCGCGGGATCGGTATCGCGCATCAGCCTGCCGATAAATTGT
GCCTGGCGTTTGAGCGCGCCGTTGGATGTGATTTTTTTATAGGCGGTTACCGCCTCGTAC
AAATCCGCATCCAAACCGATTTTTTTCAGCGTATCGTTTGAGAGCTTGGTCAACGCCATA
CCCAAATCCTGCAAATCGTTCATCTGCTTTTTCATTTGGGTTTTGCTGATCCATTCGTCT
TCTTGTTCAAACATCTTGATTCTCGAATTTTTCCAATAGCGCATTTTAACAGAATGCCGC
CGCGTTCAGACGGCATTTTGCACCGTCCGCCCTGCAAACGGCGCGCTTTTGCCCCTGCCG
CCCGAAACGGTTAAAATGCCGCAAAGCATCATCAAGAAAGATTTCTATGCTGTTCAACCA
CACCGCTTCCGAACTCCTCGACCTCTGCCGCCGCACGCTCGACTTGGCAAAAGCGACGGG
CGCAACCGCCGCCGAAGCCGATTTCAGCGAATCATTGGGACAAAGCGTCAGCGTGCGGCT
GGGCGAAATCGAACAAATCGAGTTCCAGCAGGACAAGTCGCTGGACATTACCGTTTACGT
CGGCAAACGCAAAGGCCGCGCCAGTACTGCCGACTTCTCCGAAAAAGCCCTGCAAGACAC
CGTCAAAGCCGCCATCGACATCGCCCGCCACACCGCCGAAGACGGTTGCGCCGGACTTGC
CGATGCCTGTCTGATGGCAAAACACATCGGCGACCCCGACCTTTACCACGAATGGGATTT
GGATACGGAAGCCGCCGTCGGCTTGGCAAAACAATGCGAACAAGCCGCCCTGAACGAGGA
TGAGCGCATCGAAAACTCCGAAGGCGCGGCGGTGCAAACCGGCCATTACCAATACGTTTA
CGGCAACACCCACGGTTTTGCCGCACACCGGCAAGGCACGCACCACAGCATTTCCTGCAG
CGTCGTTGCCGCCGACGAAAACGGCATGCAGCGCGACTACTGGTACGATTCCGCCTGCCG
CCATCCGGATATGGACAGCCCCGAAACCATCGGTCAAACCGCCGCCCGCCGCACTTTGCG
CCGACTCGGCAGCCGCAGCATCCCGACAGGCAGCTACCCCGTCCTCTTCGATACCACCGT
TTCGGGCGGTCTTATCGGACACCTCGTCGGCGCACTCTCCGGCGGCGCGCTCTACCGCCA
AAGCAGTTTCCTGATCGACAGCATCGGCAAAAAAGTCCTGCCCGATTTCCTCAACCTGCG
CGAAGAACCGCACATCCCCGCTCTTTCCGCAGCAGCTATTTTGATGCGGAAGGCGTTGC
CACCGCACCGCGCTTCGTGATTCAAAACGGCATTGTCGAAGGCTATTTCCTCAGCAGTTA
CAGCGCGCGCAAACTCGGTATGCAGACCACGGGCAACGCCGGCGGCGCGCACAACCTGTA
TTTGAACCATACGCACGAAACGCAATCCGACCTGCTGAAAGAAATGGGGACGGGATTGTT
GGTAACCGAACTGATGGGACAGGGCGCGAACACCATTACCGGTGACTACTCGCGCGGCGC
GGCGGGTTTTTGGGTGGAAAACGGCGTGATTGCCTACCCCGTCCACGAGATTACCGTAGC
CGGACGCTTGCAGGATATGTACCGCGACATTGTCGGCGTGGCGGATGACGCTTTGCGGCG
TTCGTCCAACAAAATCGGCTCGATTCTGATTGCGGGGATGACGGTTGCCGGAAGCTGAAC
GCCCTGCCGATGCCGTCTGAAGACGAAGGCAGCACGTTTTGCCCCGTGCCTACCCGTTTG
CCGTTTTATGCCGCACCGCCTTTTGCCGACAACATTGCACATTTTTTCATCAGCACTGAT
TTTCCCTTATCCGTCAAAATACTAAGCCACTTGTCCACAACAGGGTACACACAAGTTCAG
```

-108-

```
GATAAGGCGTGCGGGGATTGGGGTTTTTCCGCCGCCGGCAAAACGGCAGACAAAAACGGC
GGGACATTGCCTGTCCCGCCGTTTTCAAATATACATTTGACCGTACATCAGGAATTAAGC
AGCCTGAATGTTGGCGGCCTGTTTGCCTTTAGGGCCGGTGGTTACGTCGAAAGAGACGCG
TTGGCCTTCTTTCAGGGTTTTGAAACCTTCCATATTGATTGCTGAGAAGTGAGCGAACAA
ATCTTCGCCGCCTTCATCAGGCGTGATGAAACCAAAACCTTTAGCGTCGTTAAACCATTT
TACGATACCGGTTGCCATTAGAAACTTCCTATACTCAAAAATTAACAAAATCAGCAAAAC
AAGGCATACGGCAAACCGAGCCGTCTGGCGTTCCTTCCAGCTTGATATACTCGGCGGATG
CCCAATCCTGCTTAACCGTCTTTTTACATTTGTTAAGACAAAACGTCAAGCTATGTTTTC
AAAAAAGTGGGAAAATAGGCAAAAGTACCGAAAATACAACAAAAATGCCGTCTGAACGCG
GCTTTCAAATGGGACACACTATGACCGCGCAACACCAATCCGACACGCTCTTGCACCGTC
TGAACACCCTGCCGCCGAAACGTTACGGCGTTTTCCTATTGAACGACGATTACACCACGA
TGGAATTTGTCGTCGAAATCCTGACCGAAATCTTTATGCTCGGACAAGAACAGGCGGTAG
CGGTAATGCTCTTGGTTCATCACGAAGGCAAAGGCCTGTGCGGCACTTACACGCGCGATA
TTGCCCAAACCAAACAACAACAAGTCATGCAGCGGGCAAAAGCCGAAGGGCATCCGCTGC
AATGTATTGTCGAGGAGATTTAATATGCTTGCACCCGAATTGGAACAGATTTTGCAGCAG
CTTTACCGCGAGGCGCGTAAGGCTCATTATGAATTTATCAGCCTCGAGCATCTGCTTTTG
GTACTCATCGAAGAAGATGCCTCCGTCCACAACGTCCTCAAGCTCTGCGGCGCGGATTTG
AAAGTGGTGTCCGAACAGCTCGCCGCCAGCGTTGCCGAAAACACCCCCCTGATTCCCGAA
CACCTTTTAGACACGGTCGAAACCCGGCCCACGCTCGGCTTCCAACGCGTGATGCAACGG
GCGATGGTGCATACCCAGTCTGCCGGAAAAGCCGCAGTCGAACCGTTGGACGTTTTGGTC
GCGCTGATGAGCGAAACCGACAGCCACACCGTCTATTTCCTCAAGCTGCAATCGGTTACG
CGTTTTGAAGTTTTGCGCTGTATTGCCCACGGCWCTCCCGATGAAGATGAAGATGAAGAT
GAAGATGAAGACGATGGCAACTATTCTTCAGACGGCATGGACGACGATAATGGAAACCGC
ACCAAACCGGGCAAAAACCCTTTATCGGCGTACACCGTCAACCTCAACGCCGAAGTCAAA
GCCGGCCGTATCGACCCTTTGATTGGTCGCAAACACGAAATGGAACGGCTGGTGCAAATC
CTATGCCGCCGCCGCAAAAACAATCCGCTTTTGGTCGGCGAAGCGGGCGTGGGCAAAACC
GCGCTGGCGGAAGGTTTGGCACATCAAATCGTCAACGGCGGCATTCCAGACGCGCTTAAA
GATGCCGAAGTGTACGCGCTGGATATGGGCTCGCTGTTGGCGGGCACGAAATACCGCGGC
GACTTTGAAGCGCGGGTCAAATCCGTCTTGAAACAGCTCGAAAAAATCCCGCACGCCATT
TTGTTTATCGACGAAATCCACACCATCATCGGCGCGGGCAGCACCAGCGGCGGCACCATG
GACGCGTCCAACCTGCTCAAACCCGCGCTGGCAAAAGGTTCGCTGCGCTGCATCGGCGCG
ACCACCTACGACGAATACCGCACCATTTTCGACAAAGACCATGCCTTAAGCCGCCGCTTC
CAAAAAATCGACGTGGTCGAACCCACCGTTTCCGAAACCGTTCAAATCCTGCGCGGCTTG
AAACCGATGTTTGAAGCCTTCCACCAAGTCCGCTACACTCAAGGCGCACTCGAAGCCGCC
GCCGAACTCTCCGCCACGCTACATCAACGAGCGTTTCCTGCCCGACAAAGCCATCGACGTG
ATGGACGAAGCAGGCGCGGAGCAACGGATTCTGCCCAAATCCAAACAGAAAAAAGTCATC
GGCAAAGCGCAAATCGAAACCGTCATCGCCAAAGTCGCGCGGATTCCAGAAAAAACCGTG
TCGCACGACGACAAACAGGTGCTGCAATTCCTCGGCCGCGATTTGAAAAACATGGTTTAC
GGTCAGGAAAACGCCATCGACGCGTTGGTTGCTGCCGTCAAAATGTCGCGTTCCGGCCTT
GCCCTGCCCGACAAACCGATAGGCAGTTTCCTCTTCTCCGGTCCGACTGGCGTCGGCAAA
ACCGAAGTCGCCAAACAGCTTGCCTACTCGATGGGCGTACCGCTGCAACGCTTTGATATG
TCCGAATATATGGAACGCCACGCCGTATCGCGCCTCATCGGCGCACCACCGGGCTACGTC
GGCTTTGAACAAGGCGGCCTTTTGACCGAAGCCATCAACAAACAGCCGCATTGCGTATTG
CTCTTGGACGAAATCGAAAAAGCCCACCCCGACATTTTCAACGTCCTCCTGCAAGTCATG
GACGCAGGCAAACTGACCGACAACAACGGCAAGAGTGCCGATTTCCGCAACGTCATCCTA
ATTATGACCACTAACGCAGGTGCGGAGAGTCTCAGCCGACCCAGCCTCGGCTTTACCGCC
AAACGCGAGCGCGGCGACGAAATGCAGGCTATCAACAAGCTCTTCACGCCCGAGTTCCGC
AACCGCTTGGATGCGATTATCCCGTTTGCGCCCTTATCCGAACCCGTCATCACCAAAGTC
GTGGACAAATTCCTGCTCCAGCTCGAACACCGGCTCCTCGACAAAAAAGTCGAAGCCGAA
TTCACGTCGGCATTGCACAAATATCTGGCGGAAAAAGGTTTTGACCCGCAAATGGGCGCG
CGCCCGATGCACCGCCTGATTCAGGAAAAAATCCGCAAACCGCTCGCCGACGAACTCCTG
TTCGGCAAACTATCCGACGGCGGCTTCGTACGGATAGACTGGGATGCGGCAAAAGAAGAA
GCCGTGTTGAAGTTTAAGAAAAGCAAGGTCAAAATAAAAACCGCCTCCGCATAAAATCAA
AAATGCCGTCTGAAATTTCAGACGGCATTTTGTCAAATATCGGTCCCTATTCCGGCAAAC
TTCTCCACAAACGCCGCAATCTTTTGAAAAACACTTTGTTTCTTCGTCAGATATTGCGGG
TTGAGCGGACTCATTTTCGGCAGGGTTTCGGTCAGTTCCGTGCCGTTTTCGCTGGCATAG
CCGCGTTTGAGCGAGCTGATTAAATAGCGTTTGGCGGCGGTTTCGTTCAGGCCTTCGGCG
```

```
GCAATCAATCCTGCCGCTTCGTGCCGCATCACCTCTTGCGCGTAGGTGTAGAAGGTTTCC
AGTATGGCGGGAACGTCGGGTACTTTGTCCAAATCCGTATCGTTGATGAAATCCACAATC
AGACCCTCTTTGGCGCGGTGGCCGATGCTGGCGCGGATGATGCGGCGGATTTCTTCCACC
AGCTCCGCTTTGCCTTTGATTTTTTTGTGGTGTTCGAAAACCAGTTGCAGGATGTAATCC
AGATTGATTTCCTGTGATTTGAGCAAATCCACCTCAAAAACCACATCGTCCCAGTCGATT
TTTGATTGCTCTTTCTGTTCGCCTGCTTTTTGGCGGCGCAGCCAGTCGCGGATGTCATTG
TAGGCGGAACGGTAGTCCTGCACCGCCCTTTCAGACGGCATCGGCACTTGCCGCATTTCC
TGCACGTCTTCATCGCTCAGGTAGTATTTTTCTTGAAACGCCTTCATCGCATCTTCGTCC
GCCGCGTCCACACTCTGCAACTCGCGCAGCGCGGCAAATTCATCGTAGTTCTGCAATACG
TTTTCCGCCCGCAGGTATTCGCCGAAGAGTTTGGCAAAATCTTTTTTGTCTTTTTCCGTT
TCGATTTTGTCGGGATCGGGGAAACGCTCGCGCAATTCTTTTGCCACATCCAGATAACCG
CGCCGTGCTTCGCCGGTCTGGCTGTCGGTATAGCCGTTCATGTATTCTTCGTAACTTTTT
TCCAGCACCACGTTTTTGGTGTTTTTGTCGCCAAACAAGGTAATCGCATCAATGGTTGCC
TGCTCCAAATCGCGGAAGCAGACAATATTGCCGAAGGTTTTGGTGGCATCGTAAATGCGG
TTGGTGCGCGAAAACGCCTGCATCAGGCCGTGATAGCGCAGGTTTTTATCGACGAACAAC
GTGTTCAGCGTCGGCGCGTCAAAACCCGTCAAAAACATGCCGACCACAATCAGCAAATCT
ATTTCCTGATTTTTCACCCGTTTTGCCAAATCTCGGTAGTAGTTTTGAAAGGCTTTGCTG
TCCGTGCCGAAATTGGTTTTGAAACAGGCGTTGTAATCGTTGATGGCAGCCTGCAAAAAT
TCTTTTGCGCTGCTGTCCATCGCTTCCGGTTCAAAAGTCTCATCGACAATTTCACCGACG
GCGTTTTGCTCTTCGTTGGCCGCAAAGGAAAAAATGGTGGCCACTTTCAGCGGGTGCAAG
CTGCCTGCCTGTTGTGTTTTGAACGCTTCGTAATAGCACTTCGCCGCATCCACGCTGCTG
ACGGCAAACATCGCGTTAAAGCCTTTGCCACCCGCATTCAGCCGGTGCGTTTTCTGCCTG
AACTGATTCAGGATATATTGCGTGATTTCGCGGATGCGTTCAGGGTGCAGCAGGGCTTTG
TGGTTTTCGGCGGCACTCAGTTTCTTCTCGTCCTGTTCCGCTTCCACGGCTTTGAACTGC
GGGCGCACGTCGTTGTAATCCACTTTGAATTTCAATACTTTTTCATCGCGGATGGCATCG
GTAATCACATAAGAATGCAGCTCCCGCCCGAACACGCCCGCCGTGGTTTCCGCGCCCAAA
GCGTTTTCGGGAAAAATCGGCGTGCCGGTAAAGCCGAACTGGCAGAATTTTTTAAATTTC
TTTTTCAGGTTTTTTTGCGCTTCGCCGAATTGCGAGCGGTGGCATTCGTCGAAAATAAAG
ACAACTCGCTGATGGTAAACCGGCAGATTATCTTCGCCCTTCATCAGGTTGTTCAGCTTT
TGGATGGTGGTAACGATGATTTTGTTGTCGTCTTTTTCCAAATTGCGTTTCAAGCCTGCC
GTGCTTTCCGAACCGTTCACGCTGTCGGGCGAAAAACGTTGGTATTCCTTCATCGTCTGA
TAGTCCAAATCCTTCCTGTCCACCACGAAGAAAACCTTGTCGATAAATGCCGATTCCGTC
GCCAGACGCGCCGCCTTAAAGCTGGTCAGCGTTTTGCCGCTGCCCGTGGTGTGCCAGACA
TAGCCGCCGCTTTCCGGTTTGCTCCAATTCTTCGCCTGCGCCGAGCTGTTGATTTTCCAC
AAAATGCGTTCGGCGGCGGCAATCTGATACGGCCGCATAATCAGCAGCGTATCATTCGCA
TCGAACACGCTGTAATGCAGCAAAACGCCCAGCAATACGCTTTTCTGCAGGAACGCTGGCG
GTAAAGTCTTTCAAATCCTTAATCGGATGATTGTCCGACCGCGCCAATTCATCGTGAAA
TCGAAGCTGTTTTTGTCGCGCTTGGTGGTGTTGGCGAAATAGCGCGTGTCCGTGCCGTTG
GAAATCACGAAGATTTGCAGGAATTTGAACAGCGAATTTTCGCTGTTGAAGCTCTCTTTG
CTGTAACGGTGCACCTGATTGAATGCCTCGCGCACCGCCACACCGCGCTTTTTCAATTCA
ATCTGCACCAGCGGCAGGCCGTTTACCAACACGGTAACGTCATAGCGGTTTGCATGCGTG
CCCGTCTGCTCAAACTGGTTGATAACCTGCACATGGTTGCGGGCAAGGTTTTTCTTGTCC
AGCAGATAAATGTTTTTCAGACGACGGCGGATTCGCATTTGAAGTGCAACTTTCCCTAAC
AGAAAAAGGCCAGTATGCGGTAGCATACGACCTTTCCTGCAAGAAAGATTGCCATGAGCT
ACACGCAACTGACCCAAGGCGAACGATACCACATCCAATACCTGTCCCGCCACTGCACCG
TCACCGAAATCGCCAAACAGCTGAACCGCCACAAAAGCACCATCAGCCGCGAAATCAGAC
GGCACCGCACCCAAGGGCAGCAATACAGCGCCGAAAAGCCCAGCGGCAAAGCCGGACTA
TCAAACAGCGTAAGCGACAACCCTATAAGCTCGATTCGCAGCTGATTCAGCACATCGACA
CCCTTATCCGCCGCAAACTCAGTCCCGAACAAGTATGCGCCTACCTGTGCAAACACCACC
AGATCACGCTCCACCACAGCACCATTTACCGCTACCTTCGCCAAGACAAAAGCAACGGCA
GCACGTTGTGGCAACATCTCAGAATATGCAGCAAACCCTACCGCAAACGCTACGGCAGCA
CATGGACCAGAGGCAAAGTACCCAACCGTGTCGGCATAGAAAACCGACCCGCTATCGTCG
ACCAGAAATCCCGTATCGGCGATTGGGAAGCCGACACCATTGTCGGCAAAGGACAGAAAA
GCGCATTATTGACCTTGGTCGAACGCGTTACCCGCTACACCATCATCTGCAAATTGGATA
GCCTCAAAGCCGAAGACACTGCCCGGGCAGCTGTTAGGGCATTAAAGGCACATAAAGACA
GGGTGCACACCATTACCATGGATAACGGCAAAGAGTTCTACCAACACACCAAAATAACCA
AAGCATTGAAAGCGGAGACTTATTTTTGTCGCCCTTACCATTCTTGGGAGAAAGGGCTGA
```

-110-

```
     ATGAGAACACCAACGGACTCATCCGGCAATACTTCCCCAAACAAACCGATTTCCGTAACA
     TCAGTGATCGGGAGATACGCAGGGTTCAAGATGAGTTGAACCACCGACCAAGAAAAACAC
     TTGGCTACGAAACGCCAAGTGTTTTATTCTTGAATCTGTTCCAACCACTAATACACTAGT
     GTTGCACTTGAAATCCGAATCCAAGGACCGTCATCAAAAGCGAAATCGTAAATATGGTCG
 5   TCGTGGATTTTGCGGGTTTTATCGGTAATGTTTTCAGACGGCCTGTCCAGATATTCCGTC
     AAAAACCGCGCCCATTCGCCGTCTGAAAACGCCACATCGTTCAGCCGCTGCAACTGCGCG
     CGCAGGTTTTCCAGCAGCCTGCTTTGGCTGTTCAAATCCTTGCGGTATTCGTAACCCTGA
     TTCTGCAAATCGGCGATTAACTCCGCTTCCAACCGGTTTTCCGATTGGTAGCTGCCCGAC
     TGTTCGATTTTTCATATTGGTCGAGCACGATGAAATTCGGCGTTTCAGCGATGGGTTTG
10   GTTTCGAGGTTCATGGCTTATCTCTTTGTTCATCATCTTGAAAAAAATTATAGTTATCCA
     GCAAGTGTTGCAAAAGCAATTTGACAGTTTCTTGTTCTTGTGGTGTTGGCTCGGCAAATG
     CCTCATTAGATAATGTAGAATGACTTGTAAAGTTAATAATACGTTGAAAATAGTTTCGTC
     TGCTGTCTTCGGGCAAAATATCAGACCTTTGCTTATAGCCTAAAAAATTAGCTGTTTTTT
     CATACAGGTTTCTCAGCAACATAAAATGAAACCGTTCTACCTGCTGATTCTCGATAGCTT
15   TTTCAATAACTCCTTTTAAGTGAAGGTGATATGAAAAACTTTTATTGGAATCACCTTGTT
     TTTCAAGAATATCAAAACTACCATCTTCATTTTTTAACAGAAGATAACTTTTCTTTTCCT
     TTTCTAATTTTTTTAGTTCATTGTATAGAACGTTGTAAAATAAAACATTATGTGTAGTAA
     TGATAAACTTTAACCTCGGTTTGCTAAGCTTTATCAAATCAGCCAAATCAACCGCTTGCT
     GAATCAGATGATTTTCATCCAAAGAGCTGACAGGGTCATCAATAAAAATATATTCCAAAT
20   CGTCAAACTGATCTGTGGAACGTCCTTCTTCGCTATCTTCTGGAATATTCAATTCAGCGA
     TGACTTGTCTGATTAATACATAGAAAATGCTCCAAATAAAATTACTTTCTTCACCTTTGG
     AAATTTTGATATTTTCAATCTGCTCATCATTACCACGAGCAAAATAAAATGCAATTTCTG
     AAAAATCATCATTAAAATCAGGAGTCAACTTATCATCTGTATAATATTGAAAGTTTTTAA
     TAACAGCTCCATCCAGTCCATTATCCCTAAGCAACCAGTCGGTAAAACTATTCTTTTGAA
25   TTTTTAATCTTGGAGCTTCGTTCGCTAACAAATCATTGTCCCAAAAGAATAAATCCTCAG
     TAAATGCATTATAGTAGAGAAATTTTCTTCTTGTTGGCTCTCCGTCTGGCTCTTCTGAAC
     TGGTTGGAGCAATTAAAATTCTTAAACTCTCTGGACAAACGTGTTTTCCCTGTTCCGTTAA
     AAGCATAGATTAGCTGGACTTTTTTATCGTTTCCTTTTAGTTCCTCAGCAATTTCGGTTA
     AACTTTTTCCCATGATATTTCCTTATCAATATTTTTCAGACGGCATGATTTAAAGACCAG
30   CTATGACTTTTCAGGCAGCCTTTGGGAAGCTCAACAACTGCCCGCGGTAATATTCGTATT
     GTTTCCGGCGCAGGGCAATTTCGTACGGTAGGCCCTCGCTGATGGAGTGGGTCAGGGTGT
     CGAATTTGTCGAGGATGGCGACGATTTTTTCCTGTTCGGGGAGTGGAGGGATGGGGATTG
     AAATATCTTTTATCATTGGTTTCGTTAGCTGTGGAATACCGCTTTCAGGAACTTTATAAT
     TTGATTCAATACTTTTCATAAAGTAGTAGGCATATTTTAGGTTTAATTCAATTTTTGGTG
35   TTAACACTAACAGGCGTACTATTGGGAAAAAAGGTTTATTCTGAAAGCTAGCCCAACCTA
     TAGTTCCTCTAGCTGATATAGTTAAGCTAGGTTGATTGATTTTAGCAACATTAGTCCAGC
     CATATAGTGCCTTACTTCCTATACCATTAGATAAAATGGGGATACAAAATTCTTCCGTTT
     CCACTTCAGAGAGAAGCGTCTTTTGGTACGTCGCCTCCAGCAAAAATATTAAATACCTCCC
     CCAACGTCTTCCAAACCACATCTTTCAGACGGCCTTTATAGCCATCAGCTATCCCCCCCG
40   ATTTGATTGTTAAAATCTAAAAGAAAGTCGCGGTAATACCGGTATTGGCGTTTGCGCAGG
     GTTAATTCCGCTTCCAGCGTAGCTTCCAGCGTAGCTTACAGCTCTGTGAATTTGTCAAGT
     ATTTTTACAATTTTTTGTTGGGTTTCCAGGGGTGGGATGGGGATCGAAATATTTTCAACT
     ACTAATCTATCAATAGTAGGAACTCCACCAACTCTCTTTTGGGATTTTATATATCCTTCT
     CTTGTTTTTAAAAAGTAGAATATAAACTTATCATCAAGATAGTTTGGTGTTTGAATCACA
45   AAAGTACCATCAGATGACCAGAAATCTACGCCACTCCATATAACTTCACCAATACTTCCC
     GTATTAATAATCATCGTTTGATTAGCTCTACGATTAAACTGGTCAAACCAACCAAGAGGA
     ATCAATCCGCCATGAAAAACCGGATATTTCCCACCTTCAATTAGCTCTTTCTTTGTCAAA
     CGTTTTCCTCTTAATACTTTCGCCACTTCCCCAACGGCTTCCACTCCACCGGTGCCGTC
     TGAATCATCTCAATCAATTTTTTCGCTTTGTTTTGCATATCCATGGTTGTTTTCCGTTTC
50   TTTCCCGTTGCGGCGGGATGTGGGCAGTTGCGGGGTGCTTCGGCTCACTCTGTCCGTTT
     GCCGTTATTTCTGCGGGCTGAAGTCCGTCCTGCTTTCAGGCTGCCTGCAATGGTGTGCAG
     GCTGCTTTTTCAGGTAGCCTGAATGGTAGTTATTTTGTGCGGTCTTTTTTCTGTTTGATC
     TGTTGCACGGCTGTTTTTTCCAACGCTTTAACGCTTTCCAGATAGGCTTGCTCCACCGGC
     GACAGGATGCGCGCTTCATAGGCGCGGTATTCGCGTTCGGCTTTCTGCTCTGCCTGTTTG
55   CGGCTGATGCTGCCTGCACCCTGTAATGTGCCTTGTCCGTACAGCCCGGAAAATTTGTCC
     AATTCGGCTATCCAGTCGCGCATATACATGGGGCTTTGCTCCTGCGCTTTGATTTCCGCT
     AGGTCGAAGAAGGCGGAAACCAGACGGTTCAGGCGGAACAGTTCGTCTTCGGTCAGATAG
```

```
TTTTTGGCGATTTTGGCTTCATTCAGCGTGGGGATTGCGCCTTGAAAGGTGGTCAGCCCC
ATAAAGTCTTTGCTGCTGTCGGCACGGCTGTATATCAGCTCAGCTGCGGTTTGCCGGCTG
GCGGCATAGTGCAGTTTGTTTTGAACGGCGGCAAAAAAGGTTTGGCTTtCGCTGCTTTTG
GGGTTGTAGTCTTGGCTGGTGGCATATAAATCAAGCACTTGCCGGTATAGGGCTTTTTCG
```
5
```
CTGCTGCGGATGTCGCGAATGCGGTTGAGCAGTTCTTTCCAATAGTCGCCGCCGCCTGTG
CCTTTCAGGCGTTCGTCGTCTATGGCAAAGCCTTTGGTCAGATATTCGTCCAGCCGTTCG
GTTGCCCATTGGCGGAATTGGATGCCCCGCGCGGAACGGACGCGGTAGCCGACGGCAATA
ATCATGGGCAGGGAATAATGGGCGATTTTGCGGTTTACCTTGCGCCCGTTTTCATTTTGA
ACTGTCAACTGGAAGTTGACAGTTGCCTTCTCTTCCAATTCTTGCTCTGCAAGAATGGTT
```
10
```
TTAATGTGTTTGCTGATATTTTGTTTGGTGGTTTGGTACAGTTCTGCCATGTCCGCCTGC
GTCAGCCAAAGCTGTCCGCCAAATTCCTGCAAGGCAAATTGGGCAGTGCCGTCGTTGGCG
GTGTATAGGATGATGCTCATGCTTCAATCTCTGCAATCACTTCGTCAATTTCACGCCGCA
GCCGTTCGATTTTGGCGACGGTTTCGCCGATTTCGGCGTTGAGCTGTTTGATGTCGATAA
TTTCGCGTGTGTCTTCGGCTTCGACATAGCTGCTGACGGCGAGGTTGTAGCCGTTGTCTT
```
15
```
TGACGGTTTGCTGGGCAGCGTTTTGGGCGATATGCGGCACATCGGCTTTATCGGCGAAGA
GTTTGACGATTTCAGCAATGTGTTCTTCGATTAAGACGTTGTTGTTGGTTTCTTTTTTAA
AGAAGCCGCTTGCGTCGATGAATTGGATGTCGGTATTGTCTTTGTGTTTGGACAAAACCA
GGATATTGACGGCGATGCCGGTGCCGTAAAAGAGATTGGGCGCAAGGGCAATCACGGTTT
CCACGTAGTTGCCCTCCACCAGATATTGGCGGATTTTCTGTTCTGCGCCGCCGCGATAGA
```
20
```
AAATGCCGGGGAATGAGACGATGGCGGCGCGGCCTCTGCCGGAAAGGTAGTTCAGTGCGT
GCAGGATGAAGGCAAAATCGGCTTTGGATTTCGGGGCAAGTACGCCTGCGGGGGCAAAGC
GGTCGTCGTTGATTAAGGTGGGGTCGTCGCTGCCTATCCAGTTGATGGAATAAGGCGGAT
TGGAAACGATGGCATCAAAGGGTTTGCTGTCTTTGAGCTTTGGGTTGGTCAGTGTGTCGC
CCAATTCGATGTGGAATTGGTTGTAATTGACGTTGTGCAGGAACATGTTCATGCGGGCGA
```
25
```
GGTTGTAGGTGGTGTGGTTGATTTCCTGCCCGAAGAAGCCTTCTTCGATGATGTGCTCGT
CAAACTGTTTTTTCGCCTGCAAGAGCAGACTGCCCGAGCCGCAAGCTGGGTCGTAGATTT
TGTTGACTTTCTCCTGTCCGTGCACCGCCAGCCGCGCAATCAGCTTGGATACGCTTTGCG
GGGTGAAAAATTCGCCGCCGGATTTGCCTGCGTTGGCAGCGTAGTTGGAAATCAGGTATT
CGTAGGCATCGCCGAAAAGGTCGATGTGGTGGTTTTCAAAATTGCCGAAATCGAGTTCCG
```
30
```
CCACGCCTTTGAGGACGGCGGCAAGGCGTTTGTTCTTGTCGGCAACAGTGCTGCCGAGCC
GGCTGCTGGTGGTGTCGAAGTCGTCAAACAGGCCTTTGATGTCCTGTTCGGACGGATAGC
CGGAGGCGGAGCTTTCAATCGCGGTAAAAATTTCTTTCAGCTTGGTGTTGAGCTCTTCGT
TTTGATGGGCTTCGGCGGCAATATTGCAAAAAAGCTGGCCGGGGTAGATGAAATAGCCTT
TAACTTTGACGGCATCGTCTTTGATTTCGGGCGTGATGATGCTGTCCGGCATAGCGGCGT
```
35
```
AATCAATACTGCTGTCGCCTGCCTGCATATAGTCGGTGAAGTTTTCGCTGATAAAGCGGT
AGAAAAGTGTGCCGAGAACGTATTGTTTAAAGTCCCAGCCATCCACCGCGCCGCGTACTT
CGTCGGCAATTTTCCAAATTTGGCGGTGCAGTTGGGCGCGTTGTTGCATTTCGGTCATCA
TCGAAATCCATATAAAAGTTAAACAAATCAAAATCGCCTGATATTTTCAGACGATTTTTT
TACGGGCATTCAAATTAAGCCAAATTTTCCAGCATCCATTTGACGTAGCGGTCGACGCCT
```
40
```
GATTTGACATCGAAAAATTCTTCCTTATATCCGGCTTCGCGCAATTTGGTGATGTCGGCT
TGGGTGAAGCTTTGGTATTTGCCTTTGAGCGCGTCGGGGAAGGGAATGTAGCGGATAAGT
TCTTCTTCTACCAACTCTTTCAAGCTCATTTCAGGTTTGCCTTCGGCGGCGCGGCATGCG
TTGACGGTGGCGGCGGCGAGTTCGTTGAACTGTTGGCTGCGGCCGGTACCGAGGTTGTAG
ATGCCGGAAAGTTCGGGATGGTCGAAGAAGTAGAGGTTGACTTTGGCAACGTCTTCGACG
```
45
```
CTGACGAAGTCGCGGGTTTGTTCGCCGTTGCCGTAGCCGTCGTTACTGCCGAACAGGTTG
ACGTAACCGTGTTCGCGGTATTGGTGGAAGTGGTGGAAGGCGACGGATGCCATGCGGCCT
TTGTGTTGTTCGTGTTGTCCGTAAACATTGAAGTAGCGGAAGCCGACGACTTGGGCGGTG
AGACCTTCTTTCATGCGGCGACGCAATACTTGGTCGAACAGGAATTTGGAGTAGCCGTAC
ACGTTGAGCGGTTTTTCGAGTTCGCGCTCTTCGCGGAAGATTTCTCCTTTGCCGTAAACC
```
50
```
GCCGCACTGGAGGCATAAAGGAAGGGGATGCGTTCGTCCTGACACCAGTCCAGCAAATCC
AGCGTGTACTGGTAGTTGTTGTCCATCATATACAAACCGTCGTGGTTCATCGTATCGGAA
CACGCGCCTTGATGGAAAACGGCTTCGATGTTTTGATAAGGTAAAATGTGTTCCCTCACT
TGGCGGATGAATTCGTGTTTGTCGAGATAATGGGCGATTTCGCACTCGGCAAGGTTTTTG
AATTTTTCGCCTTTGCTCAAATTATCGACGGCAACAATGTCAGTAATACCGCGTTGATTA
```
55
```
AGTGCTTTGACGATGTTGCTGCCGATAAAGCCGGCCGCGCCTGTTACGATGATGGTCATA
TTCGGTTTCCTTTGTTTTGAGTAAAATTAATAAACTTAGTTACAAGAAATCATCGATATT
GTCCTGAAACACAAATTTGCGATGATATTCCAAATATTTTTCTCTTCCTTCGGGATATAT
```

```
TCTCATCTTAATTTTTTGCATTTGGATTGATATTAAGTTTTTCCCATGTGTAACGGCTTA
GTCGAGTACCGCAAATCAAACGACCATCATCCAAGAAAGTAATATAACCTTGATCGAACA
ACCAATCATAAGTCGGCGTTAAAGCTAACCCATTTAAATAATCTAATGCCTCTTTCTCAT
TTTTCTCAGTAATACAAACCATATAAGGTTTAATATGACTAGCCCTTAACAAAATCTCAT
CTGTAATTAATGTAAATGGACATTGCGACATATGATTTATAACATCCTTGCGATATTTCT
GCTGCCCTTTTCTACTTTTCTGTTTAATGATTTCTTGCTCTACGAATTGATTAAATTCTG
AAGCCGGTATTTCTAATTTTTCTCTTGATAAGAGTTGCGGGTGCACGATAGAGCGAAATT
GATAATCCAAAAATATTCGGAAATAAAATAATGGTTCTGAATCTTCTATATCTTTGACAG
GCAATAGTTTAAGAATTGATAAATAACTAATTTTGGGCAATACAATCTTACGCCAAATTG
ACCATATATCATCCTCCGAACGGATATAACCCCTACGGTAACCTTTAGAATTTTCCAAAT
GGTCTGATACATCATGGATTGAAAAGAAAATATTTTCTGTAGGCAGATTATTAATACTTA
AAACGTAATCATCATAAAACCTTGAAATATCATGATGATATTTCTGTTCTTGTTTGTGAT
ATTCAACTTTTGCATCAACCAAATAACGCTGTAAATTTTTCTTATAAAAAAAACAATTTT
TCTGAATGAAAGGATATTCTACCCTCCTTCCATTTTTTGTCTCAGTAATCCCCCAATTTT
CATACTCAAAAAATGTACTTAGTTTTCGACCACTATCATCAATATAACTACCTACATATT
TGCGTGCTTCCCCATTACCACCAAAAACAGATAACTTGTTATTCCTGTGAATAAAACTAT
CTTCCGCACGTAAATTTTGAATACTATCGACAATAAAATACTCTATGTTTTCAATAGTAA
TTCTTTGAAAATCCGGCATTTTACTCTCCATAAAGCGTAATATCCATTTGTTTTAATATA
GCGATTAATACATCAACAACAATACTGTTTCCCGCTTGGCGATACATTTGAGTATCACTA
ACTAAAATTTTAAAATCATCTCTAAAACCCATTAGCCGCAAACATTCCCTAGGTGTTAAT
TTACGAATACGTCCACGATTATGAGTAACATAATTATCAACCCCGGCACGATGCATTTTA
TGCATAGTTTGCAATAATGGGCGAGCTACAGGCAAATCAGTTTCCGTACTGGTTTTAAAA
TTTTTTGTTCCTCCTGCCAAAACATAATTTTTGATTTTTTCAGAAAGATAATATTTTTCC
TCAACGTTATTTACATCAAAAATAAAGTCATCAAATTCAGATTCGCGGGCTGCCTGAAAA
ATAAAATCACCATGCCAATTAAATTGTTGATTTGCTTTTTGGCATAAGGCAATTTCTCCA
TTAATCTGTGTATAACGTTTTTGTCTATTTTTAGAACTGGTAACAAATTTCGCACCCTTT
TCACGTAAAAAATATTTGCTATCAGTATAGTCCTCCAAAAAATCTTGCATAGTATGTTCT
AATTCAATCTTTTCAGGAAACTGAAAACCATTTATAGGAGGGGTATGAAAGCCAACAACA
AAAATACGCTCACGATGTTGAGGAATCCCATAATCCTTACTATTCATTATTTGGAAATAT
AAGTCATAACCAAGTGAATAAAAAACACTTTTTACAACTTTCCAAGTTTTTCCATTATCA
TGATTAAGCAAGCCCTTTACATTTTCATAAATAAATATCTTTGGTTGGACTTCATCCACA
ACGCGAGCAAATTCATAGAATAATGTTCCTCGTGTATCTTCTAATCCTGCACGTTTGCCA
ACCATGGAAAATGCTTGGCAAGGACTGCCTCCAACTAAAATATCAACTTGATTTCTAAAC
TTTCTCGCATCAAATTGAGTAATGTCGTTATGCCAAAAATCTTCATTTAATTTATAGTTT
CCAAGATAACTTTTTTTAACGTATGGATCAATATCTCCTGAAAAAACAATGGTATGGTTT
AAATTTAATCGGTGGAATGCCTGTTCAACCGCACCAATCCCGCTGAATACGGTTGCTAAT
CTAATATGTGAATCAGGTTTAAGAAAAGTTTTAGATTTCCAACCTTGTTGACTGGGAAAG
AGCAAAGTTTTTGTAATCGAGTATCGTGTGTCTGTGCCATTGTCGAAATAGTCATACTT
ATATCGTTCTGTTTATCTTATCAATATGAAAACTACATTGTTGATTGCCCTGACAATGCC
TTGATCAATTCGGCAAACGAGCAAACCGCCGTACCGAGTTTCGCCACGACAACCCCGGCC
GCAGTATTGGCAAGGTACATGGCTTCGGGCATGGTGCAGCCTGCCGCCAAACCCAAGCCC
ATTCCGGCAATGACGGTGTCGCCCGCACCGGATACGTCGTAAACTTCTTGGGCGCGGGTG
GGCTGGTAAATCGGTTCGCCTTCGCTGAACAAGGTCATGCCTTCTTCGCTTCGGGTCAGT
AAAACGGCGGTCAGGTCGAGGTGGCGGCGCAGGTTTTGCGCTTTTTCGGTCAGCTCGCTT
TCGTTTTTCCAACTGCCGACCACTTCTTTCAATTCGGCGCGGTTAGGCGTAATCAGAGTT
GCACCGACATATTTTTCGTAATCGTCGCCTTTGGGGTCGATTAAGACGGTTTTGCCGGCG
TGTTTCGCCCAATCGATCATATCGGAGATATGCGACAGGCCGCCTTTGCCGTAGTCTGAA
AAAATGATTGCGTCGTATTCGGGCAAGATTTCGCGGTATTTCTGCTTGATTTGTTCCAAC
ACTTCGCAGTTGGGATGTTCTTCAAAATCAAGACGGATAAGCTGCTGGTTGCGGGCGACG
ACGCGCAGTTTGACGGTGGTGGCGATTTGTTTGTCGCGCATCAGATAGGAGGCGACGCCG
TCCTGCACCATCAGCGCATCGAGCGCGTCGGCGGCTTCGTCGTTGCCGGTTACGGACAAC
AGCCCTGCCCTGCCGCCCAACGAAGCGATGTTGCGCGCGACATTTGCCGCTCCGCCCGCG
CGTTGGTCGATTCGTCCGATTTTCGCCACCGGCACGGGGGCTTCGGGCGAAATACGGGAC
ACATCGCCGAACCAATAGCGGTCGAGCATCACGTCGCCGACAACCAGGACTTTGGCTTGC
GCGAAACGGGATTTGAGGGTTTCTTGTTGGAACTTGGCGGACATATTGCCTCCGTTGTAT
TTTTTCAGACGGCCTCAGCCTGTAAGGCCGTCTGAAAATCAGTTTGCTTCAAGGTTTGCC
ACGCGGTTCACTTCGCGCAATACGGCTACCGGATCGGCAGCTTGGGTTACAGGACGACCC
```

```
ATTACCAAATAAGTCGAACCGGCAGCCAAGGCTTCGGCCGGTGTCATGATGCGGCGCTGG
TCATCATTATTGCCGGCAACGTCCAAGCGGATGCCGGGCGTGACCAAGACAAAATCCTGT
CCCAATTCGCGGCGCAGCGGCGCGGCTTCTTGGGCGGAACAGACCACGCCGTCCAAGCCC
GAACTTTGCGCCAGTTTTGCCAAGCGGATGACTTGTTCTTCAGGGGCGGTGTTCAAACCG
ATTTCCGCCAAATCACTTTGTTCCATGCTGGTCAACACGGTTACGCCGATTAAGAGCGGC
TTCGTGCCGTATCCGGCAACGGCTTCTGCTGCGGCTTCCATCATACGGCGGCCGCCCGAT
GCGTGCATATCGACCATCCAAACGCCCATATCGGCAGCGACTTTGCAGGCTTGCGCGACG
GTGTGGGGAATATCGTGGTATTTCAAATCGAGGAAAAGTTTGAAACCTTGATTGATTAAG
CTTTCTGCCAAATTGCGTCCCGTCGCGGTAAACAGCTCTTTGCCGATTTTGATTTGACAC
AATGTCGGGTCAAGGTTGCGGACGAATCCGAGCGTGTCTTTTTCGTTGGAAAAATCAAGG
GCGACGATAACGGGGGTGCGTTGTTGCGGAGTTTGGAAGTCGGAGATTAAAGGATTCATG
GTGTTTTCGTTTCGGGTTTTCAGACGACCTTTATCGTCTTTTTCGCAGTATAGTGGATTA
ACTTTAAACCGGTACGGCGTTGTCTCGCCTTAGTTCAAAGAGAACGCTTCTCTAAGGTGC
TGAAGCACAAAGTGAATCGGTTCCGTACTATCTGTACTGCCTGCGGCTTCGTCGCCTTGT
CCTGATTTTGTTAATCCACTATAACAACGTAAATTCAAACCGTAGGTCGGGCATTGATG
TCCGACCTACGCGGACTCAAGCCTCCGACAAACTGTTTCGGATAAATTTGAACCGGTACA
TCAGCCGTCATTCCCGCGCAGGCGGGAATCCATTGATAAAACTCAGTTCATCAGATTTAA
ACAGCGATTGCCCAAATTCAGAAATGGATTCCCGCCTGCGCGGGAATGACGCCAAATGAT
TATTTTTCGGTTGCAACACGCTGTTTATCAAAAACAGGTCGTCTGAAAACCTGATTTTCT
GTTTTCAGAGTGCGAAGCCTGCCCGTGGGTACGACCTTTTCGATTTATTTGCCCAATGCG
CCCAATACTTCGGCTTTCACGGCTTCTACTGCTTGGGTGCCGTCAACTTTGATGTATTTA
GGCGCGTGTTCGCCTTCCAGTTTGCTGTAAAAATCGACCAAAACTTCGGTTTGCTCGTGG
TAAACGGCAAGGCGTTTTTTCACGGTTTCTTCTTTGTCGTCGTCGCGCTGAATCAAATCT
TCGCCGGTTACGTCGTCTTTGCCTTCAACTTTGGGCGGGTTGTAGGTAACGTGGTAAGTA
CGGCCGGAAGCCAAATGCACGCGGCGGCCGCTCATGCGGTCGACAATCACGCTGTCAGGC
ACATCGATTTCAACGACTGCATCCAAATCCACGCCTGCTTCAACCATCGCTTCGGCTTGT
GCCAATGTGCGCGGGAAACCGTCAAACAAGAAACCGTTTTTGCAGTCGTCTTGCGCGATG
CGTTCTTTGACCATGCCGATAATGATGTCGTCGCGCACCAAGCCGCCTTCGTCAATGATT
TTTTTCGCTTCCAAACCCAAGGGCGTGCCTGCCTTAATCGCGGCACGGAGCATGTCGCCG
GTAGAGATTTGCGGAATGCCGAACGCTGCGGTGATGAATTGCGCCTGAGTGCCTTTGCCC
GCGCCCGGCGCGCCTAAAAGTAATGCTTTCATGAAGTGATCCTTTGAAATGTGTTTATTG
GAATCAAACAGATGGTTTACGATTCTACACGGCTTGGCACAATAGTTCAAAAACCAACTG
CACAAACTGCCATTTGCAAGCAAATGTTTTGCATACCTTTGCCGAGTCTGATATTCACAA
GCCGGCAACTTTTTGGGACAATCCCCCAAAATTTCAAAACATCACACCCTACCAAAAAGG
AACATCCGTGAAACGAATTTTTCTGTTTTTGGCTACCAATATCGCTGTTTTGGTCGTAAT
CAACATTGTTTTGGCGGTTTTGGGCATCAACAGCCGGGGCGGCACGGGCAGCCTGTTGGC
GTATTCCGCCGTCGTCGGCTTCACTGGTTCGATTATTTCGCTGCTGATGTCCAAATTTAT
CGCCAAACAATCGGTCGGCGCGGAAGTTATCGACACGCCGCGCACCGAAGAAGAAGCCTG
GCTTTTGAACACTGTCGAAGCCCAAGCGCGGCAATGGAACCTGAAAACGCCCGAAGTCGC
CATCTACCACTCCCCCGAACCCAATGCCTTTGCCACGGGCGCATCGAGAAACAGCTCCCT
GATCGCCGTCAGCACCGGTTTGCTCGACCATATGACGCGTGACGAAGTGGAAGCCGTATT
GGCGCACGAAATGGCACACGTCGGCAACGGCGATATGGTTACGCTGACGCTGATTCAAGG
CGTGGTCAATACCTTTGTCGTGTTCCTGTCGCGCATTATTGCCAACCTGATTGCCCGAAA
CAACGACGGCAGCCAGTCCCAGGGAACTTATTTCCTGGTCAGCATGGTATTCCAAATCCT
GTTCGGCTTCCTTGCCAGCTTAATTGTCATGTGGTTCAGCCGACAACGCGAATACCGCGC
CGATGCGGGCGCGGCAAAACTGGTCGGCGCGCCGAAAATGATTTCCGCCCTGCAAAGGCT
CAAAGGCAACCCGGTCGATTTGCCCGAAGAAATGAACGCAATGGGCATCGCCGGAGATAC
GCGCGACTCCCTGCTCAGCACCCACCCTTCGCTGGACAACCGTATCGCCCGCCTCAAATC
GCTTTAAACCGATTTGAAACGGCAAAAACCGTACGCGCAAGCAGTACGGTTTTTTGTATA
TGCTGTCTGAAAACATCAGGTTTCCATACCGACACCAACCGTATCCATTTCCGCACCGGA
TACGCCGCATTGATATACCCTGATAAACCGTATCCGGACAGAAAATATAGTGGATTAACA
AAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAAACGATTCTCTAAGGTGCTGAA
GCACCAAGTGAATCGGTTCCGTACTATTTATACTGTCTGCGGCTTCGTCGCCTTGTCCTG
ATTTTTGTTAATCCCCTATATCAGATAAAACAGCGGTAAAATTGCCGTCTGAAACCAACT
CTGCGCCATACGGGACACGCTCTGCACGTCTATTTGCCTCCGATATATCCTCCCTACTGT
AGGAACGTCTGCCGATTTGCACGAAATCGGCACCTCTAGCACCCTTCAGGATGGCGGACG
TTATCCGTTCTTGGGATTCTGCAAGACGGTCGACGGCATTATACAGACGCTCGGTCTGAT
```

```
ACCCTTCCGAAGCAACCTGCTTCAGGTATTCCAAATAACCGTAACCCAACGCCCCTCCGA
CAAGCAGGGTCGTCAACGCTACCAGCGTTGCCGAACGGATTTTAGGGGGCATATCTTGAA
GCATATCTCTACCGAACCGAACCAAAGTCTCTTTAAAGTCGGACTCTACACGCGTAGAAC
CCTCGGAAATCTTGAAGTTCAACTCATACTGCTTCCGTTTGTCCGCTGTCAACCGCTTGA
GGTTGTCATCCCCGTATTGGACGGTTGACACAACCCTGTACAGACTGTCCTGTATTTCGA
CCAGCGTCTGTGCAAAGTTGGCGGTCATAACTGGATTCCCAACCCTTGCCGCCGATTCTG
ATACTCAAAACGGTATCCAGGCGTTCCAGCAGGGCTTCGGGAGACAGCAGTGCGTATTCT
TCAATATTTTCCATAGGTTGATTATAGCAGAACCTTATACCTGTTACAGACAAGGTTGTC
GGGATTTGAACGTCCGTCGAGCTTGGTTCGTATAGAGCCGTAGGGGGTGTTTAGGGCTTT
GGCGGCAGCTTGTACGCTGGGGAACGTGAGTGTTTCGCCTGTGGCGGTGTCGAGGATGGA
GACAGGTTTTTGGTTTTGGGGAGGCGTATTTTCCTTCATTTTAAGTTTCCCGCACTCCGG
ACACCCATACTTTGACTTTATAGCTGTGTCGTAATACAAAAGTTGGACAACCCCGTGCGT
AGGACATCTAACACTGGAAGGTTTATAAATGCCACTGAACTCCAACAATTCTAAATGTGG
AAATTTCTCTTGAAAGCGTGATTTGGCGGTATCGAAAGTCATTCGCTTACCCATAATTTG
TCTCCATAGGTTATGTGCAAATGGATTACACAACCAAAATATAGAAATTTTCAAATTTTT
TGAGACCTACCTGAAATCCTGCGCAAGCACAATGTAAAGAAAAATGGTATACGTCTTTAC
TAAATCTTTACATAAATTAACTCTAACCGGGATTTGAACGTCCGTCGAGCTTGGTTCGTA
GGATTTAGGGTGTTGTGAACCTTACCTATCGTACCCAAGCACTTTGTACCTGTTTGAAAT
AAGGTTGTCGGGCGACGTTCGACCCTTGAGCCTGTGATTGATTTGTTGGAAATGTACACC
TAAAGCAGCACCTGCGGCAGTAACGCTTGGGAACGTGAGTGTTTCGTTGGTCGTTGTGTC
GAGGATGAGGAGGGGCTTCCCTACATTTGGAGGTGTTTGGGTTTTTGACATCTTAGCACA
CTCAGGACACCCGTACTTTGACTTTATAAGGGCATTAAATGTCGAATAACGAACGTTCCC
GTGCATAGGACAATTAACGGTTACTGGGTAATTCACACCGTCAAAGCCGGTTAGAGAGAT
ATTAGGGAATATATCAGTAAGTTCAGAAGCTGCTTGGTTGAAAGATTTGGCCATTTGAGA
CTCCAAAATTGATTGTCAAATGGATTTAATAGCAAATTTATAAAAATGTCAAATTTTTCG
AGAAGCACCTGATAGTGGCGAGGGGTATACACTGTTAAAAAGTGTATACGTCATTTAGTG
CAGATGTGAACCTTATACCTCCCTGCAAGTAAAGTCTCTGTGTGAACCCGACCTTTTATA
CGGTCAGTGATAGCTGCTGGGTTTATACCCAATGACCTTGCAGCAGATGCTCTTGAGGGG
AATGTAAGTGTTTCGCCAGTTACAGTATCCTCCAATACTGTATTTTTAGATAATTTATCT
ATTGTATCTTCTGGAATTTTGTGGGAATTGACACCATAAGATGCACATTTTGGACACCCA
CTTTTAGAGTCCAACATACTTTTGAATGTAGAGCAAGTAACCCTCCCGTGTATAGGACAG
ACGATTACCGTCGGGTAACGAACGCCATTGAACTCCACAAGATTCAAATGTGGAAATTTA
GAGGTTAGCTTAGAAACTGCTTGAGTAAATGTAAGTGCCATAGTGGTTGTGAACTTACTT
TACCAACCTATAACGATACCTAATCAATCGGTCAAACGGAGTGCGTCCGCTTAAACGTAC
AGCTAAAGTGCTGTTGGAGCAACCGATAAATTTACTGGCAGCCAGTGTACTTGCAAACTC
GTAGATTTCCCCTGTCTCTGTGTCCTCCAACCTAATGGCAACGGCGTTTGGAGAGGGCTT
TTCGGGATTTCGAGTACATTCAGGACATCCTGTTGAGGATTTCATGGCAGCTTGTAGATT
CCCGTAAACAACCGACCCATGCAAAGGGCATTGGATTGTTACCGGTTCGTAGTTTTTAGT
GAACTTCAAAACCGTCTTATCAGGAAATTTACTGGAAAACCTTAACTGAACATCTTGTAG
CGAGAGTGATTTTGGCATTATAGACCTTTCTAAAATGAAAGCATTATACAACCAAAATAT
AGAAATTTTCAAATTTTCTCTGAACGCACTGGTATCCGATGGAGCTAAATGTAAAGAAAA
GGGTATATGTCCTTACTAAATATTTACACATTTTAACTGTATAGTGTTTGACAAAAAACA
GGCATAGGCGCATAATGCACCCGTAGTTAGATAGATAGTAAGGAGATAACCAATGACTTA
GCACCTGCCCCCCTCTCTCTCGCGCACCCGCCCCTCGCTTGCGGCTAATGGGCTTTGCG
CGACATATACACTTTCATCTCCTGCATGGCTTAACCGCCTATGCAATAGTACACACATCA
ACAAATCAGGCTGGCACGTCTTGGCATTGGCTGACGTACCATTGTAGCCCGAAATGTTGA
TACCCTACTATTTATGACCAACGGCGGATTAGGGCTTCAGACGGCAATTTTACTGCAAAA
CCTTATGCGAACGGATGATGCAGCACAATCGTTTCTTCTCGGTCGGGGCCGGTGGAGACG
ATGGCGACCGGCGCCGCAGACTTCTTCAATCCGTTTCAAATATGCTTTGGCGTTTTCG
GGCAATGCGCCGTAGTCCTTCACGCCGAAAGTGGATTCGCGCCAGCCGGGCATGGTTTCG
TAAATCGGCTTGCAGGTTTCCACCGCATCGGAACCGCAAGGCAGGATGTCGGTTTTGCCG
CCGTCGGGCAATTCATAGCCGACGCAGATATTGATGGTTTCAACGCCGTCCATTACATCG
AGTTTAGTAATACACATACCGGAAATGCCGTTGATTTGGATGGAGCGTTTCAGGGCGGCG
GCATCAAACCAGCCGCAGCGGCGTGCGCGTCCGGTTACCGAACCGAATTCGTGTCCGCGT
TCTGCCAAACCTACGCCTACTTCGTCGAACAATTCGGTCGGGAACGGGCCCGAACCGACG
CGCGTGGTATAGGCTTTGACGATGCCCAAAACATAATCCAGCATTTGAGGACCTACGCCC
GCGCCTGCCGAAGCTGCGCCCGCCAGACAGTTGGACGAGGTAACGAAGGGATAAGTGCCG
```

TAGTCGATGTCCAACAACGCACCTTGCGCGCCTTCAAACAGCAGTTTTTCGCCGTTTTTG
TTTTTCTCGTTCAACACGCGGGACACGTCGGTAATCATCGGCGCAATGCGCGGCGCGACT
TTTTCGATAACCGCCATCACGTCTTCCGCTTTAACCGGCTCGGCATTGTGCAGATGTTGC
AGTTGGACATTGTAATAGGCAAGGACGGCATCCAGTTTTTCACGCAGTTTTTCAGGATGC
AGCAAATCGGCGGCGCGAATGGCGCGGCGTGCCACTTTGTCTTCGTAGGCAGGGCCGATG
CCGCGGCCGGTCGTGCCGATTTTGCCTTTGCCGCGCGATGCTTCGCGGGCTTGGTCGAGC
GCGATGTGGTAAGGCAGGATCAGCGGGCAGGTCGGCGCGATTTTCAGACGGCCTTCGACG
TTTTTCACGCCTGCCGCGTTCAACTCGTCGATTTCGCCCAACAGGGCTTCGGGGGAGACG
ACAACGCCCGAACCGATGAAGCAGTCCAAACTTTCATGCAGGATGCCGCTCGGAATCAGG
CGCAAAATGGTTTTTTTGCCGCCGACAACCAAGGTATGGCCCGCATTGTGGCCGCCTTGG
AAGCGCACCACGCCGCCGGCTTCTTCCGCCAGCCAGTCAACGATTTTACCTTTACCCTCG
TCGCCCCACTGTGCGCCGATTACTACAACATTTTTAGCCATAGCCATATAACCTATCGAT
ATTAAAAATTATTGCGGAAATCCCCAAACCGGTGCGGCTTTGCGCCCCGCCACGATTTGC
CTTTCATCCGCCATGAACGGGTATTTAGCGTTTCACGACCTGCCAAACGCCGTCCGTCTT
TTTCAGACGGCCTGCAAGCTCTTCCGAAACATTGTGTCCGATACCGTAATCGATTACGAC
ACACTGCCCTTGTTCACGCAAGGCTTCGACCGCTTCGTGCGCCGCTTCGGCATCTTCCGC
ATCGACCAACACGGCGGGCTGCCGTTCGATGGCGGGCAAACGCCCGATAAAGCTGCGCAA
GTCGAAACTGAATCCCGTTGCCGGGCGCGCCCTACCGAAATATCCGCCCAATCCGTCATA
ACGCCCGCCGCGCGCGACCGCGTCGTGGAAATCGGCGGCATAGGCGGCATACAGCAAGCC
CGTGTGGTAATTGTCGACACGCAGCTCGGACAAGTCGATATGGATTTCACAATCGGGGAA
TGCGTCGCACACCGCCTGCAATTCGCCCAACGCGCCGCCGACCGCCGACAAATCCGGCAA
CCGTCCGCGCGCGTCGGACAACACTTCACGCCCGCCGTACAGGCGCGGCAACAGCGAGAA
TGCTTTTGCCCACATGCCGTCCAGCTTCCAAGCCTTGACCTGCGCTTCGACCGCCCCGGT
ATCTTTATCCTGCATCAAGGCAAGCAGCGTTGCGGACTGCCCCGCATCCAAATGTGCCGC
ATCGGACAAGGCGCGAAATATGCCGATATGCCCCAGCGAAAGCAGCACTTTGCCCATATC
GGCAATTTTCATGCTTTTCAGCATCAGGTCTATCAGCTCGATGTCGCCACGGATGTCAGC
AAAACCGTACATTTCTGCCCCTGCCTGCAAGGGTTCGCGCATATTCAGCAGACCGTCGGG
CTGCGCGTGCAACACCGGACCGGCATAACACAACCGGTTAATCCCTTGGTTGGCGGATAA
AAGATGGGCATCGATACGCGCCACCTGCGGCGTGATGTCGGCGCGTATGCCCAACTGCCT
GCCGCTGAGCCTGTCCGTTACCAAAATGGTTTTCAGGGAAAGCCCCGCATCGATATGCGT
CAGCAGGGAATGTGCGTACTCCATCAGCGGAGGCTGTACCAGTTCATAACCGTGTACGCG
GAACAGTGCCAACAACTGCTCCCTCGCGCTTTCAAGCTGCCGCGCGTTCGTGGGCAGTAC
GTCGGCGATATGTTCCGGAAGCTGCCATGTCTGCATGAGAATCTGCCTTCTATTTTATCC
TGTAAACACAAAAGACTGCCCGATCCGCAATCAGACGGCATCTTTGCCGCAACGCATCAC
GCCGCTGTCAAAACGGCGGTGCTTCTTTCCGATTCAGAATCCGAACAGCCCCTGTCCGAC
GGCTCAATGCCGTCAAGTCGTTAAAACCAAACTTTACCATAAAATACACACAATCTGAAT
ATACTTTTATACCCTGTATCCGCCGTCTGACGGCACGGCATTTTTTTACGATATAATGTG
CACCATTATTTCTCATCACTTCCTGCTGCCGTTTTCTGCTTCAGACGGCATTTTTGTTGA
TTGAACACTTATGCTGCTCGACCTCAACCGCTTTTCCTTTCCCGTCTTCCTGAAAGAAGT
CCGCCTGCTGACCACTCTTGCCCTGCCCATGCTGTTGGCGCAGGTCGCGCAGGTGGGCAT
CGGTTTTGTCGATACTGTGATGGCGGGCGGTGCGGGCAAGGAAGACTTGGCGGCGGTGGC
TTTGGGCAGCAGCGCGTTTGCCACGGTTTATATTACCTTTATGGGCATTATGGCGGCGCT
GAACCCGATGATTGCCCAGCTTTACGGCGCGGGTAAAACCGACGAAGTGGGCGAAACGGG
GCGGCAGGGGATTTGGTTCGGGCTGTTTTTGGGCGTGTTCGGCATGGTCTTGATGTGGGC
GGCGATTACGCCGTTCCGCAACTGGCTGACCTTGAGCGATTATGTGGAAGGCACGATGGC
GCAGTATATGTTGTTCACCAGCTTGGCGATGCCGGCGGCAATGGTACACCGCGCGCTGCA
CGCCTACACTTCCAGCCTGAACCGCCCGCGCCTGATTATGTTGGTCAGCTTTGCGGCGTT
TGTGTTGAACGTGCCGCTGAACTATATTTTCGTTTACGGCAAATTCGGTATGCCCGCTTT
GGGCGGCGCAGGCTGCGGACTGGCGACGATGGCGGTGTTTGGTTCAGCGCGCTGGCATT
GTGGATTTATATCGCCAAGGAAAATTTCTTCCGCCCATTCGGACTGACGGCGAAATTCGG
CAAACCGGATTGGGCGGTGTTCAAACAGATTTGGAAAATCGGCGCACCCATCGGGCTGTC
TTATTTTTTGGAAGCCAGCGCGTTTTCGTTTATCGTGTTTTTGATTGCGCCTTTCGGCGA
GGATTATGTGGCGGCGCAGCAGGTCGGCATCAGTTTGTCGGGGATTCTCTATATGATTCC
GCAAAGCGTCGGCTCGGCGGGGACGGTGCGCATCGGCTTTTCGCTTGGGCGGCGCGAATT
TTCGCGGGCGCGTTATATTTCGGGCGTGTCACTGGTGTTAGGATGGATGCTCGCCGTGAT
TACCGTGCTTTCCTTGGTATTATTCCGTTCGCCGCTGGTAAGTATGTACAACAATGATCC
GGCGGTTTTAAGCATCGCCGCCACCGTCTTACTGTTCGCCGGCTTGTTCCAACCGGCAGA

```
CTTCACCCAATGTATCGCCTCCTACGCCTTGCGCGGCTACAAAGTTACAAAGGTGCCGAT
GTTCATCCACGCCGCCGCCTTTTGGGGCTGCGGCCTGCTGCCGGGCTATCTGCTCGCCTA
CCGTTTCAATATGGGCATTTACGGCTTCTGGACGGCATTGATTGCCTCGCTCACCATCGC
CGCCATCGCCTTGGTGTGGTGCTTGGAATTGTGCAGTAGGGAGATGGTCAGATCGCATAA
GGCCGTCTGAAAACGCAGTACACTTCAATTCAAATACAGTTAAAGTTCAAACCATGCAAC
CCATCCGATACCGAACCGACCTTACCCCCTACAACACCTTCGGTCTTCGCGCCCAAGCCC
GGGCCTTTATCGCGCTCGAACATGCCGACGAGTTGCGCGACATCGTCCGACTGCTGGAGT
TCGACCGCGATACTGTTTTATGGCTGGGCGGCGGCAGCAACATCCTTTTGATGCAGGATT
ACGCCGGACTGGTCGTACACATGGAAAACAAAGGCATACGCGAGATTGCGCGTTCAGACG
GCATGGTTCTGATTGAAGCGCAGGCGGGCGAAATTTGGCACGATTTTGTCCTGCACACCG
TTGCGCTGGGTTTGAGCGGTTTGGAAAACCTGAGCCTGATTCCGGGTACGGTCGGCGCAT
CGCCCGTGCAGAACATCGGCGCATACGGCGTGGAGGCGAAAGACGTGATTCACAGCGTGC
GCTGCTTTGATTTGGATACGGAGACCTTTGTCGAGCTTGCCAATGCCGACTGCCGCTTCG
CCTACCGCGAAAGCCTGTTCAAGCAGGAGGGTAAAGGGCGTTATGTGATTGTTTCGGTCG
TATTTGCATTAAAAACGCATTTTGTGCCGACTTTGGGTTACGGCGATTTGGCGGCCGCCG
TTGCCGAACTGAGCGCGGGCAGGGTCCCGACGGCGAAAGATGTTTCCGATGCAGTGTGTG
CAATCCGCAACAGTAAACTTCCTAATCCTAACGTGCTTGGCAATGTCGGCAGTTTCTTTA
AAAACCCCGTCGTCAGCGCAGAAAAAGCCGCCACCTTGTTGCAGCGGCATCCTGATATGC
CGCGCTATCCGCAGCCCGACGGTTCGGTCAAACTCGCCGCCGGCTGGCTGATCGACCAAT
GCCGTCTGAAAGGCTTCCAAATCGGCGGCGCGGCGGTACATGACAGGCAGGCTTTGGTCT
TAGTGAACAAAAACAACGCCTCGGCAAACGATGTCCGGCAGTTGGCGCAACACATCAAAT
TTACAGTATTTGCTCGGTTTCAGGTAGAATTGCACGCCGAACCTAATTGGCTGCCTGCTT
CGTTCAGCCTGTAAATCCAAGGAGTATGCCCGTGACCCGCCCCGCCAAAATCAATACTTA
CACACGCATCATCGACGCCAGCCTTGCGCTTTTCAACGAGGAAGGCGAGCGCAACATCAG
CACCAACCATATTGCCGCCCACTTGGGCATCAGTCCGGGCAACCTCTATTACCACTTCCG
CAACAAAGACGAAATCATCGTCCAACTGTTCAAACGTTACAGCGAAGCCCTGCTGGCATA
CCTGAATGAAGCCGTGTTGCCGTCTGATGTGGAAGACTCCATCAATTATATGGCCGGTAT
TTATGATGTGATGTGGGAATACCGCTTCCTATTCAGCGACGTGAACACCCTGCTTGCACG
CAGTGCCGAATTGTTGGGCGAACACAATACCTTCACCCAAGCCAAAGTCTCCCCGCTCTT
GGTCAACCTGCTCACCCAACTCAACGGTCTGAACATCATCCAAGCCGACCAAACCGCCAT
GAACGATCTCGCCGTCAATATGTGGATGGTCACGAAATACTGGTTCGACTTCGACAGCTC
CCTGCGCGGCCGCACCAAGCTGACCGAAGACTCCAAAGCACGCGGCATCCGCCGCACCTT
AAGCCTCCTTCGTCCTTATCTTTTGCCCGAACACCGCAAGAAATACGACCGGAAAATCGG
CAACGGCAACCCGTAAACCCACAGCGTCCGAATCAGCCTTCAGACGGCACTTACCCGACG
GTATCAGCGAATGCGCGCAGTCCCCCCGCCCCATATCTCCATCACAGGCCTAGGTTACCT
CGGCCTGCCGCTGGCACAAAAGTTTTTACCAACACGGCAGCCGCGTTGCCGCCGTCAAACG
CAGCCTGACTTCGGACGATATCAATCTGCCCATACACCTCGATACCATCGACCTCAATCA
AGACAGCGCGTTTCAAAGCGCGAACCTTGCCCGAGATACAAGCTTTTGGCGGCACCATGC
CAACAAACCCGTTTGGTTCTGCCTCTTGCCGCCATCATCGCTGACACATTACGCCGATAC
CGTCAAACAATGGGCAGAACTTGCCCGGGCGTGCAACGTGCAACACCTGATTTTCACAAG
CAGTACCAGCGTTTACGGCGATACAGCGCGCGAATGCGACGAAATCGCCCTACCCGATCC
GCAAACCGAGTCCGCCCGCCAAATCCTCGCCGCCGAACAACACCTGCTCGACAGCGGCGT
TCCGAACATCGACATCCTGCGGCTGGCGGGCTTTATTGCGCCGAACGCCATCCCGTCGG
CCGCCTTGTTCAAAAGCAAAACATCCCGGGCGGCAACCGCCCCATCAACATCGTCCACCG
TAATATCGCCGTCGAAAGCCTGTTTCAGACGGCATTTAACCCCGGCGGCAGGCGGCTGAA
AAACATTATCGAACCGCGCCACCCGACACGACGCGAATTCTATACGGAAGAAGCCGCCAA
ACTCGGCTTGCCCGCGCCGGATTTTGCACCCGACGACAGCGTGGGCAAAATCATCCGTAC
CGTTTGCGATAACGGCTTAAGCCTGTAAAATAAGCGGCAACAGCAACAAACAGGCATTCT
CCGCCCCGATCAGAAAATATGTCCGCCCTCCTCCCCATCATCAACCGCCTGATTCTGCAA
AGCCCGGACAGCCGCTCGGAACTTGCCGCCTTTGCAGGCAAAACACTGACCCTGAACATT
GCCGGGCTGAAACTGGCGGGACGCATCACGGAAGACGGTTTGCTCTCGGCGGGAAACGGC
TTTGCAGACACCGAAATTACCTTCCGCAACAGCGCGGTACAGAAAATCCTCCAAGGAGGC
GAACCCGGGGCGGGCGACATCGGGCTCGAAGGCGACCTCATCCTCGGCATCGCGGTACTG
TCCCTGCTCGGCAGCCTGCGTTCCCGCGCATCGGACGAATTGGCACGGATTTTCGGCACG
CAGGCAGACATCGGCAGCCGTGCCGCCGACATCGGACACGGCATCAAACAAATCGGCAGG
AACATCGCCGAACAAATCGGCGGATTTTCCCGCGAATCCGAGTCCGCAAACATCGGCAAC
GAAGCCCTTGCCGACTGCCTCGACGAAATAAGCAGACTGCGCGACGGCGTGGAACGCCTC
```

```
AACGAACGCCTCGACCGGCTCGAACGCGACATTTGGATAGACTAACCTTCAGACGGCATC
CGACATGAACAGCCCTTTTCACAACATCGGCATCGTAACCCGCCCCAACACGCCCGACAT
CCAAGACACCGCACACACGCTGATTACCTTTTTGAAGCAGCACGGCTTTACCGTCTATCT
CGACGAAGTCGGCATAAAGGAAGGCTGCATCTATACCCAAGACACCGTCGGCTGCCATAT
CGTCAACAAGACCGAACTGGGGCAATACTGCGACCTGGTCGCCGTTTTAGGCGGAGACGG
CACCTTTCTCTCCGTCGCCCGCGAAATCGCCCTGCGCGCCGTTCCGATTATCGGCATCAA
CCAAGGGCATTTGGGCTTCCTGACCCAAATTCCCCGCGAATATATGACGGACAAGCTATT
GCCCGTTTTAGAAGGGAAATACCTTGCCGAAGAGCGCATCCTGATTGAGGCCGCACTCAT
CCGCGAAGGCAAAACCGCCGAACGCGCCATCGCCCTCAACGATGCCGTCCTCTCCCGTGG
CGGTGCCGGACAGATGATTGAGTTTGAAGTCTTCGTCAATCGGGAATTCGTCTATACCCA
GCGTTCGGACGGGCTGATTGTCTCCACCCCCACCGGATCGACCGCCTATTCGCTTGCCGC
CGGCGGCCCCATCATGCAGGCAGGATTACACGCCTTCACGCTCGTCCCCATCTGCCCACA
ATCCATGACCAACCGCCCCATCGCCATTCCAGACACGTCCGAAATCGAAATCCTCGTTAC
CCAAGGCGGCGACGCGCGCGTCCATTTCGACGGTCAAACCCATATCGACGTGCAAAACCT
CGACCGCATCACCATCCGCCGCTACCGAAATCCCTTACGCATTTTGCACCCGACCGACTA
CCAATATTTCAAAACCCTGCGCCAAAAACTGCACTGGGGCGAGCAATTAGTCTAAGCCGG
CCTTTACCCGAAAGTATCCATGAATCCCAAAATTTCCTCCGACCATACAGAAGATGCCGT
GCGCCTCTCCAAACGCATGGCGCAACTGGGGCTTTGTTCACGCCGCGAAGCCGACGGCTA
TATCGAACAGGGTTGGGTAACGGTCAACGGCAAAACCGCCGTACTCGGTCAGAAAGTTTC
ACCGGCAGACCGTATCGAACTGAACAAGAAAGCCCACGAACAGCAGGCGGCACGCATTAC
CATCCTGTTGAACAAACCCGTCGGCTATGTCAGCGCACAAGCGGAAAAAGGCTATAAATC
CGCCGCCGAACTGATTACCCCTGAAAATCACTGGGAAGGCGATACCGGCCGCATCCGTTT
CGATCCGAAACACAAAATCGGCCTCGCCCCCGCCGGCAGGCTGGACATCGACTCGGTCGG
ATTGCTGGTATTGACTCAGGACGGCCGTATCGCCAAGCAGCTTATCGGCGAAAACAGCGG
CAGTGAAAAAGAATATTTGGTGCGCGTGCGCGGCAAATTGGACGAAAAAGGACTTGCCTT
ACTGAATCACGGATTGAGTTTGGACGGCGAGAAACTGCGTCCCGCCCAAGTAGAATGGCA
AAACGAAGACCAACTGCGCTTCGTGTTGAAACAGGGTAAAAAGCGGCAAATCCGCCGTAT
GTGCGAACTGGTCGGACTGCGCGTCGTCGGGCTGAAACGCATCCGCATGGGCAAGGTCAA
ACTCGGCAGGCTGCCGCCCGGCAAATGGCGTTATCTCGCTCCCGGCGAATCGTTTTAAAT
AAGCTTGGATTCGGATTTCAAGTGCAACACTAGTGTATTAGTGGTTGGAACAGATTCAAG
AATAAAACACTTGGCGTTTCGTAGCCAAGTGTTTTTCTTGGTCGGTGGTTCAACTCATCT
TGAACCCTGCGTATCTCCCGATCACTGATGTTACGGAAATCGGTTTGTTTGGGGAAGTAT
TGCCGGATGAGTCCGTTGGTGTTCTCATTCAGCCCTTTCTCCCAAGAATGGTAAGGGCGA
CAAAAATAAGTCTCCGCTTTCAATGCTTTGGTTATTTTGGTGTGTTGGTAGAACTCTTTG
CCGTTATCCATGGTAATGGTGTGCACCCTGTCTTTATGTGCCTTTAATGCCCTAACAGCT
GCCCGGGCAGTGTCTTCGGCTTTGAGGCTATCCAATTTGCAGATGATGGTGTAGCGGGTA
ACGCGTTCGACCAAGGTCAATAATGCGCTTTTCTGTCCTTTGCCGACAATGGTGTCGGCT
TCCCAATCGCCGATACGGGATTTCTGGTCGACGATAGCGGGTCGGTTTTCTATGCCGACA
CGGTTGGGTACTTTGCCTCTGGTCCATGTGCTGCCGTAGCGTTTGCGGTAGGGTTTGCTG
CATATTCTGAGATGTTGCCACAACGTGCTGCCGTTGCTTTTGTCTTGGCGAAGGTAGCGG
TAAATGGTGCTGTGGTGGAGCGTGATCTGGTGGTGTTTGCACAGGTAGGCGCATACTTGT
TCGGGACTGAGTTTGCGGCGGATAAGGGGGTCGATGTGCTGAATCAGCTGCGAATCGAGC
TTATAGGGTTGTCGCTTACGCTGTTTGATAGTCCGGCTTTGCCGCTGGGCTTTTTCGGCG
CTGTATTGCTGCCCTTGGGTGCGGTGCCGTCTGATTTCGCGGCTGATGGTGCTTTTGTGG
CGGTTCAGCTGTTTGGCGATTTCGGTGACGGTGCAGTGGCGGGACAGGTATTGGATGTGG
TATCGTTCGCCTTGGGTCAGTTGCGTGTGGCTCATGGCAATCTTTCTTGCAGGAAAGGCC
GTATGCTACCGCATACTGGCCTTTTTCTGTTAGGGAAAGTTGCACTTCAAATGCGAATCC
GCCAAGCATTAAAAAATGCCGTCTGAAAATCCTTGCGTTTTCAGACGGCATTGCCTTATG
CCCAAATAACGGTTTCTTCCAAGGGCCTACGCGCTTTCGTGGCGATTTCCTGAACGCGGT
AGCCGAATGTCGCGGCGACGGACACGCCCCATTCTGCCGCATCGAACAAACCAAACTGCC
CGGACAATATGCGCTCCATCTCGGCATAGTTGAAACCTTCCACCGGGCAGGAATCGATAC
CTGCCATCGCCGCACCCGTCATCATGTTGGCTAACGCGATATAGGTCTGACGGCAACACC
AGTCAAACAAGGCGCGAGAATCGTCCAAAATCTTGATGTCGTCAGCTTGAAACGCCTGAT
ACCTTGCCAAAGATTTTGCTACGGCATCCGGTTCGGTAACGCCGCGCCGTTTGAGGCTTT
CCAACATAAACGGGCTGTCGGAGCGGGCATTTTTCTTCGCCAAAAACACCACCAAATGAC
TGGCGGTATCCAAAGCATCCGCCATACCCCAAGAAAACGGCTTGATTGCCTGTCGGATTT
CAGGGTTTTGAACCACAATAAACTGCCAAGGCTCCGAACCGACCGAACTGGGCGACAAAC
```

-118-

```
GCCCGAGTTCTAAAATAAACTGAAAATCCTCGGCACTGATTTTGCGTGCCGCATCGTAAT
GCCGGCATGATTTACGGTTTTTAAATGCGGATAGAACCTGCTCTTTGCTTAATACTGTCA
TCGTGCATCCTTTTATTACTTGTATTGCAAATTGATTTCCGATACGGCGGCAGATTCGCC
AATAACGCCCAAACGCCTTTCAGACGGCATTTGGTTCATCGCAAACGCGCCTACGGGTAG
GCGATATAGGCATAAGCCGAATGGTTGTGGATAGACTCGAAATTCTCGCTCTCGACGACG
AAACTCTTGATGCGTTTGTCGGCAATCAGCGAAGTAGCGACATCGCGCACCATATCTTCC
ACGAATTTCGGGTTTTCGTAGGCTTTTTCGGTAACGTATTTTTCATCGGGGCGTTTGAGC
AGGCCGTAGAGTTGGCAGCTCGCCTGCGCCTCCACATAATCGATGACTTCCTCGATACCG
ACTTCGGCATCGGCAGTCAGGCTGACGGTAACGTGCGAACGCTGGTTGTGCGCGCCGTAT
TGGGAAATTTCTTTGGAACACGGGCAAAGCGAGGTTACGGGAATCATGACCTTCATACTG
TGGCCGTATGCCCCGTCTTTGATTTCGCCCGTGAGACAGACATCATAATCCAGTAAGGAC
CGAATACCGGAAACCGGGGCGGTTTTCTTGCGGAAAAATGGGAAAGAAACGCTGATTTTG
CCGGCGCGGGAATCTAAAAGCGCGACCATTTCGGTAGTCAGCTTGCGCAATTGTGCAAAA
TCCAAGGCTTCGGCATGTTGCTCCATCAATGCGACAAAACGCGACATATGCGTCCCCTTC
TGCTCAGCAGGCAGGTAAACCGTCATGGTCAGACGGGCAATGGTGGACTGGATGCCTTCT
GCAGTTTGCAGGGTAATCGGAAAGCGCAGGTCTTTGATACCGACCTGATTGATCGGCAGA
TTGCGCAAATCTCGGCTGGATTGCACGTCTGCAATAGTGTTCATGAGTTGTTTTTCCTTA
ATATTCATGTAATTGTTGAGATGTGTGCATGGTATGGCGTTTCCGCCGGGGAATATACCG
TCAATCTGCAAATGCGAGATTATATCACTCGCTTTTAGCAGCTGCATTGATTGTTTCTAT
TTTTCAGATAGTGATAAAATCTTCGATTATTCACATCTACATAGGCAGAGACCAAATGAA
ATTCGCCACGAAAGCCATTCATTCCAGCTACGATTGCGACGAACACAACCGCGCGCTGAT
GCCGCCGATTTATCAAAACAGTATGTTTGCGTTGCACGAGATTGGCGAAAATGTGCCTTA
CCGTTATTCGCGCCTGAGCAACCCGACCCGTCAGATTTTAGAAGACACCGTTGCCGATTT
GGAACACGGTGCGGCAGGTTTTGCGTTTTCCAGCGGTATGGCGGGAATTGATGCCGTATG
GCGCACTTTCCTGCGCCCGGGCGATACCATTGTCGCCGTCGCCGATATTTACGGCGGCGC
TTATGATTTATTGGTCGATGTTTATCAAAAATGGGGGGTGAACGTTGTTTTTGCCGATTT
AGGCAATCCGGATAATTTGGACGAACTGCTTAAAGCGCACAAGGTCAAACTGGTTTGGCT
GGAAACGCCGTCCAATCCACTTTTACGCTTGGTAGACATCAAAGTCCTTGCCGCAAAAGC
CAAAGCAGCCGGTGCGCTGGTCGGTATCGACAACACTTTTGCCACGCCGTATCTGCAACA
GCCGTTGGATATGGGTTGCGATTTTGTATTCCATTCCGCTACCAAATATTTGTGCGGCCA
TTCCGACGTGTTGATGGGCATCGTCGTTGCCAAAACCAAAGAACTGGCGCAGCCTTTGCA
CGATATGATGGTGCATACCGGCGCGGTTGCCGGCCCGCTGGACTGCTGGCTGGTGTTGCG
CGGCATCAAAACACTGGCTCTGCGCATGAACGCCCATTGCCAAAACGCACTCGAAATCGC
GCGCCGTTTGGAAGCCCATCCTGCCATTGAAAAAGTGTTCCATCCCGGCCTGCCGTCTCA
CGAACATTACGAACTGGCGAAAACACAAATGCCCAAAGGCATCGGCGGCGTGGTTACGGT
TTATCTCAAAAACGACACGCGTGAAGCGGCAAACAGCGTGATTAAAAACATGAAACTGGT
CAAAATGGCTTCCAGCCTCGGCGGTGTGGAAAGTTTGGTCAACCATTGCTATTCCCAGTC
CCACAGCGGCGTACCGCATGATGTGAAAATGGAAATGGGCATCAAAGTCGGTCTGCTGCG
TTTCTCCATCGGCATCGAAGACGCGGACGATATTTGGAACGATATTTCCGCCGCACTCGA
TACAACTTTGTAAACTGTAAAAATGCCGTCTGAAACCATGGTTTCAGACGGCATTTCAAT
TAACCCGGCCGAAAATCAACGCTTCAACATCTTTGCCGCCTCAATAGCGTAATAGGTCAA
AATCCCGTCCGCACCCGCACGTTTGAATGCCAGCAGGCTTTCCAAAACCACTTTGCCGCC
GTCCAGCCAGCCGTTGGCAATCGCTGCCtGCAACATCGCGTATTCTCCCGAAACCTGATA
GGCATAAGTCGGCACACCGAACTCGTCCTTTACGCGGCGGACAACGTCCAAATACGGCAA
ACCGGGCTTGACCATTACCATATCCGCACCTTCCTGAATGTCCAACGCCACTTCGTGCAA
CGCCTCATCGGTATTTGCCGGATCCATCTGGTAGGTCTTTTTATCTGCCTTGCCCAAATT
GCCCGAACTGCCTACCGCATCACGGAAAGGGCCGTAAAATGCAGAAGCATATTGGCGGA
ATACGCCATAATCCGCGTATGGATATGCCCGGCATCCTCCAACGCCTCGCGAATCGCACC
GATACGCCCGTCCATCATATCGGAAGGGGCAACCACCTGCGCGCCCGCTTCAGCGTGGCA
CAAAGCCTGCTTGACCAAAACCTCTACGGTTTCATCGTTCATCACATAACCGTTTTCGTC
CGTCAGCCCGTCCTGACCGTGAACCGTATAAGGATCGAGCGCGACATCCGTCATAATGCC
CAGTTCGGGAAACCTCTCGCGCAAGGCGCGGACAGTTGACGGCACGAGTCCTTCGGGATT
GTACGCCTCCTGCGCACGCTCGGTTTTGTTTGCCGTAACCACGGGGAACAGTGCCAACAT
CGGAATACCGAGCTTTACCGCCTCTTCCGCCGTAAACAGCAGCCTGTCCAAACTTTGACG
CTTCACACCCGGCATAGAAGGCACATCCTCCTCGCGCGCCGACCCCTCCAATACGAACAC
CGGATAAATCAAATCATCGGCGGTCAGCGTGTGTTCGCGCATCAGGCGGCGTGAAAAATC
GTCCCTGCGCATACGGCGCATACGCGAAGCCGGAACATTGCGGTAAGGAAACTGCATAAG
```

```
CCCTCCAATCATCCTGTCAACAATTCAAACCATACGGAAGCCGCCGCAACTTGCAGACAG
CATCGGGCGGCAATCAAAATCCGTTTTCACCGGAAAGGGTTTCGGCCCGCCGAAATGCCG
CGCCGAAGGACGGCGTCCCGCCCGTTAAAGAACAATAGCAAAACAACTGCTTCAGGCTGT
CAGGCTTCGATATTCTTACGCCACAATACCAAAAGTTTTCCGATATGCTGAACCAGTTGC
GCATCAACCGCCTCACATAAGGCAGTGCAGATTTCGATACGTTCGGCACGGTCGTCGCCG
AATACGCGCACTTTAATCAGCTCATGCGCCGTCAATGCCGCATCGGTTTCCTTGATGACC
GCGTCCGTCAGACCCTGCTGACCGACCATCACAACAGGATGGAGATGGTGCGCGCGCGCT
TTCAGTTCCAAAATTTCTTTGGTGTTCAATTTGGTATCCGTCATTTTCCTACTGCTTGAA
TAAAAAGAATAATGCGGCATTGTACGCGATTTGGCACGACATCGGCAAAATTAACGTACA
ATACGCGGTTTCCATTCCGACCCGCGAACCACTATGGCTGTACGTTCCAAATCCTCAAAA
GCGTGGCTGCACGAACACGTCAACGACCACTACGTCCATATGGCGCAAAAAGACGGCTAC
CGCGCCCGTGCCGCATACAAACTTTTGGAAATCAACGAAAAGACAAATTAATCAAACCC
GGCACGGTACTTGCCGACTTGGGCAGCGCGCCGGGAAGCTGGTCGCAGGTTGCCGCCAAG
CTGACGGGTACTTCCGGAGCAGTTTTCGCCTTGGACATCCTGCCTATGGAAGCCATAGGG
GGCGTCTCCTTCATTCAGGGCGACTTCCGCGAGAACGACGTACTGGCACAATTCGAAACC
TTGTTGGACAACCGCCCGCTCGACCTTGTAATTTGCGATATGGCGCCCAATATGTCGGGA
AACGCCGTAAGCGATCAGGCACGCAGCTTTTATCTGTGCGAACTGGCTTTAGACTTCGCC
TCGCAACACCTGAAAACCGGCGGCAGCTTTTTGGTCAAAGTCTTTCAGGGTGCAGGCTAT
CAGGAATACATGGCAGCCATGCGCGAAATTTTCGGCACGGTGCAGACGCGCAAACCCGAA
GCCTCGCGCAATCGCTCCAGTGAGATTTATTTATTGGGCAAAAATAAACGCTGACAATAC
AGACGGCGTGCTTTACAATCATTTCCGTTTTACACCTCAATTATGGAGCCTTGCTAAGTG
GGGAACACCTTTAAATCAATCCTTGTCTGGGTCGCCTTGGGTATCGGCCTGATGGCTGCG
TTCAACGCTTTAGACGGTAAAAAAGAAGACAACGGGCAAATCGAATACTCTCAGTTCATC
CAACAGGTCAACAACGGCGAAGTATCCGGCGTCAACATCGAAGGATCCGTCGTCAGCGGC
TACCTGATTAAGGGCGAGCGCACCGACAAAAGCACTTTCTTCACCAACGCGCCTTTGGAC
GACAACCTAATTAAAACACTGCTCGACAAAAACGTCCGCGTAAAGTAACGCCGGAAGAA
AAACCGAGCGCGCTGGCTGCCCTGTTTTACAGCCTGCTGCCCGTCCTGCTGCTGATTGGC
GCATGGTTCTACTTCATGCGTATGCAGACGGGCGGCGGCGGAAAAGGCGGCGCATTCTCA
TTCGGTAAAAGCCGCGCCCGCCTGCTGGACAAAGATGCCAACAAAGTGACCTTTGCCGAT
GTCGCCGGCTGCGACGAAGCCAAAGAAGAAGTACAGGAAATCGTCGATTACCTCAAAGCG
CCGAACCGCTATCAAAGCCTGGGCGGGCGCGTGCCGCGCGGCATCCTGCTGGCGGGGCAGC
CCGGGTACGGGTAAGACGCTTTTGGCGAAAGCGATTGCAGGCGAAGCCGGCGTGCCGGTTC
TTCAGCATTTCAGGTTCCGACTTTGTCGAAATGTTCGTCGGTGTCGGTGCGAGCCGCGTC
CGCGATATGTTCGAGCAGGCGAAGAAAAACGCCCCCTGCATCATCTTTATCGACGAGATT
GACGCAGTCGGCCGCCAACGCGGCGCAGGTTTGGGCGGCGGCAATGATGAGCGCGAGCAA
ACATTAAACCAATTGTTGGTTGAAATGGACGGTTTTGAGAGCAATCAGACTGTAATTGTG
ATTGCGGCAACCAACCGCCCCGACGTACTCGATCCTGCGCTGCAACGCCCCGGCCGTTTC
GACCGCCAAGTGGTTGTCCCCCTGCCGGACATCCGAGGGCGCGAACAGATTTTGAACGTC
CATTCTAAAAAAGTGCCTTTGGACGAATCTGTGGATTTATTGTCCCTCGCGCGCGGCACG
CCGGGTTTTTCCGGCGCGGATTTGGCGAACTTGGTCAACGAAGCCGCCCTGTTTGCCGGC
CGCCGCAATAAAGTCAAAGTCGATCAGAGCGATTTTGAAGACGCCAAAGACAAAATCTAT
ATGGGTCCGGAACGCCGCAGTATGGTGATGCACGAAGACGAAAAACGTGCGACGGCGTAT
CACGAATCCGGACACGCGATTGTTGCCGAAAGCCTGCCCTTTACCGACCCCGTCCACAAA
GTAACCATTATGCCGCGCGGACGTGCGCTGGGTCTGACTTGGCAGCTTCCGGAGCGCGAC
CGCATCAGTATGTATAAAGATCAGATGTTGAGCCAGCTCTCCATCCTGTTCGGCGGACGG
ATTGCCGAAGACATCTTCGTCGGACGCATCTCCACCGGCGCATCAAACGACTTTGAACGC
GCAACCCAAATGGCGCGCGAAATGGTAACGCGCTACGGCATGAGCGACAAAATGGGCGTG
ATGGTTTATGCGGAAAACGAAGGCGAAGTCTTCTTGGGACGCAGCGTAACCCGTTCGCAA
AACATTTCCGAGAAAACCCAGCAGGACATCGACGCGGAAATCCGCCGGATTTTGGACGAG
CAATATCAGGTTGCCTACAAAATCCTCGATGAAAACCGCGACAAGATGGAAACGATGTGC
AAAGCCCTGATGGAATGGGAAACCATCGACCGCGATCAGGTACTGGAAATCATGGCGGGC
AAACAACCCAGCCCGCCCAAAGATTACAGCCACAACCTGCGCGAGAATGCGGACGCGGCG
GAAGATAACGCGCCGCACGCTCCGACTCGGGAAGAAACCGAAGCACCTGCCCCGGCAGAC
ACCGCTTCGACAGAGTCCGAGCAGCAGCCTGAAAACAAGGCTTAACTTCCCGAACAAACG
GCAGCCCGCAAGCTGCCGTTTTCCCATCCCGTTTTCAGACGGCATTTTCCACTCAATGCC
GTCTGAAACGCCAAAGCCGTATCGGTTTTTTACGAATCTGCGATATGGCGGTTTAAATTGA
AATCAGAACGGGGCAAGGCTGTACCGGTTTAAAATTAAACCGCTATAATACCGCCCTTCG
```

-120-

AATACACGCCCGCATTGGTGATGCCCGTGAAAAAAGTTGAAAAAAACATCTTGGTGCTGC
ACGGCGCGGACAAAATGTTCGAGCTGGTCGACAAGGTTGAAGACTATCCGCACTTTCTGC
CGTGGTACAGCAAGACCGAAGTCATCGGGCGTAGCGGCAACGAACTGAAGGCGCGGCTGT
TTATGGATTATATGCACGTTCGCCAATCGTTTGCCACGCACAACCGCAACATTCCGGGCA
GGGAAATCCGTATGGAACTGCTCGAGGGTCCGTTCAAAACCTTACGTGGAACGTGGAAAT
TTATCGATTTGGGCGACGATATGTGCAAAATCGAATTCAATTTGGAATACGATTTTTCCA
ATGCCGTTTTGTCCGCCTTAATTTCCCCGTCTTCAACCACCTTTCCACCACGCTGGTCG
AAGCGTTCGTCAAAGAGGCAGACCGCCGTTATGCTTGAAATTGAGATTGTGTACGGGCTG
CCCGACCGACAGGTTTTGAAAACCATGCAGCTTGCCGAGGGAACAACCGTCCGCGCCGCC
GCACTGCAAAGCGGTTTGGACGGCATATTTGAAGATTTAAACCTGCATTCCGCGCCTTTG
GGCATTTTCGGCAAAGCCGTCAAAGACGACACGCCGCTGCGCGACGGCGACCGCATCGAA
GTGTACCGCCCGCTGTTGATCGACCCCAAAGAAGCGCGCCGCAAACGCGTTCAAAATCAA
GAAGAATAACCATGCCGTCTGAAGCCTTCAGACAGCATTCGACAGAAACACGGAAAATAT
CATGTCAAACACAATCAAAATGGTTGTCGGCTTGGGCAACCCGGGCAAAGAATACGAACA
GACACGCCACAATGCGGGTTTTTGGTTCCTCGACGAACTGGCGTGGAAATGGAAGGCTTC
ATTTAAAGAAGAAAAAAAATTCTTCGGCGAAGTCGCCCGTGCCGCCCTGCCCGACGGCGA
CGTTTGGCTGCTCAAACCTGCCACGTTCATGAACCGTTCCGGACAGGCAGTTGCCGCGCT
TGCACAGTTCTACAAAATCAAACCCGAAGAAATCCTCGTCGTCCACGACGAACTCGACAT
TCCCTGCGGACGGATCAAATTCAAACTCGGCGGCGGCAACGGCGGACACAACGGCTTGAA
AGACATTCAGGCAAAACTCGGCACGGCAGACTATTACCGCCTGCGCCTCGGCATCGGCCA
CCCGGGCGACCGCAACCTCGTCGTCGGCTATGTCCTGAACAAACCCAGTACGGAACACCG
CCGACAGATTGACGATGCCGTCGCCAAATCCCTGCAAGCCATACCCGACATCCTTGCCGG
CAAATGGGAAGAAGCAACCCGCTTCCTGCACAGCAAATGACCCGATGCCGTCTGAAGCCC
TTTCAGACGGCATGTTCCCGATTTCCATATCCGAACAGTCATGACCGAACTCAAGCAGCT
TATCCAAACCGAATCCATCCCCGTCATCGAAGAAACCCTCGATTTCCTGCTCTACGAATG
CAGCATAGACGATGCCCCCTCCGCCGAAGAAATTGCCGTTTGGCGCGATATGCTGGCCGC
ACGCGGCGGAAAATTCCTGCGCCTATCCAAACTATGCCAGACATGGCTTGAAGAGGAACA
AGCATGAATCTGCCACGCAACCGCTTTATCCTGCTCTCGGCATTGTGGTTTGCAGGCAGC
ATTTACTCACTGCTTTTCAAAGCTGCCGAAACCGCGCCACCGCCTTTTCCGCATTTTGAC
AAAGTGGCGCACCTCGCCCTGTTTTTCGCACAAATCTGGCTTCTGACCAAAGCATTCAGA
ACCGACAACCGCCCCATCCCCTATCGCAGCCTGATGGTCTTTGCCCTCTGTTTCGCCCTC
TTCAGCGAATGCGCGCAGGCATGGTTTACCGCAACGAGAACCGGCAGTTTGGGCGATGTC
CTTGCCGACCTGACGGGCGCAGCCCTTGCCCTCTTTACCGCGCGAGCTGCCTGCCGCCCG
GACTAAATCGGTTTATTTTCCCCAAACAGGATGCACCTCTTCCCGATATATCCTATTTTT
CCCCTTACATATCAATCCCATCTCATAAACAAAACCGACAAATCGTTTACAATATATTTA
CACTACATCAGATTACAAATATACTCGAACCAGTTGCAGAAGCGGCGATTCCACAAACCG
TTTCGGATTGCACGACACAAAAGAAAAACCGATTTTGTTGCCTTAAAGGAGTATTCATGA
ACCTGCATGCAAAGGACAAAACCCAGCATCCCGAAAACGTCGAGCTGCTCAGTGCGCAGA
AGCCGATTACCGACTTTAAGGGCCTGCTGACCACCATTATTTCCGCCGTCGTCTGTTTCG
GCATTTACCACATCCTGCCTTACAGCCCCGATGCCAATAAAGGTATCGCGCTGCTGATTT
TCGTTGCCGCACTTTGGTTTACCGAGGCCGTCCACATTACCGTAACCGCACTGATGGTGC
CGATTCTCGCCGTCGTACTCGGTTTCCCCGACATGGACATCAAAAAGGCGATGGCTGATT
TTTCCAACCCGATTATCTACATTTTTTTCGGCGGCTTCGCGCTTGCCACCGCCCTGCATA
TGCAGCGGCTGGACCGTAAAATCGCCGTCAGCCTGTTGCGCCTGTCGCGCGGCAATATGA
AAGTGGCGGTTTTGATGTTGTTCCTCGTTACCGCCTTTCTGTCCATGTGGATCAGCAACA
CCGCCACCGCCGCGATGATGCTGCCTCTAGCAATGGGTATGCTGAGCCACCTCGACCAGG
AAAAAGAACACAAAACCTACGTCTTCCTCCTGCTCGGCATCGCCTATTGCGCCAGCATCG
GCGGCTTGGGCACGCTCGTCGGCTCGCCGCCCAACCTGATTGCCGCCAAAGCCCTAAATC
TGGACTTCGTCGGCTGGATGAAGCTCGGCCTGCCGATGATGCTGTTGATTCTGCCCTTGA
TGCTGCTCTCCCTGTACGTCATCCTCAAACCTAATTTGAACGAACGCGTGGAAATCAAAG
CCGAATCCATCCCTTGGACGCTGCACCGCGTGATCGCGCTGTTGATTTTCCTTGCCACAG
CCGCCGCGTGGATATTCAGCTCCAAAATCAAAACCGCCTTCGGCATTTCCAATCCCGACA
CCGTTATCGCCCTGAGTGCCGCCGTCGCCGTCGTCGTCTTCGGCGTGGCGCAATGGAAGG
AAGTCGCCCGCAATACCGACTGGGGCGTGTTGATGCTCTTCGGCGGCGGCATCAGCCTGA
GCACGCTGTTGAAAACATCCGGCGCGTCCGAAGCCTTGGGACAGCAGGTTGCCGCCACCT
TTTCCGGCGCGCCCGCATTTTTGGTGATACTCATCGTCGCCGCCTTCATTATTTTTCTGA
CCGAGTTCACCAGCAACACCGCCTCCGCCGCATTGCTTGTACCGATTTTCTCCGGCATCG

CTATGCAGATGGGGCTGCCCGAACAAGTCTTGGTATTCGTCATCGGCATCGGCGCATCTT
GTGCCTTCATGCTGCCGGTTGCCACACCGCCTAACGCGATTGTGTTCGGCACGGGCTTAA
TCAAGCAACGCGAAATGATGAATGTCGGCATACTGCTGAACATCCTCTGCGTAGTATTGG
TTGCTCTGTGGGCTTATGCTGTACTGATGTAAACCATCGACCTAAACAACAAGACCGTCT
GAAAGAATATTTTTCAGACGACCTTGAAGTTTGTCGTTCAGACACAATTTGTCGAATCAT
TCAAAACCAGATTCTAACGAAAGGAAACCCATGATTATCCTGCACACCAACAAAGGCGAC
ATCAAAATCGAACTCGATTTCGACAAAGCCCCTGTTACCGCCAAAAACTTCGAGCAATAC
GTCAAAGACGGCTTCTACGACGGCGTAATCTTCCACCGCGTCATCAAAGGCTTCATGATT
CAAGGCGGCGGCATGGATGAAAACATGAACGAAAAAGAAACCCGCGATCCGATTCAAAAC
GAAGCGTCCAACGGCCTGCCCAACGATAAATACACCATCGCCATGGCACGCACTTCCGAC
CCCCATTCCGCCAGCGCGCAATTCTTCATCAACACTGCCGACAACGCTTTCCTGAACTTC
CGTTCTAAAGAGCTGTACGGCAAAACCGTCGTCCAAGACTGGGGCTATGCCGTATTCGGT
AAAGTCGTTGACGGTTTTGACGTTGTCGATGCCATCGAAGGCGTTTCTACCAAACGTCAT
GGTTACCACGACGACGTACCGAGCGAACCTGTCGTCATCATTAAAGCCGAAGCGGTATAA
ACCGACAATCCGAAAGCAGCCTGCACAAAGGCTGCTTTTATTTCAGACGGCATGTTATTT
GATGTAACCGTGCTATGCCGTCTGAAAACCGGACGCAAGCCTTCAGACGGCATACCGCTA
TGTTAAAATATGCCCGTTTTTCCTAAACGGACACAAAGGAAACCTTATGGCAAGCATCGC
CCGCGACATCTTCAAAGCCTACGACATCCGGGGTATTGTCGGCAAAACCCTGACCGACGA
AGCCGCCTACCTTATCGGCAAAGCCATCGCCGCCAAAGCCGCCGAAAAAGGCATTACCCG
CATCGCGCTCGGACGCGACGGACGCTTGAGCGGTCCCGAACTGATGGAACACATCCGGCG
CGGCTTTACCGACAGCGGCATCAATGTCCTCAATGTCGGTATGGTTGCCACTCCTATGCT
CTACTTCGCCGCCGTCAACGAATGCGGCGGCAGCGGCGTGATGATTACCGGCAGCCACAA
TCCGCCCGATTACAACGGCTTTAAAATGATGCTCGGCGGCGACACGCTTGCCGGCGAAGC
CATCCAAGAACTTTTGTCCATCATTGAAAAAGACGGTTTTGCTGCCGCCGGCAAACAAGG
CAGCGTCACCGAAAAAGACATCTCCGGCGAATACCTCAAACACATTACCGGACACATCAG
GCTCAAACGCCCGATGAACATCGCCATTGACGCGGGCAACGGCGTGGGCGGCGCGTTTGC
CGGCAAACTCTACAAAGGCTTGGGCAACAAAGTAACCGAGCTTTTCTGCGACGTGGACGG
CACTTTCCCCAACCACCATCCCGACCCATCCAAACCGAAAAACCTGCAAGATTTGATTGC
CGCGCTGAAAAACGGTGATGCCGAAATCGGCTTGGCGTTTGACGGCGATGCCGACCGCTT
GGGTGTGGTTACCAAAGACGGCCAACATTATTTATCCCGACCGCCAACTGATGCTGTTCGC
CCAAGACGTTTTGAACCGCAATCCCGGCGCGAAAGTCATTTTCGACGTGAAGTCCACCCG
CCTGCTTGCGCCTTGGATTAAAGAACACGGCGGCAAAGCCATAATGGAAAAAACCGGCCA
CAGCTTTATCAAATCCGCCATGAAAGAAACCGGCGCGCCGGTTGCCGGCGAAATGAGCGG
ACACATCTTCTTCAAAGAACGCTGGTTCGGCTTCGACGACGGTCTGTACGCCGGCGCACG
CCTCTTGGAAATCCTGTCTGCCTCCGATAATCCGTCCGAAGTGTTAAACAACCTGCCGCA
AAGCATTTCCACGCCCGAACTCAACATCGCCCTGCCCGAAGGCAGCAACGGCCATCAGGT
TATCGACGAACTCGCCGCCAAAGCCGAATTTGAAGGCGCAACCGAAATCATCACCATCGA
CGGTCTGCGCGTTGAATTTCCCGACGGCTTCGGTCTGATGCGTGCTTCCAATACCACGCC
GATTCTGGTGTTGCGTTTTGAGGCGGATACGCAAGAAGCCATCGAGCGGATTCAAAACCA
ATTCAAAGCCGTCATCGAAAGCAATCCGAATCTAATCTGGCCTCTGTAAACACAGGAAAA
ATGCTTAATCAAATCTTGGTAGATTGGATTTGGCTTAAAAATCTCCGCGTCCGTTCGTGT
TTGGGGTGGTCGAACAAATCTTGCGGGCTGCCTTGTTCGACAATAACGCCGCCGTCCATC
ACGACGACGGTGGTTGCCCACTTCTAAGGCGAACTTGATTTCATGCGTAACGACAACCATG
GTCCAGCCTTCTTGCGCCAATTCCTTCATGGTATCCAAAACATCTTGCACCAATTCAGGA
TCGAGCGCGGAAGTCGGTTCGTCAAACAGCATCAGTTCAGGCTGAATCGCCAATGCGCGG
GCAATGCCGACGCGCTGCTGCTGACCGCCGGAAAGCTGGTAGGGATACAAATCCACTTTG
TCGCCCAAGCCGACTTTTTCCAGCAGTTTCAGAGCCTCTTCGCGCGCTTGGGCGGCAGGC
TTGCCCTGTACGGCAACCGGTCCTTCCATTACGTTTTCCAAGGCGGTTTTGTGCGGAAAG
AGGTTGTATTGTTGAAACACCATGCCTGATTGCGGCGCAGTGCCAAAATATCGTGTTTG
CTTGGTTTTTTAGAAAAATCGATTTTCAGCGGTCGCTCGTTGTCGAACTCGATTTGTCCG
TCTTCGGGCATTTCCAACGCGTTTAGGCATCGCAGAAACGTCGTTTTGCCTGAGCCGGAA
GGCCCGAGGATGACGACCACCTGCCCTTTGCACACATCCAAATCGATGCCGCGCAAAATA
GTGTTTTCGCCAAAGGTCTTATGGATATTGCGGATTTTAATCATGACAACTCCTTATTTG
GCGACGTAGCGGTCGAAACGTTTTTCCAAACGCGCCTGAATCAGGAACAGCACTTTACAA
AAACACCAGTAAACCAAAGCGGCTTCGATATAGACGGGCAAAAAGTCATAAGTGCGGTTT
GCCGTTTCCTGCGCGACGCGGAATAATTCCGTTACCGTCACGACTGCCGCGAGCGAGGTG
TTTTTAAACAAACCGATAAACTCGTTGCTCAAAGGCGGCACGGCAACGCGGAATGCCTGC

GGCGCGACAATGCGGCGGAACGTCTGCATATAGGTCATGCCGATGGAGAAACCTGCTTCC
CATTGGCCTTTAGGTACGGACAAAATTGCCGCGCGTATGGTTTCGGAAGCGTATGCGCCG
ACATTGAGCGAAAAGCCGATGATGGCGGCAGGAATCGGGTCGATATAGATGCCGACGGAA
GGCAGCCCGTAAAACACAATCACAAGCTGAACCAACAGCGGCGTACCGCGAATGACGGAA
5   ATATAAAATTCCACCAATTTCAGCAGGATTTTCCGCACGATGCCGCCGGCGGGCATAATC
CGCACCAAAGCCACGGCTACCGCAATCATCATACCGATAACGAAAGAAGCTGCCGCCAAA
GGCAGAGAGACCGCGAAGCCGGCTTTGACCATAGGCAAAAACGCGCTGACAATCATATCG
GCGCGTGTTTCCGTCATAAACGGCAGCGAAGCAAGGAAATTATTGAACACTGATGTCTTT
TCCGAAGAATTGTTCGCCCAGTTTTTTCAGCGTACCGTCGGCTTTCAGCTCGTTGATTGC
10   CGTACTGAATTTCGCCACGGCTTCGTCATTGCCCTTGTTGACAATCAGGCCGGAACCGAC
TTTTTCATCGGCAGGTGCGGACCAAACGATTTTCACGCCCGCATTCGGGTTTTTCTTCAG
ATAGTCCAAAACCGCCAATTCGTCGTTCAGGGTTGCATCGGCACGTTTTTGTTCAATCAG
GGTCAGCGATTGCGCCAAACCGTCAACAGCCACCAAATCTGCGCCTGCAGCTTTGGCTTT
TTCGCCGTAGTTGCTGGTCAGGGATTGTGCGGTTTTCACGCCTTTGATGTCGGCTATAGA
15   TTTGATGTTGCTGTCGTTACGGACAACCAATACGGCACCGCTCCAGCTGTAAGGATCGGA
TTTGTCGAATGTCGCTTGGCGTTCGGGGCTGGTCAGACCGACTTGGTTTGCCACCACGTC
GAAACGCCCCGCCTTCAAACCCGCCATCATCGAATCCCATTGCGTTTCTTTAAACTCGAC
TTTCACGCCCAGTTTTTCCGCCACGGCGCGGGTTACTTCCACATCGTAACCGGTCAGTTT
GCCGTCCTTGTCGTGGTAGGTAAACGGTGCGTAAGTGCCTTCCGTGCCGACGGTAACCGT
20   GCCTTTATTGTTGATGCGCTCGATTAAAGAACCGGAAACTGCCGATTGTGCAGGCGCGGA
AGATG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 12>:

gnm_12

25   CCGGCAAACGTTGCCTGCGCGGCTGGGACGTTTAAGTTTGTGATGTTGCCCGATCCGTCG
GCGGAAATTTGGGCGGTGTATTTGGGCATTGTCGGCGGCTATGCGGTGGCGCGTTCATTT
GTCAGCGTGAAGCGTCAGGAGGTCGAGAATGAATCTCGTGAAACTGCTGGCGAATAACTG
GCAACCGATTGCCATTATCGCGCTTGTCGGCACGGGCTTGGCTGTGTCGCACCATCAAGG
CTACAAGTCGGCATTTGCGAAGCAGCAGGCGGTCATCGACAAGATGGAGCGCGACAAGGC
30   GCAAGCCCTGCTGTTGTCGGCTCAAAACTATGCGCGCGAACTGGAACTGGCACGCGCGGA
AGCTAAAAAATATGAAGTCAAGGCGCACGCTGTCGGCATGGCTTTGGCGAAAAAACAGGC
GGAAGTCAGCCGTCTGAAAACGGAAAGAGACCTTTGCAAAATTCCTTTCCCTCCCGACAG
CCGAAACCCAAACACAGGTTTTCGGCTGTTTTCGCCCCAAATACCGCCTAATTTTACCCA
AATACCCCCTTAATCCTCCCCGGATACCCGATAATCAGGCATCCGGGCTGCCTTTTAGGC
35   GGCAGCGGGCGCACTTAACCTGTTGGCCGCTTTCAACAGGTTCAAACACATCGCCTTCAG
GTGGCTTTGCGCACTCACTTTAATCAGTCCGAAATAGGCTGCCCGCGCATAGCGGAATTT
ACGGTGCAGCGTACCGAAGCTCTGTTCGACCACATATAGTGGATTAAATTTAAACCAGTA
CGGCGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTG
ATTTAAATTTAATCCACTATAACGGGTCTTCGATAAATATCGGTTACGCTTGGTTTGCAC
40   TTCCGACAGCGGGCGGTTGCGGCAGGCTTTGCTCATAATGCCGTCCAACAACTGATGTTC
TTCCAGATGTTGCCGGTTTTCCGCACTGTCATAGCCTTTATCGGCATAGACGGTCGTACC
TTCGGGTAACCCTTCCAACAACGGCGACAGGTGTTTGCACTCATGGGCATTGGCGGGGGT
GATGTGCAGTTTCTCGATATAGCCTTCCGCATCGGTACGGGTATGTTGTTTGTAACCGAG
TTTGTAGAGGCCGTTTTTCTTGATCCAACGGGCATCGCTGTCCTTACTCGGTGTGGTTTG
45   GCCGCTGATTTGTCCTTCTTCATCGACTTCTATGGCCTGACGCTGTTCGCTGCCGGCGGT
CTGAATAATGGTGGCGTCAATGACGGCGGCGGATGCTTTCTCTACTTTTAAGCCTTTTTC
GGTCAGTTGGCAGTTAATCAGTTCCAACAGTTCGGACAGGGTGTCGTCTTGCGCCAGCCA
GTTGCGGTAGCGGCATAAGGTGCTGTAATCGGGGATGCTCAGTTCGTCAAAACGGCAAAA
CAGGTTGAAATCGATGCGGGTGATGAGGCTGTGTTCGAGTTCGGGATCGGAGAGGCTGTG
50   CCATTGTCCGAGCAGGACGGCTTTGAACATGGATAGCAGGGGATAGGCGGGACGGCCGCG
GTGGTCTCGGAGGTAACGGGTTTTTTGACGGTTCAGGTACTGCTCGATCGGCTGCCAATC
AATCACTTGGTCCAACTTCAATAGCGGGAAACGGTTGATGTGTTTGGCAATCATGGCTTG
CGCGGTTTGCCGGAAGAAGGTGCTCATGAGAAATCCCCTAAATGTCTTGGTGGGAATTTA

```
GGGGATTTTGGGGGGGATTTTGCAAAGGTCTCAGGCGGCAAATCGCCACCCTTCCCTTCAA
ACCTTCCGCCTGTCCCAACAGCAGACAGGCGAAAAAGCCCTTACCACTGATAACCGACAG
ATGCGGAAGCACCGAAATGGCCGCGCGAATTGCCGGAAGCCGTGCCTTTGATAATCCAAT
TTCCGCCGTCGGAAATACTGGAGTAGCCGATGGCGTAACCGGCTTCGCCGCGATAAGTGC
CGCCGCCGATCGCCATCATACTCTTGCCGGGCAAATACGCCTGAACCAGACCTGCGGTTG
CAATCGCTTGGGCGATGCCCGCACGCGCGTTGCCGTCCACATTGTCGATGCGGTTGTTCA
AGTTTTGCGCCACGCCTTTAAGTTGTGCGACGTTTGTAACATCCCCCTCTTTAACGCCCG
GGGCGACATTGGTAATGCGGACGGGTTTGTTGTCCTTCTTGCTGCCGACATTCAATGCGT
CCCCATCCACGCTCAAAGTGGGCGCATCCGCCCCCGCGCCGAGCGAAACGCTGGAAAACT
GCGGGGTCATCGAAGTGGCGATGTCGATATTTTTACCGTTGCGGGTAATCTCGATGTTGT
TGCCGGCATTAATGTTGACGGTTTCATCCATCTTTCCCTTGCTCGGCGAAACATTGCCGC
TGATGACTTTGCCCGAAGAACCTGCAACCGCTTTGGAATCCAAATTCCAACCGCTGTTTT
GCAGCTGATTGACGTTTAGGGCATCGCCGACATTTACATCATACATAACAGTGATGTTGC
CTTGATCATCTTTACTTACAGTCGCAGTTGTACCTTTACCACTAGCAAAGGTTACATTTG
TGCCTGATGTAACGGTTTCAAACTTGTCAGCTTGACCTGTTTGACCATTAGCGGTTGTTG
TTTTCATTCTCCAACCAGCCTTGTTTACTGCATCAATCACTTCTTTTGCAGTCACTAAGC
CTTCGCCTTCGTCTGTAGAAGAACCATTCTCGCCTTTGTCTTTACCAGTAACCAACTTAC
CGTCTTTTTCTTTAATAACAGAAGTCTTCGCACCGATTTTAACTTCGGTTTTCTTGCCGT
TGTCTTTGCTTTCCACATTAACAGTCGTTGTTTTCGTATCTGCGCTCAAGAACTCGACTG
TGTCGTAAGTGCGGACGAAATCAACGTTATCGGAAGCTGTTGTACCGGGTTTAACGCCTT
TAATGTTCCAGCCAGCGTTTAATACGTCTTTAACGCTTGCCGCACGTTTTTTCTCGTCAT
CGGTAACGTTGTCGTTGGTTACGTTTGTGGTCGCTCCGGTATTCAGCAGCGTATCGGTCA
AAGTCGAACCAATACCGTTCAGATGAACCGTGGTGTCGCCGTTCGTCCCAGCCGTTTCTT
TCGCAAAATTCAAGCCTTTGGTGTCGCTTGTGATGTTGACTTTATTGCCGTTTGCGCTAA
ACGATAATTTTTCAGTTCCAACACTGGTCAGATCTGTGAGGTCTTTTTTCAGCGAGTAGG
TGAAGTTTGTGCCGTTTTGTTTGATTTTCAGGTTGTCGCCGGCTTTGAGGGTGATTTCTC
TGGCTGTTAGTACTCCTTTCTCGTTGAAATATACTGCCCAATCTGAATTTTCTTCTACTT
TTTCTTTTTCTCCCGTGCCTTCTTTATCGGAATTGACTATCAACACGGCAACAGTGCGTT
GTACGGGGTCTAAATATAAATCTTCTTCTTGCTCTTCATTGTTAGCACTTGCCTGAACCG
TTGCAAACAACAGTGTCGCCAATACGGCGGTCTTCACGGTTGCGGAGGCGCGTTTGGTGT
GGTTGCGTGTGAGCTCGGATACGACGACCCAGGCATTGAGGGCACTATTCCAAATGATGC
GGTATATTTTGTTCATTTTGTTTTTTCTTTTGGTTTGTTTGAATGGTTAAATCGGGGTTT
GGGGGCGGATGGTGCGGCATCCGCCCGGTTTTTGGGGGTTGGGGGTTTTCTGATAAATTC
CCCCAACTTAAAATCTCGTCATTCCCGCGAAGGCGGGAATCTGGGACGTGGAATCTAAGG
AAACTGTTTTATTCGGTAAGTTTCCGTGCCGACGGGTCTGGATTCCCGCTTTTGCGGGAA
TGACGGCGGTGGGGTTTCTGTTTTTTCTGATAGATTCCTGTGGTTTTTCTATGGATTCAA
TCATTCCTGATAAATTCCCATAATCTAAAATCTCGTCATTCCCGCGAAAGCGGGAATCTA
GGACGTGGAATCTAAGGAAACTGTTTTATCCGGTAAGTTTCCGTGCCGACGGGTCTGGAT
TCCCGCTTTTGCGGGAATGACGGTCGGTGGGGTTTCTGTTTTTTCCGATAAAGTCCTGCC
GCGTTGTGTTGCTGGATTCCCGCCTGCGCGGGAATGACGGCGGTGGGGGTTTCTGTTTTT
TCTGATAGATTCCTGTGGTTTTTCTATGGATTCAATCATTCCTGATAAATTCCCATAATC
TAAAATCTCGTCATTCCCGCGAAGGCGGGAATCTAGGACGTGGAATCTAAGGAAACTGTT
TTATCCGGTAAGATTCCGTGCCGACGGGTCTGGATTCCCGCTTTTGCGGGAATGACGGCG
GTGGGGTTTCTGTTTTTTCCGATAGATTCCTGTTGCGTTGCGTTTTTGGATTCCCGCTTT
TGCGGGAATGACGCGGTGGGGGTTTCTGTTTTTTCTGATAGATTCCTGTGGTTTTTCTAT
GGATTCAATCATTCCTGATAAATTCCCATAATCTAAAATCTCGTCATTCCCGCGAAGGCG
GGAATCTAGGACGTGGAATCTAAGGAAACTGTTTTATCCGGTAAGATTCCGTGCCGACGG
GTCTGGATTCCCGCTTTTGCGGGAATGATGGCGGTGGGGGTTTCTGTTTTTCCGATAAA
GTCCTGCCGCGTTGTGTTTCTGGATTCCCGCTTTTGCGGGAATGACGCGGTGGGGGTTTC
TGTTTTTGCTGATAGATTCCTGTGGTTTTTCTATGGATTGAATCATTCCTGATAAATTCC
CATAATCTAAAATCTCGTCATTCCCGCGAAGGCGGGAATCTAGGACGTGGAATCTAAGGA
AACTGTTTATCCGGTAAGTTTCCGTGCCGACGGGTCTGGATTCCCGCTTTCGCGGGAAT
GACGGCGGTGGGGTTTCTGTTTTTGCTGATAGATTCCTGTGGTTTTTCGGTTGCTGGATT
CCCGCTTTTGCGGGAATGACGGCGGTGGGGTTTCGGTTTTTTCCGATAAATTCCTGTTGC
GTTGCGTTTTTGGATTCCCGCTTTTGCGGGAATGACGGCCGCC
GGACGGCAAACGACCATACACAATTATTGACAACCCCATTTATTGCGAAAGTCAGCCTAG
```

```
     GAGAATCGATCTAATTGTCAACATTCCCTTATGATCAAAGGGATTACACTTTATTTTACG
     CAAATGCGGGGGGGGGGGTGATTTTTGACGTTTTTTGCCGAAAATTTACATTCGGACGAC
     GAAAAGGAAAAAGCCGTGTCGCATCTGTGCAACACGGCTTGGCGGGCGCAAACGGATATA
     GTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTTT
  5  AACAAGTGAATTGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCATGAT
     TTTTGTTAATCCACTATAAAACGGTGTTCCCTGCCGCCGCAGGCGGAACGCCGGATGACG
     GGGTTTTCCCTAAGGGTGCGGCTGCCGCTATATCACGAAATCCAACAGGTAGAAATCTTC
     TTTGCCCACGCCGCATTCGGGGCATTTCCAGTCGTCGGGGATGTCTTCAAACTTGGTTCC
     GGGGGCGATGCCGTGTTCGGGGTCGCCGTGTTCTTCATCGTAAATCCAGCCGCAGGGGCC
 10  GCACATATATTGCGCCATTTGTGTTTCCTTGTTTTTTGTATAGTGGGTTAACAAAAACCG
     GTACGGCGTTGCCTCGCCTTAGCTCGAAGAGAACGATTCTCTAAAGTACTGAAGCACCCG
     TACTATTTGTACTGTCTGCGGCTTCGCCGCCTTGCCCTGATTTTGTTCATCCGCTATAA
     ATCAGGGTTTGGGAGAATGGTGCGGTATCCGCCCGGTTTTTTGGGGTTGGTTTTTTTCG
     ATAGATTCCTGTGGTTTTTCGATTACTGGATTCCCACTTCCGTGGGAATGACGGTTTGGA
 15  GGTTTCGGTTTTTTCGATGAATTCCTGTTGCGTTAGGGGGGGGGGGCTGGATTCCCGCTTTT
     GCGGGAATGACGGTTTGAGGGTTTCTGTTTTTTCCGATGGATTCCTGTTACGTTGGGGGGC
     TGGATTCCCGCTTTTGCGGGAATGACGGTTTGAGGGTTTCTGTTTTTTCCGATGGATTCC
     TGTTACGTTGGGGGCTGGATTCCCGCTTTTGCGGGAATGACGGTTTGAGGGTTTCTGTTT
     TTTCCGATGGATTCCTGTTGCGTTGGGGGCTGGATTCCCGCTTTTGCGGGAATGACGGTT
 20  TGAGGGTTTCTGTTTTTTCCGATGGATTCCTGTTGCGTTGGGGGCTGGATTCCCGCTTTC
     GCGGGAATGACGCGGTGGGGGTTTCGGTTTTTCCGCCTGTTTATTTTGCGGCTTCGATTG
     CCGCTATTTCTTTGCGTAGGTGTTTGATAGCGGGGGTTACGATGGCAACAAACATTGCTT
     CGCGGACGCGCCTTTGGGCGGGACTGCGCATCAGGTAGCCTTTTGCGCCGGAATGCAGGG
     CGGCGGATTGGGCGGCGGCAAGTGCCAGTACGGCGGCGGCTTCGCGCAGCTTGAGGGTAG
 25  CAAGGTTGTCGGGCGTGCCGCTCCAAGCCAAGCCGGCGAGCCGTTCGGTTTCTGCCCACG
     CGCCGTCCAGCCTTGTTTTGAGGCTGTCGTAGCCGTCGTTGAGGTAGTTGTTGACTTCGG
     CGTTGACGACGTTGGCGAGGCGGATGATGCCGAGGCTGCCGTCGATTACGCCCGCGCCGA
     TGCCGATTTGCAGGAGGATAAAGCCTGCTTTGATGCTTTGGATGTAGTCGGCAAACTGTT
     CGGGCGCGGCGATGATGTCTTCGTCGGGGATAAATACGTCTTTGAAATTCAGGCTGAAGG
 30  TGCGCGTACCTTCGAGGGCGCAAAATTCGGGGCAGTTTTGCAGGCTTACGCCTTCCCATT
     GTCCGCCTGTGATGAACATAACGTAGCCGTCGCCGATTTGGGCGGTATTCGCCCAGATGT
     GGTCTTCACCGATGTTGGACACCCACGGCAGCGCGCCGTTGACTGTGTAGCCGCCTTCCA
     CGCGTTCGGCTTGGAGGTTGTGTTTTTCGATGTCGGCAAGGTGTTTGACGGTATTGGACA
     TGCCCGTACCCGCCAATACTTTGCCTTGCAGGATGTCGGCAAGGTATTTGTCTTTGACGG
 35  CCCGGTTGGGCGTTTGGTGCAGATACCACGCGCAAGCCGCCTGACACCACGCACTGAAAG
     AGGTTGCGCCGCATTCTTTGCCGATTTCGCGCAATACGGCGATTTGCGTTGCCAAACCCA
     AGCCGTTGCCGCCTTCGGCTTCTGTACCGACTGCGCCGAATCCACCGATTGCGCCGAGTT
     CGCGCATAAATGCTTCGGGGTAGTATCCTTTGCGGTCGATGTCGTCCACTATGGGTTTGA
     GCTTGGTTTTGACGAATTCGGCAACGTTGGCAATCAGGGTTTGGGCGTTCATCTTTGTTC
 40  CTTAAGGTTTGCGGGGAAATCGGGGGCGCGCCTGATGCGCGGCTGCTTCCCTGCCGCTTA
     GGCGGCTTGTTTTTGTTTGAGGGGGTGTTTTTGAAAAACCGCCCGATATTCGGGCGGTTT
     GCCGTATCAGGCGTAAGCCTGCAATTCGGGGTTGATTTCGGTTTGTCCGAGGTTGTTGAC
     GTAGTTGCACAGGGTTGCCAAGGCTACGCCCATCACGACTTCGACTGCCTGCTGCTGGTT
     GTAGCCCGCATCGAAAAATGCTTTGAGTTCCTCGTCGGATACCGCGCCTTTTTTCGCCAT
 45  TACGGCTTGGGTGAAGGCGGCGAGCGCGCCGAGTTTGGCATCGTCAAATTCGCCTGCTGC
     CAAAGCGCGCGCGGCTTTGACGGATTGTTCGGACAGGAGTTTTTTCAGGGTTGCGAGTTT
     GGTGTGCCCTGCCACGCAAAAACCGCATTGGTTGGTACGGGCGGCGATGATCTGGATGAC
     TTCGACTTCGCCGGCGGTCAGGCTGTTGGCGGCGTTGAGCTTGCCGACTTCTTGGTAAAA
     CGCCAAGGCTTCGGGGGCGTTTGATAATACGCCGATAAGGTTGGGGATAAAGCCGTTGTT
 50  TTGAAGTACCGCCTCGACGCGCGCTTTGGCGGCTTCGGGGGCGGTTTCGAGGGTGTGTAC
     GGTTAAACGTGCCATTTTCTTTCCTTGTTCGCAAATATTGGGTACGGGCGCATGGTATGC
     ATTTCGGAACGGAATAGGAAAGACTGATTGGTTATGTGCTGCAAACAAAAGGTTATAAGA
     AATGCCGTCTGAACATTTTTCAGACGGCATGATGGAAAAGAAAACGCGCTTATCGGCCCC
     CGCGCCCGAAATATTGCGCCAATGCGGCTTGGGGATTGGCTGCCTCAACCGTTTCGGGCA
 55  ATTCGGTATAGCCGCGCGATAAAAGGTGGCGTGCATAAAGGCTGTTGCCCTTTGCGCCGA
     ACCAGACGGAAACCGCCAAGCCCAATACGTTAAACGCCGAGTCTGTGGCGGGCGTGTCGC
     CGTAAACCAGTTGGGCAAACACAGCCAGCACGAATATCGCGCCCGTCAGCCCCAGCCCCA
```

```
AACCCCACATTCTTTTGAAACACGCCCACAGCGTGCCGAACAAGAGCCCCGGCCATGACC
AGCCTTGTTTGACGGCTTGGGGCGGCAGGGCGGGATGGGTGTAGATTTTGTATGGTTTCA
TCGTGTTTCCTTTTCGGTTGAAACCCTGCCCTTTGGGAAGGTAGGATCAGACTTTATAGT
GGATTAAATTTAAACCAGTACGGCGTTACCTCGCCTTGCCGTACTATCTGTACTGTCTGC
GGCTTCGTTGCCTTGTCCTGATTTAAATTTAATCCACTATATTTGGGAGGCGCGCGCGCC
TGTGCCGGCATACGGCTTGAAAGCGATTACCCGATGGGGAACTTCAAACCCGACAATGCC
GTCTGAACGGTGTCTTGCCTTCAGACGGCATTGCCTGCCTTCAAAGCGGACGCGCTTATT
CCGCCCAGTTTTTCTTTTGCTGGTTTTGCCTACGCCCGGGTTGAAGCTGTTGGTCGGGT
CAAGTTTGCGGTAAAACTGTTTGAGCGCGGGCTTGGCTTCGTACAAATGGCCGACGTTGT
GTTCGGCTGGATATTGCGCGCCGCGTTGATCCAAGAGATGCAGCATTTCGTGTTCCAATG
CCATGCAGTCGTTGCCTTTTTGATGATGTAATCCTGATGGAAAACGTGGCACATGAAAT
GTCCGTAGTAGAGCTTGTGGATGATTTTATTGTCGATTTCCGGCGGCAGTTTTTCAAACC
AGTCGCGGTCGTCGCGGCGCAGGGCGATGTCAAGCGCGACCAAGTCCTCCACTTCGTCGT
CGTGTACGGCACGGTAGCGGATGGCGGCTGAGGCGACGGCGAAACGGTGCAGCATCGCGG
CTTGGGTTTCTTCGGCGTTGCACTCGAAAAACGCGCCGCCGTGATGTGCAAAATACTCTT
TCAGGAACGCGCGCGCCTCATCCACGCCTTTTCCGCCCATTTTCAGAATCAGGTGGTGTT
CGTATTTGTCGCGGTAATCGCGCATGGATTTGGGCAGATGGTCAGGCAGGAATTTGCTGA
CGAACTGCATTGCCTTGTCGGAAAAATGTTTGGGCAGGAAGCTGACTTTTTTGCCGAACC
TGTCCACGCGTGCCTTCAAATCAAATAATTTCGGCAGTTGGTGCGTACCGAATTTTTTGA
TGACGTAAAACGTATCTTTGCCGTACACGTCGGCAATGTCGAAAGCGTGGCGGTGGATGT
ATTCGCCGGAAACGGGCAGGCTTTCAAATTCGCCCAAGGCGGCGCGGCGGATGTCGGTCA
GCTCGTTGATGTCGTTCGTGCCGATGTAGAACACGGCCGTTTGTTTTTCTTGCGGAAAGG
TATCCAAGCGGACGGCGAATACCATCAGCTTGCCCGCGCAGCCCGAGGCTTCGTAATGGC
GCGCTGGGTCGGCATTGAAACGCGCGGCGGTCGGTTCGTCCACTTGGCGGACATGTTCGC
AATAGGCGTGGTCGTGTCCTTTGCCCGCGTCTTGCGTGATGTCTTTGTTTTGATAATGAT
GACCTTGAAGATTGGTCAGGATTTCTTCGGGCGTGTTGCCCAAGTCTATGCCCAAGTGGT
TGACCAGTTCCAACCTGCCTTCTTCGTTGATTTGGGCGAACAACGCCATTTCGGTGTAGG
CCGGGCCGCGCTGTACCAACGCGCCGCCAGAGTTGTTGCACACGCGCCCAAGACGGACG
CGCCGATACAGGATGAGCCGATAACCGAATGCGGTTCGCGCCCCAAAGGTTTCAGCAGCA
ATTCGAGCTGGTTCAGGGTCGAGCCGGGCAGGCAGACGACTTGTTCGTTGTTGTTGATGG
TTTGGATGATGTTCATCCGCATGGTGTTCACAATCACGATGTCGCGGTCGTAATCGTTGC
CGTCGGGGGTCGAGCCGCCCGTCAAACCGGTATTCGCCGCCTGCGTAATCACAATCACGT
CTGCTTCGACGCACGCCTGCAGAATTTTCCACATTTCCAGAATGCTTCCGGGGCGAACCA
CCGCCAACGCCTTACCCTCGCCGAAGCGGTAACCTTGGCGGTATTGTTCGGTTTTCGCGG
GGTCGGTGATGATGTATTTTTCGCCTACGGTTTGGGTCAGTCTTGACAGTAATTGTGATG
CGCTCATGGCAGTTTCCTTAAAATTGTCGGCAGGTGCATTGCACATTGGAATTGTTTTCA
CATTGTAGTTATACGTTATGGCAAAGTAAAGAAAATGCCGTCTGAACGGCTTTCAGACGG
CATCGGTGCGATACGGGAACGCCGGAACATCGAAGCTCCGGCGTTTCAAATAGGGCGGCG
GGCCAAACCCCCGGCACTGGCGCATTGGAGTGGGCTGCTGGCTTCCGCCCCTGACCCGGT
GTTCCGATTTGCCATGCGGGGAGACCCGCCTCAGAGAAACGGCATTATAACGGGTTTTCT
GAAAAACTCAACCGTTTTGATACGGTCATACGCCGGAAACACCACCTAAAATTTATATTT
GATAATATTGTCAACAATTTCTCAAAGCGTTATTTTGTTTCTATAAGGGTATTTCCTGTT
TCGGCATTGAAAAGTATCAAAAATTGAACTACATTATCGCCTTTTCAAACTCGCCTGAAA
CCGACTTTTCAGACGGCATTCAAATAAAAACTGCCAAACACGGACACCATGACCACGA
CTACCGCCCCTCAGCGTATTCGGGAAATCCCCTACAACTATACTTCCTACACCGACCGCG
AAATCGTCATCCGATTATTGGGCGACGAAGCGTGGCAAATCCTGCAAGACCTGCGCGGTC
AACGCAAAACCGGGCGTTCGGCGCGGATGCTGTTTGAAGTGTTGGGTGATATTTGGGTGG
TCGTGCGCAATCCGTATCTGGTCGATGACTTGCTGGAGCACCCAAAACGCCGCGCCGCGC
TGGTACGTGAAATGCGCCACCGCTTAAATGAAATCCGCAAACGCCGCGACGATAATCGGC
AAGTGGATGTGTTGGTTGCCGCAGCAGAAAAAGCAGTCGAGCGTTTTGATAGCAGTTTTG
ATGAAACCAGCCAAAAACGGCGGCAGATTTTGGAGCGTTTGAGCAAAATCACCAAGCCGC
ACAATATTATGTTCGACGGGCTGGCGCGGGTAACGCACGTTACCGATGCAACCGACTGGC
GCGTGGAGTATCCGTTTGTCGTCGTCAATCCCGACACGGAGGCTGAAATCGCGCCTTTGG
TGCGCGCCTTAATCGAGCTGGATTTGGTCATTATTCCGCGCGGCGGCGGCACGGGTTATA
CCGGCGGCGCGATTCCTTTGGACGCAAACAGCGCAGTCATCAATACCGAAAAACTCGACA
AGCATCGTGGTGTTGAATACGTTGAGCTGGCAGGCTTGGACGGCAAGCATCCGATTATCC
GGTGCGGCGCGGGCGTGGTTACGCGGCGGGTGGAAGAAACCGCGCATCAGGCAGGTTTGG
```

-126-

```
TGTTCGCCGTCGATCCGACTTCTGCCGACGCGTCATGCGTGGGCGGTAATGTGGCGATGA
ACGCGGGCGGCAAAAAAGCCGTGCTGTGGGGGACGGCGTTGGACAACCTCGCCTACTGGA
ACATGGTTAACCCTCAAGGCGAATGGCTGCGTATCGAGCGCGTGCGCCACAATTTCGGCA
AAATCCACGACGAAGAAACCGCCGTGTTCGACGTTCACACGCTGGATTCAGACGGCATCA
ATATCGTTAAAACCGAACGCTTGGAAATCCCCGGCCACAAATTCCGCAAAGTCGGTTTGG
GCAAAGACGTTACCGACAAATTCTTGAGCGGCCTGCCCGGCGTGCAAAAGAAGGTACAG
ACGGCATCATCACCAGCGTTGCCTTCGTGTTGCATAAAATGCCGAAATACACGCGCACCG
TGTGTATGGAGTTTTTCGGTACGGTCGCCACCGCCACGCCATCTATTGTCGAAATCCGCG
ACTTTTTGCTTGCCCATGAAAGCGTGCGGCTGGCGGGTTTGGAACATTTGGACTGGCGTT
ATGTCCGCGCCGTCGGCTACGCCACCAAAGCGGCGGGCAAGGGACGACCGAAAATGGTTT
TGCTGGCAGACGTGGTTTCAGACGACGAAGCCGCCGTAGAGGCAGCCGCCGAACACATCT
GTGAACTCGCACGCGCCCGCGACGGCGAAGGCTTTATCGCCGTATCGCCCGAAGCCCGCA
AAACCTTCTGGCTCGACCGCAGCCGCACCGCCGCCATCGCCAAACATACCAACGCCTTTA
AAATCAACGAAGACGTGGTCATCCCGCTCGAAAGGCTCGGCGAGTATTCGGACGGCATCG
AACGCATCAACATTGAGCTTTCCATCCAAAACAAGCTCAAACTCTGTGCCGCCTTGGAGC
AATATCTTTCGGGCAAACTCCCCATCGACAAAATGGGCACTGACCTGCCGACCGCCGAAC
TGTTGGGCGAACGCGGCAAACACGCCCTGGCCCACGTTTCCGCCGTCAAAACGCGTTGGG
AATGGCTGCTCGCCAATCTTGACACGCCGCTTGCCGACTACAAAGCCCGCTACGGCGCAG
CCGTCCACGCCGCACCCGAAGCCAAAAACAATGAAAGCTGCTTTATTGCCTTCCGCGATT
TCCGCCTGCGCGTGTCTGTCAAAGCGGACGTAATGAAACCGCTTTCTGAAATCTTCAGCG
GCAAAACCGACACCAAAATTATCCAAGGCTTGGGAAAAATCCACGCAAAAACCGTACGCA
GCCGCGTCTTTGTCGCCCTGCATATGCACGCCGGCGACGGTAACGTTCACACCAATATTC
CGGTTAACTCAGACGATGCCGAAATGCTTCAGACGGCATACCGCTCAGTCGAACGCATTA
TGAAAATCGCCCGTTCGCTTAACGGCGTGATTTCCGGCAACACGGCATCGGCATTACCA
AGCTCGAATTTTTAAGCGACGAAGAAATGCAGCCGTTTTGGGACTACAAAAACCAAGTCG
ATCCGAAACACACCTTCAACCGTCACAAACTGATGAAAGGCTCGGACTTACGCAACGCCT
ACACGCCGTCCTTCGAGCTGTTGGGCGCGGAATCGCTGATTATGGAAAAATCAAACCTCG
GCACGATTGCCGATTCCGTCAAAGACTGCCTGCGCTGCGGCAAATGCAAACCCGTCTGCT
CTACTCACGTTCCGCGTGCCAACCTGCTGTACAGCCCCCGCAACAAAATCCTCGGCGTGG
GCTTATTGATCGAAGCCTTCTTATACGAAGAACAAACCCGCCGCGGCGTTTCCATCAAAC
ACTTTGAAGAACTCATGGACATCGGCGACCACTGCACCGTGTGCCACCGCTGCGTCAAAC
CCTGCCCCGTCAACATCGACTTCGGCGACGTTACCGTAGCCGTCCGCCAACTATCTTGCCG
ATTCCGGCCACAAAACGATTTGCGCCTGCCGCAGCTATGGGTATGGCGTTTTTGAACGCCA
CCGGCCCGAAAACCATCAAAGCCCTTCGCGCCGCCATGATACAGATCGGCTTCCCAGCGC
AGAATTTCGCCTACAAAATCGGCAAACTTCTTCCAATCGGCACGAAAAAGCAAAAGCCG
AACCCAAGGCAACCGTCGGCAAAGCCCCGATTAAAGAACAGGTTATCCATTTCATCAACC
GCCCACTGCCCAAAAACGTACCCGCCAAAACACCGCGCTCCTTATTGGGCATCGAAGACG
GCAAAAGCATCCCCATCATCCGCAACCCCGCCGCGCCCGAAGATGCCGAAGCCGTGTTCT
ACTTCCCGGGTTGCGGCTCTGAGCGTCTGTTCAGCCAAATCGGACTTGCCGTTCAAGCCA
TGCTCTGGCACGTCGGCGTACAAACCGTCCTGCCGCCCCGGCTATATGTGTTGCGGCTATC
CGCAAGACGCAGGCGGCAATAAGGCAAAAGCCGAAGAAATGAGCACCAACAACCGCGTGG
CTTTCCACCGTATGGCGAACACCCTCAACTACCTCGACATCAAAACCGTCGTCGTCAGTT
GCGGCACTTGTTACGACCAGCTCGAAAAATACCGCTTTGAAGAAATCTTCCCCGGCTGCC
GAATCATCGACATCCACGAATACCTGCTCGAAAAAGGCGTGAAACTCGACGGCGTAAAAG
GTCAGCAATACCTCTACCACGACCCCTGCCATACCCCCATCAAAACCATGAACGCCACCC
AAATGGCCAGCAGCCTGATGGGGCAGAAAGTCGTTTTAAGCGACCGCTGCTGCGGCGAAT
CCGGTATGTTTGCCGTCAAACGGCCAGACATCGCCACTCAGGTCAAGTTCCGCAAACAAG
AGGAAATCGAGAAAAACCTCAAAGAGCTGCCGCAGGGCGAACCCGTCAAAATGCTGACCT
CCTGCCCCGCCTGCCTGCAAGGCTTGAGCCGCTACGCCGACGACAACAATATGCCTGCCG
ACTACATCGTCATCGAAATGGCGAAATACATCCTCGGCGAAACTGGCTGGATGAGTTTG
TAAAAAAAGCCAACAACGGCGGTGTAGAGAAAGTGTTGCTGTAACAACGGACACGGAAAT
GCCGTCTGAACGCCGAAAGCCTTCAGACGGCATTGTTTGAACCAAATATAGTGGATTAAC
AAAAATCAGAACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGCAAGGCGAGGCA
ACGCTGTACTGGTTTAAATTTAATCCACTATACCTACCCAAATCATGATTGACAGACAAA
CAAACGAACCCAAACAAAAAACCCGAATCATCCTTGCCCCTATGCAGGGTCTGGTCGATG
ACGTGATGCGCGACCTGCTGACGCGTATTGGCGGCTACGACGAATGCGTCAGCGAATTTG
TACGCATTACCCATACCGTGCATTCCCGATCCATATGGTTAAAATATGTCCCCGAAATCG
```

```
CCAACGGAAACAAAACGTTTTCCGGCACGCCnTGCACCGTCCAACTTTTGGGCAGCGATG
CGGACAATATGGCGGCGAATGCGCTGGAAGCCGTCCGCTTCGGTGCGAACAAAATCGATT
TGAACTTCGGCTGCCCCGCGCCCACCGTCAACAAACACAAAGGCGGCGCAATCCTTTTAA
AAGAGCCGGAACTGATATTCCACATCGTCAAAACGCTGCGCGGACGTTTGCCCGCACATA
```
5
```
TTCCGCTCACCGCAAAAATGCGGCTCGGTTACGAAGACAAAAGCCGGGCTTTGGAATGCG
CCTGTGCGATTGCCGAAGGGGGCGCATGCGGACTGACCGTACACGCGCGTACCAAAGCCG
AGGGTTACGAACCGCCGGCGCATTGGGAATGGATAAGGAAAATCCGAGACAGCGTCAATA
TTCCCGTTACCGCCAACGGCGACGTTTTCAGCCTGCAAGACTATATCGGCATCAAAACAA
TCAGCGGCTGCAACAGCGTGATGCTCGGTCGCGGCGCGGTCATCCGCCCCGATTTGGCGC
```
10
```
GGCAAATCAAGCAATACGAGAACGGCGGGCCGGTCAAAGACACGGATTTTGCCGAAGTTT
CCAAATGGATACGGCAGTTTTTCGAGCTGTGCCTGACAAAAGAGGCAAACAACAAATATC
CGCTGGCGCGGCTGAAACAGTGGCTGGGTATGATGAAGAAAGAATTTGCAGCAGCACAAA
ATCTGTTCGACCGCGTCCGAACGGTTAAGGATGCGGACGAAGTTCGGAACATCTTGGCTG
AATTTGAGCGAGAAATGAATACTTGAATATGTATAGTGGATTAACAAAAACCGGTACGGC
```
15
```
GTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATC
GGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCGTGTCCTGATTTTTGTTAATCC
ACTATATCCGCTCCAAAGCAAATGCCGTCTGAAAACCTTTCAGACGGCATTTGTTGTCTT
TATTGCCGTTTTTCGTCCGTATCCGGATTTTTGTTTTCAGCTTCGCACCCAAGCCCAAA
CGCCTTTCATAATCCGATTGCGGAGTATCGTCTTCCTGCATACCGAACGCGCCGGCATTG
```
20
```
ACCCACAGCGACAGCAGCGCGACGACAAAGGCGCAAAGCCAATCACATACCAAAACATT
GCCCCTCCCGATTTGTTAAAATCATATCAAATACAGTGCCGAATTTATCACAAACGCACG
GGCAAATATAGTGAATTAAATTTAAATCAGGACAAGGCGGCGAGCCGAAGACAGTACAAA
TAGAGACCTTTGCAAAATTCCCCAAAATCCCCTAAATTCCCACCAAGACATTTAGGAGCA
CCTTCTTCCAGCAAACCGCCCAAGCCATGATTGCCAAACACATCGACCGTTTCCCACTAT
```
25
```
TGAAGTTGGACCAGGTGATTGATTGGCAGCCGATCGAGCAGTACCTGAACCGTCAAAAAA
CCCGTTACCTCCGAGACCACCGCGGTCGTCCCGCCTGTCCCCTGTTGTCCATGTTCAAAG
CCGTCCTGCTCGGACAATGGCACAGCCTCTCCGATCCCGAACTCGAACACAGCCTCATCA
CCCGCATCGATTTCAACCTGTTTTGCCGTTTCGACGAACTGAGCAGTATAGTGGATTAAC
AAAAACCAGTACGGCGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTC
```
30
```
GCTTTGTCCTGATTTTTGTTAATCCACTATACTTTATGCCGCTACCGCAACTGGCTGGCG
CAAGACGACACCCTGTCCGAATTGCTCAAACTGATTAACTGCCAACTGACCGAAAAAGGT
TTAAAAATAGAGAAAGCATCCGCCGCCGTCGTTGACGCCACCATTATTCAGACCGCCGGC
AGCAAACAGCGCCAGGCCATAGAAGTTGACGAAGAAGGACAAATCAGCAGCCAAACCACA
CCGAGTAAGGACAGCGATGCCCGTTGGATCAAGAAAACGGCCTCTACAAACTCGGTTAC
```
35
```
AAACAACATACCCGTACCGATGCGGAAGGCTATATCGAGAAACTGCACATCACCCCCGCC
AATGCCCATGAGTGCAAACACCTGTCGCCGTTGTTGGAAGGTCTGCCCAAAGGTACGACC
GTCTATGCCGACAAAGGCTATGACAGTkCGGAAAACCGGCAACATCTGAAAGAACATCGG
CTGCTGGACGGCATTATGCGCAAAGCCTGCCGCAACCGTCCGCTGACGGAAACGCAAACC
AAACGCAACCGGTATTTGTCGAAGACCCGTTATGTGGTTGAACAAAGCTTCGGTACGCTG
```
40
```
CACCGTAAATTCCGCTACGCTCGGGCAGCCTATTTCGGACTGATTTGCGCCCGCTGCCGC
CTAAAAGGCAGCCCGGATGCCTGATTATCGGGTATCCGGGGAGGATTAAGGGGGTATTTG
GGTAAAATTAGGAGGTATTTGGGGAGAAAACAGCTGAAAACCTGTGTTTGGGTTTCGGCT
GTCGGGAGGGAAAGGAATTTTGCAAAGGTCTCAGAGTGAGTTATTTTGGGGCGGCGGCA
GGTCGGGGGCAAGCGGCGTGGGGCTTGGTTGTGGTTTTTAGGTTTTTGGGGGTAAAAAAT
```
45
```
GCCGTCTGAACTTTTCAGACGGCGTTTGTTTTTTCTATCCAATCGAGGAACTGCCGCCAT
TTTTCCAGCGGCATATCGGCCCGACGGGTTTCGGTATCGGGTTCGGCTTCCCAGCGGCCT
ACCTGTATGTAGTGCTTCACCCCGACGATTTGCGCCAACTCGGCCTGTGTCAGTTTGCAG
CGGTTGCGAAGGGTGCGGAGGTTGTAAGGCGTGTAGCCGAGTTCCATGTCGTTGCGGTTT
ATTTGTTTCGCATATTTTTTTGACTGCCCGGCGGCAGGTTTCGGTAAGGATGGCGGCAA
```
50
```
ATCGGGCTTCGTCTGCCGGTTTGCCGTCGAAAAAAATAAAATCGTAAAGGGTGATGCCGT
TTTCGGAATGGCGGTAATGCCTGCCCGGGCATTCGCCGTCTGTCTGCCTGTGGATTTTGG
CAATCAGGCGGGGATAGCGGCAATGGGTAATGAAACGGCTTGCGCCGTCTTGCCCGATAA
TCCATTCGGGGTAGCGGTTGAATAGTGCGGCTCTGTTCATTTTGTTCGTGGGATAAAGCC
CCTCGCGGGGCTTGTGGTCAGGCAAATTTGAATATCAGTGCCAACACGGCGGCGATGGCG
```
55
```
GTAACCAGCCCGGTGGCCGCTATCATGGGATACCAGCGGGACTCTTGGGCTATTTTTACG
GATTCGGCGTTGATTTTGTGCGCGTCGGCAATGATTTTGGCGATTTCGGCATCTATTTTT
CTCAGACTGGAGTGTTTCATTTCTTGTTCGATTATGTTCATCGTACTTCCTTTCGTTTTT
```

-128-

GGCGGTTGCCGCCGCTTGTCGGATGGTAGGATGTCTGCCATGTGTATATATTGATACCTT
TTAGGTTTTATTGCAAGTGTTTTGGGCGGCGGCTTCGTATGCTTGGCGGTGGCGGCGGCT
GTACCATTCGGCGAGTTCGCGCCGCTCTTGGAGGCGGTAGCTGTCGGCGGTCAGGTAGTG
GTGCAGGCTTGAGAAGCCGGCGCGTTGGAGGGCGGCGCGGCTGATGTGGCCGAGGGCGAG
GTCTGTTGTGAGGGTGTCTTTTCCGGCGGTCAGGCTGATGTTGGTGAAGAGGTGGCGGAA
TCCGTGCATTGTGTGTTTGGATTTGCCGGGGGTGCTGCCGTCATAGCCCAGTCGTCGGAT
GGCGTTGTGGGCGAATTTGATGCTGATGTGGTCGGGATGGGGGGCGGGTTTGCGCCGTGG
GCGGATGCCGGGGAAAAGGTGGATGTTGTCGCCGGTCTGTGTGTGCAGCTCTCGGAGTAT
TTCTACCGCCCAGTCCGACAGTAGGACGGTAAAGGGGTGTTTGGTCTTCATGTCGGCGGC
GGGGATGTGCCATAACCGGGCGGTGAGGTCGATGTCTTGCCAGCGGGCGGAAAGCAGTGC
GGACGGACGGGATGACTTCCCCGGTTTCCCCATCAATCCGCGCCGCCTCGATTTTTCCGT
TGGCGCGCAGCATTTCCACCGCCTGCCGCACCGACATCAACCGCTTGCCGTTGCGCCTCA
TCGCCTCCACCAAAACCGCCGAAATCAATTTGGCTTCTTCCGGTTTAAGCTCCGTCTTGC
CCGCATCGCTGCGCCGTTTGCGCGTCGGCTTGACGCTGACCGCCTCCAGCTTGCGGTATA
GCGTGGCAAGGCTGATGCCCAATTCCTGCGCCTGCTGCTTAAGATATGCAGAGCGTGCGC
CGCGTTCCATTGCTTCCGCCTGATTCTCGACTGCCTTAAGACGCTCAATCATTGCCGGAT
TCATCGCCTTCTCCCGTTTCACCGCCCAACCATTCCGGCACATTGTCTGTCGGTGCTTCA
GTCGGCAGGGCATAGCTTTCGCGCAGTTGCTCGCAGTCCAAAATAATTTGATTGAGCGTG
CCGACCATCTTTGCCTGATGGCTGATCCCGTGTGCCTCACTGTGCGCATTAAGTTGGTCG
AACAAATCTTTCAGACGGCTCACTTGACTGCGGATACCGACCTCAAGGCTTGTTAACTGC
ATCGCCAACTCGCTGCCTACGTCTTCCGCCTTCGGCTCTCTGACAACGGTTTGCTTCTTA
GCCAGCTTCTCGGCCAGCTCATCAATTTTGGCTGTTTTGGTTTTCATCACTTCGTCTTTG
GCGGCGAGGTTTTCGCGGCTTTCGCGCAGGGCGACGCGCAGCTCGCGCACCGTCATTCGG
TCCACATCGTCAAAGGTCATGCCGTTGACTTCTTCCCCTTCGGCCAAACCCACCAGCGTA
ACGTCTTCTTCGACCAGCAGCTCAAGCAGCTTCGACTTGCCCAAATCCATCAGCTTCGGC
GCGGCTTTCTGCATTTGCGGGGTCGCAAAGCGGCGAGTGGCTGACATCAGACGTGATGTT
TCTGCGATACCCAGCCCAAATTGGCTTTTCACAATTTCCATAAACCGTCCGTGTTCCGTA
TGCTCTTTTAAAATAATCAGCGCACGTCCCAGTTCGAACATGCCTTCCATCGTCTGCCGT
ACTGCTTGACGACCGCGTTCAACCCAACGCTCTTCGCTATAAGTCTCGCCGTTACCCCAC
TGCTCCATCACCAGCACACTGCGCATCGCTGCCTGATTGCTTACTTTGTCGGTTGCGATA
ATTTCAATTTCTGTATTCATTTTTTATCTCCAAAGTTTCCGACGTCGGAAACTTTCAAAA
TCCGTTAATCCACATCGACCCGCTTGCCGATTTCGGCAATCTTGCTTTGCAGCCGTTCAT
GCTGCTGCCTGAACCGCTCTGCGATTTGCAGGGTTTTGATGCCGTAGGCGTAGTTGCCGT
TTTCAAGTTTGATGACCAATCCCGAGGCAACCAAATCATCAATATCCCTGCTGACTTGCG
ATGGCGTCAGCCCCAGTCCGACCGATAAATCCTTATTGCTCAGACCGATAATCGGATGCT
CGTCAAGCGCGATAAAGACCCTCAATAGCCGTTGTACCCTTTTACTTTCTGCCATCCGCA
TCCTCCTTATTTCAGTCCCAGCTTCTTGGCAATTTCGTGCCCCTTGCCGTAATTGCCTTT
GCGCTGTCCGCCGATCACCAGATACACATCGCGCGGCTTAAAGCCGTTCTCTCTTGCCCA
CTGCGCCAGCGTCTGGCCGTTTTTGGCAAAATTTTCTTTCAATTCGTCTGCCGTAAGCAT
TTCTTTGGCCTGTACGCGGGAAAATTTCAGTATCCGTCCGTACGGTTGGTTAATACACTC
ATGATTAATCATCGCTTTTCTCCTTCATCCCCAGCAAAACCGCCGCTTCGTGGCTTTTGC
CAAAATTGCCTTTCAGCTTGCCGCGCAAGAGGTGCTCCACCGTGGTGCGCTCCAGATTGA
AATATTTCGCCCAATGCGCCTTGCACACCCCGTTGCGCTTAAACCACCCGGCCGCGCTCT
CGCGCGTTTGCGGATAGGAAATAGGCTTGAAATTCAAAGGTTTTTCCATATTATTTATGC
CTTTCGTGTGATATAATGTGTTTGTTTTTAGGTCTCTTTGCACGATAAACATCCGGTCTG
TTGTGCAGCAGCAGGGTCTTGGCTTGTTTTAAAGTAAACAAGCTTTTTCTCGTAGCTGGG
TGTATGTGATCCATCATGAGCTGTCGCGCATGAGCCTTCAAAGTGTTCATTTTTTCGTCC
TTTCTCGTGATGATTTAGGGTGTTTGTGTTTCGATGTGGAAATTATAGGAAGAATTCTTC
CTATTTTGCAAGGAATATTTATGAATAACTCTTCCTTTTTTGGCAACCGATTGAAAGAAG
AAAGAAAAAAATTAAAAATGACTCAAGCTGAAATCGCTGAAAAATGTGGGGTTTCAGGAA
GAATGTGGGGGGATTATGAACGTGGCATCAGCCAGCCAAAAGCGGAACTTTTCTTCCAAT
TTGAAAAGGTGGGTATAGACGTTCAATACGTCATGCACGGCAGACGCGGCGAAACAGCGG
TCATGCCGTCTGAAACCCTGAACGCCGAAGAACAAGAACTGCTGGTCTTGTTCCGCGAGG
CGGCAGCTGCCGACCGTGAAATGATTCTGATGGTTGCGCGCAGGGCAGAGAAAAAAGCCC
AAACTGCGCTTGGTAAAGTGAGTAATGGATAAAATGGATCAATTCGAATTGTGCCAAAAA
GAACATGTCAATCCATTTGCCTTGTCAAAGCAATATCTATTGGTTGTAACATTCGTCAAA
TCCAGCAGTAAAAATTTTCAGGCAGCATTACTTTGGGCAAGAAGTGCCAAATTATTTGAG

```
     AATCTTGAGATTGGAAAAGAAACCATCTATTGCTGCGCTTTCGATAAAACAGCAGAACAG
     GCTGGGATGGCCGGGGTATTTTTGAATTATATTGAAAATTGGAATGGCAAACAGATTTAC
     ATCAATGGCCGAATCCATAGTGGCAGTATTTATGATTTGTTAGGGGTTTTAGACTGCTAT
     CAAAAATCACAGTCCTGTCCCAACCCTAAAAGCCACTGTTGCTTTGTTTCAGACGACATT
  5  TTTCTATGGCATGGATCAAGACCAACGTTTGAAATCAGTCTTGATCTAACTGGAAAGAAA
     AAAGAAACATCCTCTGCAAAGAAATTTGTGATGCCTTGTATTAATTTCCGTCACCATAGG
     ATTGAAAAGAAACCTACTTAGGAAATTGGAATGAACAAATTGCCGCATTGGCAGTAAAA
     CAAAATATAGATTGGTGTCCAAGTTTTGATATTGAGAATTTTAGACAGTATGAATAATTA
     CTATCTATATAGGAATTGCAGCAGCGATGTGTTATGGGTCAAACGTATCCAACGCCAAAT
 10  CGACGGCAGCCTACTCTTGATTTCTGACAATTCAACCTATCCACCCATGCCCTTGGCACT
     GGCGGAACACCCCGATATTCAAATCATCGGGCAGGTAGTGCAGGTATCAAAAGACTTGAA
     CTAGACACAATCAAAAAGGGAAATAGAATGAAAATACTCGCTTTATTAATTGCCGCTACC
     TGTGCTTTATCTGCGTGTGGCAGCCAATCTGAAGAACAACCGGCATCTGCACAACCCCAA
     GAGCAGGCACAATCCGAATTAAAAACCATGCCGGTAAGCTATACCGACTATCAATCAGCA
 15  GCCAATAAAGGGCTGAATGACCAAAAAACCGGTCTGACCCTTCCTGAACATGTTGTCCCT
     ATCGACAATGCGGAAGGAAAGAATCTGCTGCATGACTTTTCAGACGGCCTCACAATCTTA
     ACCGTTGATACCGATAAAGCCGACAAAATTACTGCTGTCCGAGTAGTCTGGAATACAGAT
     GCAATGCCTCAAAAAGCGGAAAAACTGTCCAAAGCTGCCGCAGCCTTGATTGCGGCAACC
     GCTCCGGAAGACCGCACAATGCTGCGTGATACCGGCGACCAAATCGAAATGGCGATTGAC
 20  AGCCATAATGCGCAAAAAGAGCCAACCCGAGAATGGGCGCGTGGTGGGATTGCTTATAAA
     GTCACTGTTACCAATTTACCGAGCGTGGTTTTGACGGCAAAAGCTGAGTAAATCTATTAA
     GTAGAAAAAATAGAAAGGGAAATGATGATTGAGAAAGTATTTCTATTGTAGATGGAAAG
     GAATACTCCGTTTTTGCTGTATCACACGAGTTTCGTTATACCTTTGATGAGCCTATTTTA
     GTCGCTGACTTGATTAGTTCTCTAAAAGCTTATGAAACACTGACAAGTAGTTATCTTCCA
 25  GCAATTTTGAATCAGCTGTTTGATGTCAAAATCCAAAAAATCAAAGTAGCTGTATCTGAA
     ATTGAAAGAGGATCTTTCCTTGAAAAACTGATTTTCAATTTATTCTTCAAAGATGAAGAT
     GCTTATAATGAATTTTGTCTTAAAAATACGAAAAATTTCTAGGAACAGAAAATCAGGACGGA
     AGTATTAATATGTCCAAAATCATTATGTTTGCAATGACTACACTTTTAGGGGTAGGTGCT
     GGTTATCTCTTGTTTAAAAAACCCGCCACAAGAGAGCAGGCAATAACCAACAACATCGTT
 30  ACCGTCATTAATGCTGATAGTTCTGTCGCACTGGATGGTGAACATTTGGTTTCAGTGGTA
     AAAGAAGTAACAGGAAGCAGCAAGCAAAAAAACTGCAGAAAATGTGGCAAAAGTATATGCT
     CCAGCAAGTAAAAATAATGGCAGTATTACCCTTGGGACAGATGATGTTCGGATTGAACCT
     GTTGCACAACAAACTGTAGCAACTTTGCCTAAAGATGTGGACTTACGTGATACGCCATTG
     ACTGAAGATTACACCGATATTGATGTGCAAATTCGTGCTACTGACCGTGATAAAAATTCA
 35  GGGTGGTATGCAGTCATAGACCAAATTGTTCCATCACGTGTTCGATTAGAACTGCCTGAA
     GATATTGATTTGAATAGGCTGGCTAACAATGCTACTATCCGTGCAAATGTAACAGTTGAG
     TTTGACTTAAAGCAAAATGGCTCTCGTAAGCCTAAAAAAATCATCCTCACATCTCTCTCT
     ACTGATTAAGTTTTAACCCGTATTAAAGGCTTAGTCAGACGGCCTTTCCTACAATCCCTG
     TATTGATTTTTAATTCAATACAGGGATTTTTCCATGTCAGACAAGTTCAACCAATTCATC
 40  AACCGCGTCCTCTCTCACGAGGGTGGTTACGCCAACCATCCCAAAGACCCCGGCGGCGAA
     ACCAATTGGGGCATCACTAAGCGCACCGCACAGGCAAACGGCTACAACGGCTCCATGCGT
     GCCATGACGCGTGAACAGGCAATCAGCATTTACCGTAAAGCGTTTTGGGAGCGTTACCGC
     GCCGACCAAATGCCGGAAGCGGTCGCGTTCCAATTTTTTGATGCCTGCGTCAACCACGGT
     TACGGCAATGCCGCCCGTATGCTGCAACGCGCCGCAGGCGTACCGGACGACGGCGTTATC
 45  GGAGCAGTCAGCCTCAAAGCCATCAATTCCCTTCCCGAAAACGACCTTTTATTGCGGTTC
     AACGCCGAGCGTCTGGTCTTTTATACCAAGCTCGGTACGTTCACCTCTTTCGGCAAGGGC
     TGGGTACGCCGTGTGGCGCAAAACCTGATTCACGCGTCTGCAGATAACACTGATTAAAGG
     GAGATAAACCATGTCAAAAAAGTCACTCATCGCCCTAATGACCGCAGCCATGCAGCCCGA
     TTTCAGCCACAGCGACCTAGGCATTCGCTACGCCATGCCGACTCAGGGATGTTGGACGCA
 50  AGCCCACCGCAAGAGCGGGGTAGCCGCCGCGAAACGCGCAGCCAAAAAAAGCGTCACAA
     ATAACCGCCTTTTTCCGATGGCTGGGCGGCTTGGTCTCTAATCCGGCCACAGGAAAAATC
     AGCCATACCAAACTATGGGCAAACGTCGCCGCAGCCGCCATGACTTGGAAGTTCGTGCAG
     GCGGCGGACGCGCCCGAATGGCTCTAGTGGGCTTATGGCGCATTGGTCGGCGGGTATGCA
     TTAATCAAACGCGGCATCGCGGCGATTCCGCAGTTGGCAGAAATCAAAAAATCCGCAAAT
 55  CAGGAAGGGGGGCGGCAATGATTGAATTTGTCCGAGCCAAAAAACGGCTGCTTTGGGCAT
     TTGTGCTTTTGCTTGTGTGGACGTGCGGTTACCGATACGCCGCCGACAAGGCCGAAGCGA
     AACAAACCGCCCTGATTGCCACCTATCGGCATTCTTCTATGGTTGCGGCGGAACAATATG
```

```
     CCTTGCAGCTTAAAAAAGCGCAGGACGAAAGGCAGCGGTGGTACGACTTTTCCCAAAAAC
     AAGGAAGAAAGCCCGTGAAAAAACAGTATCCGCCGCAAACGAAAAAAGCCGGCTATCTGA
     AAACCAAGGAAGAACTGCTTGCGGAATTGGCTTGCCTTAAAGCGGAAATGGTTGCCCTAA
     AAAAGCCCGATGCCTTAATCCATGGGAAAGAAGTGCGGCAGAAAGAACGCAACTCGTCGC
  5  AGGGTTAAGGCAATGCCATCCGTTGAACTGCTGTTGGAGATTGTCCTTCTATTACCAATT
     GGCCGTCCAATCGGCAGAAGACAAATATGCCGATTTGAAACGGCATATCCATGATATTTA
     TCGACGACATAAGGGGAAGATACGGCTACCGGAGGATTGCGGCAGCCATCCGTCACGCAGG
     AACACCGGTCAATCACAAGAAAGTCAGCCGTCTGATGGCGAAGACGGGGCTGAAGGCAGT
     GATACGGCGGCGCAAATACCGCTCGTTCAAAGGAGAAGTCGGCAAAATTGCGCCGAATAT
 10  CCTGCGACGCTGTTTCCATGCAGAAAAGCCGAATGAGAAATGGGTAACGGACGTTACCGA
     GTTCAATGTAGGCGGAGAAAAGATATACCTTTCTCCGATTATGGATTTGTTTAACGGGGA
     AATCGTCAGTTACCGTATTCAAATCCGCCCGACTTTCGATTTGGCCGGCGAGATACTGAA
     AGGTGCGCCGGAGAAACCGGGATCGTCTGAAAAGCCGATACTGCATTCGGATCAAGGTTG
     GCAATATCAGATGTTTTTTATCAAAAGCAGTTGAAAGGCAACGGTCTGGTTCAGAGTATG
 15  TCCCGCAAGGGAAACTGCTTGGACAATGCGGCAATGGAAAGTTTCTTCGGAACGTTGAAA
     TCGGAATGTTTCCATACGTGCAAATATGATTCCGTTACCGAATCGTAAGCGGCACTGCAC
     GAATATATCCGTTACTACAACAACGATAGAATCAAGTTGAAATTAAAAGGACTGAGCCCT
     GTTCAGTACAGAACTCAGTCCCTGAAAGCCGCTTGATTAAACTGTCCGACTTTTTGGGGT
     CAGTTCGGCTTCGGCATTTTTTTATCCGTTTTGGGGGTAACTTGTTTGGAAAGCTGCAAG
 20  CTTATAAATAAAGGATTACATTTAAGTTTTGGGTAACCTTTTTAAAAAAATGCGTGATGA
     CTTTTGCATTTTTAAGGCGTTTTTTGGGGTAATTCGTGAAAAGTTACCCCAAAAGTTACC
     CCATAAATGGCGAAAACTCAAGCATACGCCAGCATCCTGCAACACAAAAAAGCCTTGAAA
     CTGTTGAAGTTCAAGGCTTTTTTGTGTTGCAGGATGCTGCTGAAAATAGGGTATGGTGGA
     GGCGGGGGGAATCGAACCCCCGTCCGAAAGTCCTCTACAAAGCGTTCTACATACTTAGTT
 25  GTGTCTATTTGAAAATCTTATTTCCATCATGCCGACCAACAGGCCTTTTGGAAACCAGTT
     ACCTTAAGTCTTATTTCCTGCCAAGTAACCCGGTAGGAAACCAGTCAATGTAAGATGACG
     TTGCGGTGGCTTTCGCCACACAGCCCATTGACCGACTGCTGCAACGGCTAGCCTTAAGCG
     GCTAAAGCGTAAGTTTCGTCGTTTGCGACTATTTGAATTCAGTGTTTTACGGGAATCTGA
     GACCCCGGTATGCCCGCATCTGCTTCGCAACCCTCGTCGAAACCAAGGTCGCCCCCAGAA
 30  ATGGTTTGCAAATTATACGGATATTGTGCGGTGCTGCCAAGTCTGTCGGAGAAATTTGTC
     AGTCTTGCTGCCTTAATTTGCGTTTGAGCAGGATGCGGACGCAGCCGTCGTTGCCTTCCC
     GGGGTTCGGCGTAGGCGAGTACGTCGGGGTGTTGCATCAGCCAGTTTCGGGTCATATTTT
     TCAGAACGGGTTTGTAGCCTTTGGAACCTAATCCGCTGCCGTGGATGATTTCGCCGCATA
     CGCCGCGTTTTTGGGTGAATGCGATGAATTCGTTGAGGACTTTTTGGGCTTCTTCCTGTG
 35  TGTAGCCGTGCAGGTCGACATCGGTAACGACGGGATAGTATCCGTTTTTCAGGCGTTGGA
     TGTCGTTTTTTCCCTGTCCGTTTTTGCTGAAGCTGGCGGGCGGGTCGTTGTATGTGCTGC
     CGATGTAGAAGTAGTTTTCTTCGTCGGCGCGGTTGTCTTTGGGACGGACTTTGATGGGGG
     TTTTGTCGGGCGGCGCATAATATTGCTGCCGGTTTTTTAATGGGGAGAGTTGTCCGACTG
     CTTGTGAAAAATCGAAATCCTGTTCTTGTTTTTGCTTGTTTTTTTCGGCTGCCTGTTTTT
 40  CTGCCGCTTCTTTTTGGGCTTGTTTGCCCAGTTGTTTGAGGATGTTTTGGAAGTCGGTAT
     TCATATTTTTTCCTGTTATTTGTCCGATGGCTGTTTCGGGCGGGGTTTTAATTTGCCGGA
     ATGTTTGCCAATCGGGGGAGGATGATTTTGTTGCCTGCGTATGTTTTTTGAAAGTGTGAT
     TGTATATCAAAAAGAAATGCGGCAACCGTCGGCAGTGTTGATTGCCGGAAATGCGGACCG
     GTCGAACCGATATGCCCGAACGCCTGATAAAGTTTTAAAAACCTGCCTTGCGAAGCAGGC
 45  TGACGTGTTTTGCCAATCTTGAATTGCCGGAAACGCGAAACACGGAAATCTGATGTTTTA
     TAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAGATAGTACGG
     AACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGA
     ACGCTGTACTGGTTTTTGTTAATCCACTATAAATGTTCCGATACGAACTGCAAAATATTG
     GTTTTGTTTCTGACAGGCAAAAGCACTGTTTATTTGGCTGTCAAAAGGATGGTTAAGGAA
 50  AGTTATGCGCCCCTGAAGCGGGCCCCAGATAAGGATGGTTGCGCCGACGGCTTCAGACGG
     CATTTTGGCGGCGGTGTTGGGTTTTGTATCCGGTTTGCCGTTGTGTTTTGTGATGATGAT
     TTTGGGCGCGGTTTTTCTGTTTTGATGTGTGAAATGCCGTCTGAAAGGCGGTTCAGACGG
     CATAGCGGTCATTTTGTGCGGTCAGGCGGTCGAATATGCCGCCGTCGGCGAAGTAGGTT
     TTCATGATGTTGTCCCATCCGCCGAATTTTTTTCGGGAGAGAAGGTGTCTAAGTCTGGG
 55  AAGTCGGCTTTGTGTCTTGCCAATACTTCGGGGTTGCGGGGGCGCAGGTAGAGTGAGGCG
     GCGAGTTCTTGCGCCGGTTCGCTCCAAAGGTATTCGAGATAGGCGCGGGCGGTTTTTTGC
     GTGCCTTTTTTCGCGACGACGCTGTTGACGACGGCGACGGGGCTTTCGGCGGAAATGGTG
```

```
TAGCTCGGATAGACGATTTCAAACTGTCCTTGGGTCAGTTTTTTGCTGACGTAGTTGGCT
TCGTTTTCAAAAGTGATGAGTACGTCGCCGATGTTGCGTTGTGTGAAGGTGGTGGTGGCG
GCGCGTCCGCCGTTTTCAAAAACGGGGGTGTTTTTGAGGATGGATGCGACGAGTTTTTGG
GCTTCCTGTTCGTTGCCGTTGGTGGTTTTCAGACCGTAACCGTATGCGCCGAGGAAGGCG
TAGCGTCCGTTGCCCGAGGTTTTGGGATTGGCGATGACGATGTTAACGCCGTCTTTGGCA
AGGTCGTTCCAATCGCGGATCTGTTTGGGGTTGTTTTTTCGGACAAGGAAAACCATAGTG
CTGGTGTAGGGCGCGGCGTGGTCGGGGAGGGCTTGTTGCCAGCCTTTTTCTACCAGTCCT
TTTTTTTCGAGCAGGTCGATGTCGGAGGATTGGTTCATGGTTACGACATCGGCTTGAAGG
CCGTTGGCTACGGATAATGCCTGTTTGCTGGAGCCGCCGTGGGACTGTTGGATGCTGACG
GATGTGCCGGGGTGTTCGGATTGGTATGTTTTGATAAATAAGGGGTTGTATTCTTTGTAA
AAATCCCGTGCCACATCGTATGAGGCGTTGAGCAGGGTAATGTTTTTTCCGTCGGATTCG
GTATTGGCCGGGGCATTTTGTCCGGACGGATGGTTTGAATCGGCTGCGGGGCTGCAGGCG
GTGAGCAGGGCTGCGGTATAGAGTGCCGGTGCGTAGGTTTTCATATGCTTGTCCTGTCGG
TTGGTAGATGGGGCAACTTTATACGGCTGTCTGCGCTTGTGGAAATAATGTTTGATTTGA
AGATTATCAGTTTTGGTTATAAGGACGGATCAGAGGTGTTTCCGCATCAGTTCGCATTTG
ATTTTGATGCTGGGGTCAAGCTGCAATACTGCCGAACCGAGCGATTCGTAGCGGTTGAGA
AGGTAAAACGGGACGGAGTTGAGCGATGCGTAGAGTTTCAGAAAGCTCAAACCGGATTTG
TGGGCGATGGTTTCCGCCTGATGAAGTAGGGCAGTGCCCAGTCCGAGGTTGTGGAACAGG
GGGTGGACGTAAAGTGCATCGAGTTGTGCTTCTTGGCAGTCGATTTGGAAAAATCCCTGT
ATGTTGCCTTTGTATTCGGCAACCCAAAGTGCTTTGTCGGGATCGGAAATGGTCGGCAGG
TAGCTTTCTGTGTTTAGCAAGCCTTCCCATACTTTTAGGGCGTGTTCGTTGTAGCTGAGG
ATGCAGGTGTATTGGACGGAGTGCAGGTGGACTTTGAAGATGTCTTTGCAGTCTTGCACG
GTGGCGGGGCGTAACAGTGTCAGCAGGCTCATGGCGGTATGTCGGCGGCTTCAGACGGCA
TCTGTGCCGTTGGTCGGATTATAGGGACTGATGCAGTTTTTTTGCTTCTTGAAATGCGGT
GTCCGAATCGGTGGTTAAAAACGGTAAAGTGTCCCATTTTCCGCCCTTTGTGCGCGGTTTT
TTTGCCGTAAAGGTGCAGGTGTGCATTCGGATGGCTTTGCAAGGGCAGCCAATCCGGTTC
GCCGCCGTCTTCCTGCCAAACGTCGCCCAAAATATTTGCCATACAGCAAGAACTCAGTAA
TTTGGTATCGGCAGGCGGCAGGTTGCACATAATGCGTACCTGCTGCTGGAACTGGTCTGC
TGCGCAGGCATCTATCGTATGGTGTCCGGAATTGTGCGGGCGCGGGGCGATTTCGTTGAC
GACCAATTCATGCGTGTCACCGACAACAAACATTTCTACCGCCAATACGCCGACATAATC
CAATTCGTCCGCCAAGCGTTGCGCCATCTGCCGCGCCTGTTGCTGCACGTCGGCACTCAG
TCGCGCGGGGACGATGGAATAAGCCAAGATGCCGTTTTCGTGGATGTTTTCGGCAGGGTC
GAAAGTTTGCACGTTGTCATTGTTCAAACGGCATACGATTACGGAAATTTCACTGCGCAA
ATCCACCATTTTTTCCAAAACGCAATCCACGCCGCCGTGTTCGGCAAACGCGGCTTTGAG
TTCATCCAATGTTTTTACGCGGATTTGACCTTTGCCGTCGTAGCCCAACGTAGCCGTTTT
CAGGATGCCGGGCAAAAATTGCGCGCTTGCTTCAGTGATGTCTTCAGCCTTACAAACCAC
TTGATACGGCGCGGTTTGCAATCCCGCTTTGCGTATCCATGCCTTTTCCTGAATGCGGTT
TTGTGCAATCGCCACACAATCGCCGCTAGGGGAAACATTGGTATGTTTTGCCAAAAAGCG
CATCGCATCGGCATTGACGTTTTCAAATTCAGTGGTCACCGCCGCGCATTTTGCCAATTC
GTCCAAAGCAGCTTGGTCGTTAAACGGCGCGCACAAATGGCGGTCGGCAAATTCTGCTGC
CGGCGCGTCCGGATCGGGGTCGAGAACGGTTACTTTGTAGCCCATGGTTTTGGCGGCAAC
GGTAAACATTCTGCCTAATTGTCCGCCGCCGAGGATGCCAAGCATGGCGGGCGGAGAAAG
AGATATGTTTTTCATGCTGACTCTTCAAATTGTACAAGTTGATAGCTATAACTAATTCTT
GACGGATGTCTTGTATCGCTGGAATTACCAGTTTCAGAAATACAGAATACTTTTTCCATA
AATTTTTCTGCTTTTAGAAATTCCAGTATTCTGTTTTTTTCATCCTTATAAGCACCGCGG
TCTGTACCCCATGCAAGAATAATCATATCAGCATCTTCCAAACATCCTTTAAATTTGGAA
AAATCGGTTTGGGTGTTTGCCCTAATTCCTGTTTGCTGTGTAGAGTAACTGGAAAAAAATA
TTTAACATTTTGAAGTTGGTAAAACCGTACATATCCAAGAAACGTGCAAGTTGGGTAAGG
GTTTTGTCGCTTCTTTCATCATTTGCTTTACTTGGATTAATTCCTATAGCGACAGCTGAG
AAATTTTTAGGATTTTCTGTGTTGCCGCTCCATCTAACCGTTAGGATTTCTCGATTTTTT
TCATTATCTGTATAGAGACCGTCTTTGGTAGTCGGTCTGAGTGTTTGGCGAAGCTCATAA
AGTTTTTCATAAGTCATTTATCCAACCCTTCCTGTACCATTTGCGCGGCGTGTATGACGG
CTCGGGCTTTGTTTTGTGTTTCCTGCCATTCGGAGGCCGGATCGGAGTCGGCAACCACGC
CCGCGCCGCTTTGGACGTATAGCGTGTTGTTTTTTACTACGGCGGTGCGGATGGCGATTG
CCAAATCCATGTCGTTGTTGAAACCCCATACGCCGACGGCACCGCCGTAGATGCCGCGTT
TGCTCGGTTCGACTTCTTCGATGATTTCCATGGCGCGGACTTTGGGTGCGCCGGAGAGTG
TGCCGGCAGGGAAGGTAGCGGCGAGGATGTCCATGTTGGTCATGCCGTCTTTCAGACGGC
```

```
CTTCGACGTTGGAAACGATGTGCATTACATGGGAGTATTTTTCAATCACCATTTTGTCGG
TAACTTTGACTTCGCCGGTTTTACTGATGCGGCCGACGTCGTTGCGTCCTAAGTCAATCA
ACATGACGTGTTCGGCGATTTCTTTGGCATCGCTTAACAAATCTTGTTCGTTGGCAAGGT
CTTCGGCGGGGGTTTTGCCGCGCAGGCGCGTGCCGGCGATGGGGCGGACGATAACGTCGT
TGCGTTCGCGTCGGACGAGGATTTCGGGCGAGGAGCCGACGATGTGGAAATCGCCGAAAT
CGTAGTAAAAGAGATAAGGCGAAGGGTTGAGCGTACGCAGGGCGCGGTAGAGGGCGAGCG
GGCTGTCGGTGAATTCCATGCTCATGCGCTGGCTGGGGACAACCTGCATGCAGTCGCCTG
CGAAGATGTAGTCTTTGATTTTGTTAACGCAGGCTTTGAACGGCTCTTCGCCGAATTCGC
TGACGGCTTCGGTGTGTTTGCTGCCGAGCGAGAGCGGGATGGCGCAGCTTTGGCGCAACT
GGGTGCGGATGTCTTCGAGGCGTTCGCGGGCGCGTTCGTAGCCGTCGGGCTGCGACGGAT
CGGCGTAAACGACGAGATGGATTTTGCCGCTCAAATTGTCGATCACCGCCAATTCTTGCG
ACAGCATCAGCAAGATGTCGGGCGTGCCGAGCGGGTCGGCTTTGGTGGTGTTTTTCAGGC
GGTGGGCGAAGTGTTCAAAATTGTAGATGGTTTCGTAACCGAAGTAGCCGACCAGTCCGC
CGGTAAAGCGCGGCAGGCTTGGGATTTCGGGTGTTTTGAAGCGGTTGTGGAAGGCTTCGA
TAAAGGGCAGGGGGTTGCCGTCGTGTTGCTCGACAATTTCGCCGTTTTGATAAACATCGA
CGTGTTTGCCGCTGGCTTTGAGATAGTGGCTGCAAGGCAGGCCGATAAAAGAATAGCGGC
CGAAACGTTCGCCACCGACAACGGATTCGAGCAGGTAGGTATAGGGGCGGTTGGCGAGTT
TGAGATAGAGGGAAAGCGGCGTATCCAAATCGGCAAGGAGTTCTTGCACGAGCGGGATGC
GGTTGTAGCCTTGGGCGGCTTGGGCTTGGTATTCTTGTTTGCTGATCATTTCTGCTTTCC
CAAAGGGCGGTTTCGGACGGCGCGGCAACGGGCGCGAGTATAGCATTTTATCGGAATTGT
TGACAGTCTGACCGGAGATGCCCTTGGATTCGGATTTCAAGTGCAACACTAGTGTATTAG
TGGTTGGAACAGATTCAAGAATAAAACACTTGGCGTTTCGTAGCCAAGTGTTTTTCTTGG
TCGGTGGTTCAACTCATCTTGAACCCTGCGTATCTCCCGATCACTGATGTTACGGAAATC
GGTTTGTTTGGGGAAGTATTGCCGGATGAGTCCGTTGGTGTTCTCATTCAGCCCCTTTCTC
CCAAGAATGGTAAGGGCGACAAAAATAAGTCTCCGCTTTCAATGCTTTGGTTATTTTGGT
GTGTTGGTAGAACTCTTTGCCGTTATCCATGGTGATGGTGTGCACCCTGTCTTTATGTGC
CTTTAATGCCCTAACAGCTGCCCGGGCAGTGTCTTCGGCTTTGAGGCTATCCAATTTGCA
GATGATGGTGTAGCGGGTAACGCGTTCGACCAAGGTCAATAATGCGCTTTTCTGTCCTTT
GCCGACAATGGTGTCGGCTTCCCAATCGCCGATACGGGATTTCTGGTCGACGATAGCGGG
TCGGTTTTCTATGCCGACACGGTTGGGTACTTTGCCTCTGGTCCATGTGCTGCCGTAGCG
TTTGCGGTAGGGTTTGCTGCATATTCTGAGATGTTGCCACAACGTGCTGCCGTTGCTTTT
GTCTTGGCGAAGGTAGCGGTAAATGGTGCTGTGGTGGAGCGTGATCTGGTGGTGTTTGCA
CAGGTAGGCGCATACTTGTTCGGGACTGAGTTTGCGGCGGATAAGGGGGTCGATGTGCTG
AATCAGCTGCGAATCGAGCTTATAGGGTTGTCGCTTACGCTGTTTGATAGTCTGGCTTTG
CCGCTGGGCTTTTTCGGCGCTGTATTGCTGCCCTTGGGTGCGGTGCCGTCTGATTTCGCG
GCTGATGGTGCTTTTGTGGCGGTTCAGCTGTTTGGCGATTTCGGTAACGGTGCAGTGGCG
GGACAGGTATTGGATGTGGTATCGTTCGCCTTGGGTCAGTTGCGTGTAGCTCATGGCAAT
CTTTCTTGCAGGAAAGGCCGTATGCTACCGCATACTGGCCTTTTTCTGTTAGGGAAAGTT
GCACTTCAAATGCGAATCCGCCGCCGTCTGAAACGCCAAACGGGCTTCAGACGGCATTTT
TGACGGCGGAGGTCTATGAGCCGCAGGTTTTCGGCTTGTTCGCCAGAATATTGATGACTT
TGCGTTCGGCTTTTTGCGGCTCGATTTTGATTCGCTCTCGTCTTCTTCGCTGCCGTCTG
AAAAACGTTCGGGCATTTTTTCGCTGTCAAACGCCAAATCGCCGCCGTGTTTCAGGCTTT
GACCGCGTTCCAATCCGACAAAGTCGAAGAGTTCGGTATCGGCAAGGTGGGAAGGGACGA
CGTTTTGCAGGGCGGAGAACATCGATTCGATGCGGCCGGGGAAGCGTTTGTCCCAATCGC
GCAGCATATCGCCGATGACTTGGCGTTGCAGGTTGGGTTGCGAGCCGCAGAGGTTGCACG
GGATGATGGGGAATTGTTTTAATTCGGCGTATTTGATTAAGTCTTTTTCTTTCACATACG
CCAGCGGGCGGATGACGATGTGTTCGCCGTTGTCGCTCACCAGCTTGGGCGGCATGGCTT
TGAGTTTGCCGCCGTAAAACATATTTAAAAACAAGGTGGCGAGGATGTCGTCGCGGTGGT
GTCCCAAGGCGATTTTGGTGCAGCCCAATTCTTTTGCAGTGCGGTAGAGGATGCCGCGGC
GCAGGCGGCTGCACAGCGAACAAGTCGTTTTGCCTTCGTCTAATACGCGTTTGACGGTGG
AGTAGGTGTCTTCTTCAACGATTTTGTAGGGAACGCCGATGCTTTCGAGATAGGTCGGCA
ATACTTCTTCGGGGAAGCCCGGCTGCTTTTGGTCGAGATTGACGGCAACCAGTTGGAAAT
CAATCGGCGCGCTGGCTTGGAGCTGGCGCAGGATGTCTAACAGGGCATAGCTGTCTTTGC
CGCCGGAGAGGCAGACCATGATTTTGTCGTCCGGCTCGATCATATTGAAATCGTTAATCG
CGTCGCCGACGGCGTGGCGCAGGCGTTTGCTGAGTTTGTTGTTTTCGAGTTCTTGTTTGG
TTTTTTTGGACATGGCGGTTTGGGTTTGAAAATTAGAAAGGCGGCATTGTAACCGATTGG
CGGGGCGGCAATGCCGTCTGAAGGGCTTCAGACGGCATCGGCGGCTTATTCTGCATTTTC
```

GGTTTTAAAGAAGAGATGAACCGCTTTGAAGATACCGCCGTTTGGGACGGTCAGTGTTTT
TTGTGCGGCGGAGAATTTAATCACGGTAAGGGCGGTAAAGTTTTCCGAATCTTGAACGCT
GTCGAGTACGATGCCGGCCTCTTCGCCGTCCGCCGTCAGCAGGGTTCCTGCTTCGACGGC
CGAATTTCCCGACAATACCGCCAAGCCGCGTTTGACCTGCCCCCGATACTGGGCACGGGC
AATGATTTCCTGTCCCGGATAGCAGCCTTTTTTGAAGTGTACGCCGCCGATGATGTGCTG
GTTGAGCATTTGGGCGACGGCGGTTTCTTTGGTAGCCGCGCATATCCACGGATAACCGCT
ACGGATTTCGTGCAGCCGCCACGCGTTTTCGGCGGCGGCATCATAAGGCGGCAAGGCGTT
TTTGGGGGCGATGTGCAAAATGCCCCGATGTGGCAGGACGACGGAACAGATGCCGTCTGA
ACCGCATTCGGCGGTAAAGGCGAGGCTGGGTTCTTGCGCGGCAAGCGGTTCGGCGGATGC
TTCTAATTCCGCGCCGACGGCGTAATCTTCAAGGATTTCAAAAACGGCTTTGGCGCGTAA
CACAAACATCCGCAAACGTTTGACCGTTGCTTCAAGCAGGTCTTGCGCCATAATCAGCAG
CAAATCGCCGCCTCGGTTGACGACAATCATATTGGCGATGACGCGGCCTTTGGGCGTGTT
GTAAGTCGCATAACACGCCTGCCCGGTCTGAAGGTGGTTGATGTCGTTGGAAAGCTGTCC
GTGCAGGAAGGTTTGGCGGTCTTCGCCGCTGACGCGCACCACGCCGAAAAAGGGCAGTAA
GGTTTTCATCATTTGCGTACTCTGAAATATAAAGGAAATCTGTTTATGCAGTTGCCGCGT
CTCTCTTCACGGCGGTTATTTTGATTTCGACGCGCCACTCCGGACGGGCGAGCCGTGCTT
CCACGCAGGCGCGGGCGGGCGTTCTGCCGGCGGCAACCCAAGCGTCCCACACGCCGTTCA
TTTCCGCATAGTCGCCCATATCGCGCAGATAGATGACCGCATCCAAAACGTGCGCTTTGT
CCGAGCCGCATTCCGCCAGCCAGCGGTCGATTTGGGCAAGCACGTCGGCAGTCTGTTCGG
CAGCCGTTTCACCGTTTTCGGGAACCATGCCGGAGAGGAAAATCAAGCCGTTTGCGCCGA
CGGCTTCGGAATAGCGGGGCGTTGTGCCGAAATATCGGATATCCATATCGGTTTCCTTCG
ATAAAGGGGATATATGGTAACATTGCGCTTGACCGATTTCCATGTTTTGCATGACGAAAA
ATGAGTAAACACACTTATCCGATAACACCTGCCGTGCGCGTTTTGCGTGAAAACGGCATC
GAATTTGAACCTTTTACCTATGCCTATGAGGAACACGGCGGCACGGCGCAGTTTGCCCGA
CTATTCGGCAAAGACGAACACTTGGTCATTAAAACCATTGTTTTGCAAGATGAAAACGGT
AAGGGGCTGATTGTCTTGATGCACGGCGACAAGCAGATTTCAACCCGCAATCTGGCGCGG
CATTTGGGTGCGAAACACATCGAACCCGCCACGCCCGTACAGGCAAACAAGTGGACGGGC
TATCTGGTCGGCGGCACAACGCCGTTCGGCATCCGGACAAAGTTGGATATTTACGTCGAA
CAGTCGGTGATGGATTTGGAAACCATCTATATCAACGGCGGGAAAACGCGGGTTCATTATC
GGCATCCGTCCCGGAGATTTAAATATTTTGAACCCGAAAACAATACAGGCGGCGGTTTGA
CGGGAAAGTATAAAGGAACAATATGGACAAAGATTTGTATGCCGTATTGGGCGTGTCGCC
GCAGGCGGGAGCGGACGAAATCAAACGCGCCTACCGCAAGCTGGCGATGAAATATCATCC
CGACCGCAATCCGGGCAATCCGAAGGCGGAAGAAAAGTTCAAAGAAATCCAACGGGCTTA
CGATACGCTTTCCGACCTGTCGAAACGGATGCAATACGACGCGTCCTTCAGACGGCATGA
GGAACGCGGGCGGCAGGAAGAGGCATTCCGCCGCGAACAGGCGCGCAGGGAGCAGTTTTA
CCGCGAACAGATGCGCCGCGAACAGGCGTTCAGACAGGCGTTTGAACGGCAGGCATCACG
TTCGTGCCATACTTACGAACCGTCCGGCGGCGGAAGCGGGCGCAACTATGTCCTCGCCGC
CTACATCCTGTTCGGTTTGGGTGCAATCATGCTGTTCATGCCCATAGTCGGCGTGATTTT
CGCCTATATGCCCATAGTCGGCGTGATTCTCGCCTATATGAAACGGAACAGTTTGGACAG
CATTGTCTATGCCGCACATACCGAATACCTGATTAAAACCTTTTGGCGCACATTTTGGCT
TTATATTTTGGGTGCGCTGACTGCCCTTTTGGGTATCGGCGTGCTGATTATTATTGCAAC
GAACGTCTGGTATTTCTACCGCATCATCGCCGGCTTTATCCGCTTCAACGGCGGCAGGGC
GGTTGCACCCGAGAAATGGATATAGTATGGCTTACCTGTTAATCAGCATCGTGTTCAGCG
TGTCGGTTTCCATTTTGCTGAAAATGGCAAGGAAGAAAAAAATCGACATCGCGCAGGCGG
TCGCCGTCAATTATGTGGTCGCGGTCATACTGACCCTGCTGGTATTGAAGCCGGATATCG
GCAATATCGGCGCATTTTTGCCGACGTGGCCGCTGTTTGCCGCTTTGGGCGTGCTGCTGC
CGTCCGTATTCGTGATAATGGGCAAATCTGTGGAAGCCGCCGGTATCGTCAAATCCGACG
CGGCGCAGCGTTTGTCGCTGTTTTTGCCGATTGTTGCCGCCTTGACGCTGTTTGGCGAAA
AACTCAGCGAAGGCAAACTAATCGGGCTGTGCCTCGCATTGCCGCACTGTTCTGCCTGC
TTTGGAAACACAGCGGTGGCAAAAAATCAGGAAGCGCGTGGCGGCAGGCGGCATTGCTGC
TGGGCGTGTGGGCAGGTTACGGCATTATCGATATCCTGTTCAAACAGCTTGCCAAAAGCG
GAACGGCATTTGCGGGCAACCTGCTGGTTGCATTTGTGCTGGCGGGTGTGCTGATGTTTG
CCTGCCTGTTTGCCAAATCGGTCAGATGGCGTGTTGAGAGTGTGGTCGGCGGCATATTCT
TGGGCGGTTTGAATTTTATGAATATCGTAACCTACATCACCGCGCACCAAATGATGAAGG
ATAATCCGACCTTGGTTTTTGCCGGTATGAATATCGGCGTGATTGTTTTGGGTACGCTTT
CGGGCGCATTGTTCTTTAAGGAAAAAAATCAACACAATCAATACGGCGGGAATCGTGTTGG
CACTGTGTTCTATCGCCTGCCTGTTTTATTGGGGGGAAGTCAAGGTACTGTTCGGCATAT

```
AATCCGGCTGATTGATATAACAAAATGCCGTCTGAAGCAGCATCCCTGCTTCAGACGGCA
TTTGTCTGCAACGTTACAGATGGGGGTTCATCAGGTTCTCGGGAGAGAGGATGCGGTTGA
GTTCTTCTTCGCTCAACAGCCCGCGTTCCAAGACAACCTCGCGCACGCCTTTGCCGGTTT
GGGCGCAGATTTTGCCGACCAAATCGCCGTTGTGGTGTCCGATATACGGATTCAGATAAG
TCACCAAACCGATGGAGTTGAAAACGTAACGTTCGCAGATTTCGCGGTTGACCGTAATGC
CTTTGACGCATTTGTCGGACAGGTTGACTGCGGCATTGCCCAAGAGGGAAATGGTTTCAA
ACATACATTGGGCGATGACCGGCTCCATCACGTTTAATTGCAGTTGCCCGGCTTCGGCGG
CGAAGGTAATCGTCGTGTCGTTGCCGATGACTTTGAAGCAGACTTGGTTGACCACTTCGG
GAATCACGGGATTGACTTTGGCGGGCATTATGGAAGAACCGGCCTGCAATTCGGGCAGGT
TGATTTCTTTCAAGCCGGCACGCGGGCCGGAAGAGAGCAGGCGCAAGTCGTTGCAGATTT
TGGAGAGTTTGACCGCCGTGCGCTTCAATGCGCCGTGTACCATCACATATGCGCCGCAGT
CGGAGGTCGCCTCAATCAGGTTTTCGGTCAGTTTGCAAGGCAAGCCGCTGACTTCGGAGA
GTTTTTTGACCACCAGTTCGGCGTAGCCTTTGGGCGTGTTCACGCCCGTGCCGATTGCCG
TTGCGCCCAAATTGACTTCCAACAGCAGTTGGCGGGTGCGGTCGAGGTTGAGGATTTCTT
CTTCCAACAACACTTGGAAAGATTGGAATTCTTGGCCGGCAGTCATCGGCACGGCATCTT
GAAGCTGGGTGCGGCCCATTTTCAAAACGTCTTTAAATTCTTCGGCTTTGGCGGCAAAGG
CGTTTTTCAGGACAGTCAGTTTGTCGAGCAATTCGCCGATGCTGTAATACACGGCAAGGC
GGAAGCCCGTGGGATAGGCATCGTTGGTCGATTGGCTGGCATTGACGTGATCCATCGGAT
TGACGATGTCGTAGCGGCCTTTTTCGTATCCCAAGACTTCCAATGCGAGGTTGGCGATGA
CTTCGTTGGTGTTCATATTGACCGAAGTACCCGCACCGCCCTGATACACGTCGGACGGGA
ATTGGTCGAGGCAGCGGTTGTTCAGCAGAACTTCGTCGCAGGCTTTTTCAATGGCGGCGG
CGATTTCGGGCTTGACCGCGCCCAACTCACCGTTTGCCTGTGCCGTCGCCTTTTTCACCA
TCACCATACTGCGGACAAACTGCGGCACGTCAGAAATTTTTTGTGTGGAGATTTTAAAGT
TTTCAATGGCGCGCAGGGTGTGGATGCCCCAATACACTTCGGCGGGAATCTCGCGGTCGC
CCAATAAATCGTGTTCGATACGGACAGTCATGTTTTTACCTTTGTAAGTCGGATAATTAA
TATTGAAAAAATGCGCCATCGGAAAGATGCCGCCGCAGGATGAACACTATACCGGCCGGA
TGAAATTGTCCATATCGTATGCCGTCTGAAAACGGGAAACGTTGTTTTCGGGTGTTATAG
TGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGCAGTACAAATAGTACGGAAC
CGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGCCAA
CGCCGTACTGGTTTTTGTTAATCCACTATACTTTCCGGACTTTCCGGCAAGCCCTGCCTG
CCGCTGAAATATCTTTCGGCGGATTGTGCTCCGCCATATCGGCTTACCGTTGGCGGGGCG
GTTTGATGAAGACGGCACAAATGCCGTTTGAAGGACGTTCAGACGGCATTTGTGCTGATT
CGCATCAAGATTTATTGTTTGGCTGCCTCGATTTGGATGTCGATGCGGACGCTTTTGGTC
ATACCAACGTTAACGAGGTAGTCCATGCCCCATTTGGTGCGGTCGATGGTGGTGCTGAAG
TCGCCGCCACAAACTTCGGTTTTCTCCATCGGGCTTTGGTAGCAGTTGAATTTTTCGGCT
TTGAGTTTGACGGGGCGGTTTTGCCGTGCATGGTCAGGTTGCCGTCAACGGAAACCAGT
TTTTTGCCGTTGAAGTTGAATTTGGTGGAAACAAAGCGGATGTCCGGATATTGGGCGGCA
TCGAAGATGTCGGCTGATTTCAGGTGGTCGGTAAAGTGTTGCGAACCGCTTTGCAGGTTG
GCAATGGGGATGGTGATGTCGATTTTACCGTCGCGTTTGCTTGGTCGAACTCGACGGAA
CCGGTCAGACCGTAAAAACCGCCGACGTTGGTGCTGGTGTTGAAATGGTCGATGGCGAAA
CGGGCGTTGGCGTGATATTCGTCCACTTTGTAGGTGGCGGCGGAGGCAGTACTGATGGCG
GCGGCTGCGAGTGCGGCGAAGATGATTTTTTTCATGATGATAATCCTTTGTGTGGGCCGG
TAAAGGCGTTTATCCTAACATAGGCAGGGATTTATGGCATTTCCTGCCGGTAAACGGTGG
GTTTGCAGGCGGTTGACGAACGGGGCGGGCGGAAAAGGGCGGATGAAAAGCGCGGTGTG
ATCCGCGCTTTGTTTTTTTACAAGGCGGCGAGTACCGCATCGCCCATTTCGGAGCAGGAA
ACGAGTTTTGTGCCTTCTTCGTAAATGTCGCTGGTACGCAAGCCTTGTTGCAGCACTTTT
TGGACGGCGTTTTCAACTTGTTGCGCGCGCGCTTCGTCGTTCAGGCTGTAACGCAGCAAC
ATTGCGAGCGAGAGGATGGTGGCCAGCGGGTTGGCTTTGTTTTGTCCGGCGATGTCGGGG
GCGGAGCCGTGAGACGGTTCGTACAGGCCTTTGCCGTTTTCGTCCAGCGAGGCGGAAGGC
AGCATACCGATGGAGCCGGTCAGCATGGAGGCTTCGTCGGAGAGAATGTCGCCGAAGATG
TTGCCGGTGGCAATGACGTCGAATTGTTTGGGCGCACGCACGAGCTGCATGGCGGCGTTG
TCGACGTACATATGGGAAAGCTCGACATCAGGGTACTCTTTGCCGATTTCTTCAAAGATT
TCGCGCCACAATTCGGTGGTTTCCAAAACGTTGGCTTTGCCTACGGAACAGACTTTTTTG
CTGCGTTTTTGGGCGGATTGGAAGGCAACATGGGCAATACGGCGGATTTCGCTTTCGCTG
TATTTCATGGTGTTGTAGCCTTCGCGTTCGCCGTTTTCCAGAACGCGGATGCCGCGCGGT
TCGCCGAAATAGATGTCGCCGGTGAGTTCGCGCACAATCAAAATATCCAAACCGGCAACG
ATTTCAGGCTTCAGCGTGGAGGCGTTGGCTAATTCGGGATATAAAACAGCAGGACGCAAA
```

TTGGCAAACAGGTTCAAATCCTTACGGATTGCCAACAGGCCGCGCTCAGGGCGCAACGGA
CGGTCGAGGTTGTCGTATTGAGGAGAACCGACTGCACCAAGCAGGACGGCATCGGCTTTG
CGGCAGAGGTTTTGCGTAAATTCGGGATAAGGATGACCGTATTCGTCATAGGCTTCGCCG
CCCAATGGGGCGTATTCGTAGCCGGCATCCAAACCTTGGGCGATGAGTTTGTCGAGTACG

5   CGGACGGTTTCGGCGACGATTTCGGGACCGATGCCGTCACCTCGGAGGATGGCGATATGT
TTGGTCATTTCAAGTTTCCTTATGGGTTGATGGTTGAAGGGTTATTTCTTTTTGTATTTG
TGTGCAATTTCGTGCCAACGAGGTATGGAAATCGATCGGTTGTAGTGTTTTTTATAGGCT
TCCTCAAATTTCTTTTTCCATAAGGATGCGTTATGCCGTGTTGCCGGGTTTTGATAAACG
GTTTCTTCAATTGCGGAAACAAAATCTTCCAAGCATTCAAACATAGGCATATTCTTTTTA

10 TTTATGCTGTACCAAACACCCGGGCGGATTTTATGCACCACGCCTTTTTTGACTTGAAGA
TTAATTGCCCACCCATCCATGCTTCTCGTAATTTGCCATACTTTTTTAAGCCATAAATCC
TTGATGGTTACATTGCCGTTGTCGTCCATATCGTAACCGAATATTAAATAGTCTACATCC
AGCATATAGGGTTTATGAATGATTTCATCAGAATACATTTTAAAATCTGCAATATCAAAA
CCCGGACTGGCATTTCGGTTGAACGCCTTTACTTCCAACAATTCTCTACTGCGGTCTTTT

15 TTATTTAAAAAGAAATCGGGGGGCATTTGGGTATTGGTTGAAACATCAAATTCAATTTCC
CTTTTTCTCAACCATCCGCCGAGCCATTCCTGAATGATGTTGCCGACGACATCTTTTTGT
TTGACGATAATATCCACATCGCCCAAGAAAAATCTAATTTGACCATTGACCGATAAGATT
TTTTCCTCATTCAGCAACTTATCAAATATTTGTTGTGCAGTAAGTTTTACCATTTTATCC
CTATCgGTTTATAAAGTATGCAGAAGCCTTTCAGATACCGCCTTAATCACAGGAACGGCA

20 ACGGTATTGCCCAATAAATCGTATTTGTCTTTTTTAGGAATATCAAACGAATAATCGTCC
GGATAGCCGAATAAGCGTAAACCTTCTTTTCCGGTAAGTGTGCGCAAACCGCCGTTGTCA
ACGACGAAAAGGTGCTCCATATCCATTGCAACTAAGGTTGGCGCAACATCATTTGGGTCT
AATATTTTATTGATTTCAAATGATTTTTTTCCTGAAACAATATTGTAGCCTTTGGGCAGG
GATTCATCTTTGATTCTTCGCCCGCCAATTTTTTGTTTCGGATGCTCCAAAACCAAATAG

25 CCTTTATCTGTCAGGCTGTCCAAAATATTTTGAAGATTGGGGTGTTTATAGAAAGTTGAA
ATTTGCGCTTTTGTCAAAGGCATCCCATCCATCCAATCGATGCCGATTTCTGAAGCCCAT
TTTTTCTTCCTCCGTTCTTTTAGAAGCATATTTAATAATTGCTTCTCTTCTTCGGTTACT
GTGCCTTTTAATTCAATATCCCAACTGTGGATATTGTTTTTCCCTCCCCGTTTGTCCTTT
ACTGATTTTCCGTACAGTTCGGACGGGGGAAATTTCTTTAGCAATTTTTTGATGAAAGGA

30 CTGCTTTCGGTAGGCAGTCCCGATTCCAAAATATTTTTTAATTTCGGACTTAGGGTTGTT
TCAAAAGATAAGTCGGGTTTGGATTTCAAACTGCCTGTCAGATAAATACGCTTCCTGTTT
TGGGGAATGCCGAAATCTTTTGCATTTAAAAACTTTCCAAGAAACATAGTAGCCCAATGTT
TCCAAGGTTTCCAAAATAACGGTCAGGGTGCGTCCTATTTTTTGTGTCGGATCTTTTCTA
TCGTGCGTCACCAATCCTTCCACATTTTCCAAAATAAAACCTTTTGGTTTTTTTGCCTTT

35 AAAATCCTTGCCACATCAAAGAAAAGCGTTCCCCGCGTATCTTCAAAGCCCAATCTTTTT
CCGGCGAAAGAAAAAGCCTGGCAAGGGAAGCCTGCCAACAAGATGTCAAAATCGGGAATA
TCTCCCGTTTCAATTTTCGTTATATCTCCATACGGCACTTCATCAGGGTAGTTTTGCTTC
AATACTTCCAAAGCTGCCGGTTTGATTTCTGAGGTAAAAACACATTCGCAAGCAACCGAC
TGTTTCCGACAGGCTTGTTCAAATCCTTTCCTGATACCGCTCATCCCGGAAAATAAGTCA

40 ATAAATTTAATTTGTTGCATATTAAAAATCTAAAAATTTATTTGAAATGGAGAGTTGCAT
TATTGCATTAATTTAGAGTGTCGCTAAGCCCGCTTAAAAGATGAAAGCAATTTATCGCCC
CTCTGTTTACATTAGCCGCAACAATTATATGTTATCAGGAATGCCGTCTGAACGGCCTTC
AGACGGTATAGGTTTTAACCGTTAAACAGCCAAGGCTGGCTTTGGCGGCGTTTTTCTTCA
AAGGCGTGAATTTCGTCGGCGTGTTGCAGGGTCAGACCGATTTCGTCCAAGCCGTTTAAG

45 AGGCAGTGTTTGCGGTGTTCGGTAATGTCAAATGTGAACGTTTCGCCGCTTGGTGTGGTC
AGGGTTTGTTCGGCAAGGTCGATGGAGAGCTGATAGCCTTCGTTGGCTTCAACTTCTTTG
AAAAGTCGGTCAACCCGTTCTTCGGTCAACACGATAGGTAAAAGGCCGTTTTTGTAGCAG
TTGTTAAAGAAGATGTCGGCGAAGCTGGGGGCGATGACGGCGCGGAAGCCGTAGTCGTCC
AATGCCCAAGGGGCGTGTTCGCGTGAAGAGCCGCAACCGAAGTTTTTACGCGTCAACAGG

50 ATTTGCGCGCCTTGGTAACGCGGCTGGTTCAGCGAGAAATCAGGGTTCAACGGGCGTTTG
CTGTTGTCCATGCCTGGTTCGCCGTGGTCGAGGTAACGCCATTCGTCAAAGGCATTGGGG
CCGAAGCCGCTGCGTTTGATGGATTTAAAAATTGTTTGGGGATGATGGCGTCGGTATCG
ACGTTGCTGCGGTCGAGCGGGCGACGATGGCGGTAATTTTGGTAAAGGCTTTCATGGGT
TTGCGTCTTGTGCTGACGATGCCGTCTGAAGCGGTTTCAGACGGCATCGCGAATCGGTTA

55 TTCGGTGGCGTTTTCGATTTTTCCGCCGAGATGGGAAATGCCGCGTCCGACGGCATTGCC
GCCTTTTTTGACGGCTTCTTTGGTTTTGTCCCAGCCTTTTTCGACGGCGTTGCCTGTTTG
TTCGGCGGCGCGTTCGGCGGCGGCCTGTGTTTTGTCAAGGTTGCGGGCGGTGTCTTGTTT

-136-

```
CGCGCCCTCCCAAGTGCCGGCGCAGGCGGACAAGGCGAGGGCGGACAGGGCGGTAATGAA
AAGTTTGTTCATGGTTAAACTCCTTGGTTTGAATATTAAAGGTGTTTCTGCCTTACGGGA
CATATTTCAGACGGCCGCGTCAAATTCTTAAAGACCGCCTGAAAATACTTACGCCATCAT
GCGGATGTCGGTAAAGCGGCCGGTAACGGCGGCGGCTGCTGCCATAGCGGGGCTGACGAG
GTGGGTACGTCCGCCGTTGCCTTGACGGCCTTCAAAGTTACGGTTGGAGGTGGAGGCGCA
GCGTTGCCCCGGGGTCAGGCGGTCGGCGTTCATGGCGAGACACATCGAACAGCCCGGTTC
GCGCCATTCAAAACCGGCTTCGATGAAAATTTTGTCCAAGCCTTCTTTTTCGGCTTGTTC
TTTAACCAAACCGGAGCCGGGGACGATTAACACGCGCTGTACGTTGGCGGCTTTTTTGCG
GTCTTTGGCGATGGCGGCGGCTTCGCGCAAGTCTTCGATGCGGCTGTTGGTGCAAGAGCC
GATGAATACGATGTCGACGGGGATTTCGTTTAATGGCGTACCGGCTTCCAAGCCCATGTA
TTCAAGGGCGCGTTCCATACCGCTGCGTTTGACCGGATCGGTTTCTTCGGCAGGATTCGG
CACTTTGCTGCTGATGTCTAAAACCATTTCAGGCGAGGTACCCCAAGTGACTTGCGGTTC
GATGTCTTCGGCGTTGAAACGGTATTCTTTGTCGAATACCGCACCTTCGTCAGACACCAG
CGTACGCCAGTACTCGACGGCTTTGTCCCACGCTTCGCCTTCGGGTGCGAAGGGTTTATC
TTTTACGTAGTCGATGGTGGTTTGGTCGACGGCAACCATGCCTGAGCGCGCGCCTGCCTC
AATCGCCATATTGCATAAAGTCATGCGGCTTTCCATAGAAAGGCTGCGGATGGCTTCGCC
GCCAAACTCGATGGCGTAGCCTGTACCGCCTGCCGTGCCGATTTGCCCGATGATGTAGAG
CGCCACGTCTTTGGCGGTAACGCCCGCTTTTAATTTGCCGTCAACGGAAATCAGCATGGA
TTTGGATTTTTTCGCGGTAATACATTGGGTCGCCATGGTGTGCTCGACTTCGGAAGTGCC
GATGCCGTGCGCCAGTGCGCCGAATGCGCCGTGGGTGGAAGTGTGCGAGTCGCCGCAGAC
GACGGTCATACCGGGCAGGGTCGCGCCTTGTTCGGGGCCCATAACGTGTACGATGCCCTG
ACCTTTGTCCATAAACGGAAAATAGGCGAGTGCGCCAAACTCTTTAATGTTTTTGTCCAA
AGTATCGACTTGCAGCTTGGAAATCGGGTCTTGGATGCCTTTGTCCCAATCGCCGGTCGG
GGTGTTGTGGTCGGCGGTGGAGACGACGCTGTCGATGCGCCACAGCTTGCGCCCCGCCAT
TTTCAAGCCTTCAAATGCCTGAGGGCTGGTAACTTCGTGCACCAAATGGCGGTCGATGTA
GAGCAGGACGGTGCCGTCTTCTTCTTCGCGGACGACGTGGCTGTTCCAAAGTTTGTCGTA
sAGGGTTTGTGCTGTCATGATGTTGTTCTTTTGGATAAATGGTAATGCGGATTGGGCGGA
TTTTAGACGTATTCTTTATACCGCGCAACAGATTTTGTCTAATTTTTGAGTCGGTGTTAT
TTTGTAAACAATTTTAACAAAAAAATTAGACATATTGTCCATTTCAGTAAGCAGTTATAT
CTAAAGCATGATTCGATACGAAAGAATACTTGTCGTCATTCTTTCAAAGGCATTATCATC
TGCATCTTGTCAAAAAACACACAGAGGTAGACGAAAGATGAAATTACCGGTGATGTCGCC
CGAACATTCGGCGCAACTTCAGGCGTTTGAGGCAAAAATCCTGTCCAATCACGCCAAAAT
CGAGGCGTGGTTCCGCACGCAGTGGAGCGTACACCGCCCGCCGTTTTACGGTTCGGTCGA
TATACGCAATGCCGGTTACAAAATTTCGTCTATCGATATGAATTTGTTCCCCGGCGGCTT
CAATAATCTGAATCCCAACTTTATCCCGCTGGCGGCGGTTGCCGCGCAAGATGCGGTGCA
ACGCGCCTGCGAAACGGCGAAATCCGTATTGATTATTCCTGAAAACCACACGCGCAATAC
GTTTTACCTGCAAAACGTTTACGCCCTCGGCGAGATTTTGCGTTCGGCAGGGTATGAAGT
GCGCTTGGGCAGCCTGAATCCGGAAGTAACCGAACCGACCGAATTTGAAACCGCATTGGG
CGACAAAATCCTGTTGGAACCTTTATTGCGTACCCGCGATCGCGTCCATCTTGCAGACGG
CTTTTCGCCTTGCGTGGTTTTGTTGAACAACGATTTGTCCGCCGGCATTCCCGACATCCT
CAAAGGCATCAGCCAAACCGTTTTGCCGCCGTTGCACGGCGGTTGGACGACGCGCCGCAA
AACAAATCATTTCGGCGCGTACAACCAAGTTACCGCCGAATTTGCCAAGTTAATCGGCAT
CGACGAATGGCAAATTAACCCTTATTTTGAAAAAATCGGCGGTTTGGACTTCCAAGGGCG
TGAAGGCGAAGACGCGTTGGCGGAAGCGGTAGAACGTGTGCTGGCGAAAATTCAAGCCAA
ATACGACGAATCGGGCATTACCGACAAACCTTTCGTCATCGTCAAAGCCGATGCCGGCAC
TTACGGCATGGGCGTGATGAGCGTCAAATCCGCCGACGAAGTGCGCGGATTGAACCGTAA
AAACCGCAATAAAATGGCGAAAGTCAAAGAAGGCTTGGAAGTCAGCGAAGTGATTGTCCA
AGAAGGGATTTATACTTATGAAACCTTAAACGGCGCGGTGTGCGAACCCGTCGTGTATAT
GATGGACCGCTTCGTCATCGGCGGCTTTTTCCGCGTACACGAAGGGCGCGGTGCGGACGA
AAACCTAAACGCCGGCGGTATGGTGTTTGTTCCGCTGTCTAACAGCATTCCTACCGGTAA
CGGCGATAATTCCCAAGAAGCGCCCGAAGCCTGCAAGCGCGTATTCGAACAATGGGACTC
GCTGGGTATGCCGCGCTCTGAAAAAGACTGCGACGTGGACAACGAACACAACCGCCTCTA
CGTTTACGGCGTAATGGCACGCCTGTCGCTTCTGGCGGCTTCAATCGAGTTGGAAGAAAC
GGCGTAAGACTGTTTTGAAATACAGATGCCGTCTGAAGCGGAAATCCGGTTCAGACGGCA
TTTCGGATATTTGGCGTGTGGGAACATCTGTTTCAGACGGCATCTCAGACTATTTAAAAA
AGGGAAAACATGAGCATCAAGCAATGGCCGGAAGGCGAAAGACCCAGGGAAAAGCTGTTG
GAACGCGGGGCGGCGGCGTTGAGTGATGCCGAACTTTTGGCAATCCTGCTGCGCGTCGGC
```

```
ACGCGCGGAATGAGTGCGGTCGATTTGGCGCGTTATTTGCTGCAGGAGTTCGGCAGTTTG
GGGAGGCTGATGAGCGCGGAGGTCGGCAAACTGTCGGCATACAAAGGGATGGGGACGGCA
AGTTTCACACAGTTTGCCGTGGTCAGGGAAATCGGGCGGCGGATATTGGCGGAAGAATTG
CAGGAGAGCATCGTCCTGTCCGATCCGGATACGGTGGCCGATTATTTACGCTTTCATTTG
GGGCAGGAAAAAGTCGAAGTCAGCGTCGCGCTGCTGCTGAACCGCCAAAACCAACTGATT
GCGGTCAGAGAGCTGTCGCGCGGTACGGTTGCGGAAAACACGATTTACATCCGCGAAATC
GTCAAACTGGCATTGGACGAATATGCCGACAGCCTGATTATTGCGCACAACCATCCGGGC
GGCTCGCCCGAACCTTCGCAGGAAGACATCATGTTCACAAGGCGGCTGGCACAGGCAATG
TCGCTGGTCGATGTGTCGCTGCTCGACCATTTATCGTTACCTCGCAAAGCGTCTGTTCG
TTCAGACAGCTCGGGTTGATGCCCTGACACTCTGTTTTACATGCGGCGGCTCTGATAAAA
TAGCCGCTTCAACCGTATTCAACAGATATTGTTAAGTTAATGGAAACACAAAACAAACCT
ACCGTTACCGACATTGACCGCCCTATACTCGTCCCGCCCGGTGGACATAAAAAAGTCTTG
CTGCATTCCTGCTGCGCCCCGTGCAGCGGCGAAGTGATGGAAGCCATGCTGGCCAGCGGC
ATCGACTACACCATTTATTTTTACAATCCCAATATCCATCCGCACAAAGAGTATATGCTC
CGAAAAGAGGAAAACGTGCGCTTTGCGGAAAAGTTCGGCATTCCTTTCATCGATAAAGAC
GACGACTACGAAAACGACCGCAAAGAATGGTTTGCCAAAGCCAAAGGCATGGAGTTTGAG
CCGGAACGCGGCATCCGCTGCACCATGTGTTTCGATATGCGTTTTGAAAAGGCGGCGCAA
TACGCGCATGAACACGGGTTCCCCGTCTTTACCAGTTCGCTGGGCATTTCACGCTGGAAA
AATATGGCGCAAATCAACGACTGCGGACACCGCGCCGCCGCGCCTTACGATGATGTGGTG
TATTGGGATTTCAACTGGCGCAAAGGCGGCGGCAGCGCGCGCATGATTGAAATCAGCAAA
CGTGAAAACTTCTACCAGCAGGAATATTGCGGTTGTGCCTATTCCCTGAGGGATTCCAAT
GCCCACCGCAAATCACAGGGCAGAATCCCCATCAAACTCGGCGTGCTGTATTACGGCGAC
GAATCGACACAATACGAACCTGCCCCCATCCGGGTGGACAAATAAACACCCGATGCCGTC
TGAAGGTTCAGACGGCATCGGGTTCGGCATCGGCACGGGGAAAGGTTTGCCGGTTTrGCA
ATCTGCAATCGGAAACCGCATTGGCAAGTTTgCCGTTTGTGATAAAACACCCGTTGCCGC
GTCGGGAGGACGGCATTATGAAATCCCTTTTTATTCGGCTGCTCCTGTTGGGTTCGGCGG
CAGGCGTTTTCTACCATACCCAAAACCAATCCCTGCCCGCGGGCGAACTTGTCTATCCGT
CCGCACCGCAAATCAGGGACGGCGGCGATGCGCTGCACTACCTCAACCGCATCCGAGCCC
AAATCGGTTTGCACAAGCTGGCACACGCGCCGGTTTTGGAAAACTCCGCCCGCAGGCACG
CAAGCTACCTCACGCTCAATCCCGAAGACGGACACGGCGAACACCATCCCGACAATCCGC
ACTACACCGCACAAAAGCTGACCGAACGCACACGCCTTGCCGGGTATCTCTACAACGGCG
TGCATGAAAACATCAGCACGGAAGAAGAAGCCGCCGAATCGTCCGACAGCGACATCCGCA
CGCAGCAACGCCAAGTGGACGGATTAATGAGCGCAATCTACCACCGCCTTTCCCTACTTG
ACCGCCATACGGATGAGGCAGGAGCGGCATTTGTGCGCGAAAACGGTAAAACCGTTCTCG
TATTCAATCAGGGCAACGGCAGGTTTGAGCGGCATTGCGCCCAAGGCAGAAATCAGCCGG
AAGCAGGACGGAAATATTACCGCAACGCCTGCCATAACGGTGCGGTCGTGTACACCGACG
AAGCCATGCCCGCACAGGAGCTGCTCTATACAGCCTATCCCGTCGGCAGCGGCGCACTGC
CTTATTTCCACGGCGAGCGTCCAGACCCCGTGCCGGAATATGAAATCACGGGCAATCCTG
CCAGCATTGATTTTTCCGAGGCGGCAGGCAAAATTACGATGAAAAGTTTCAAGCTGTATC
AGGGTAAAAACGAAATCCGCCCCGTCAGGGTTTTAACCGCCGGCAACGACCCCAACGGCA
GGCTGACCGCGTACCAATTCGCGCTTTTTCCGCTCAAGCCTTTGGAATACGGCACGCTTT
ATACGGCGGTATTCGACTATGTCCGCAACGGACGGCGAGCGCAGGCGAAATGGCAGTTTA
GAACCCGAAAACCCGATTACCCTTATTTTGAGGTAAACGGCGGCGAGACACTTGCGGTTA
GAAAAGGCGAAAAATATTTCATCCACTGGCGCGGACGCTGGTGTTTGGAAGCGTGTACCC
GTTATACCTACCGGCAGCGACCCGGCAGCCGCCTGTCCATAGGAAGGCACGAGGCGGGCG
GCATCGTCTTCAGCGTTGACGGAATGGCGGGCAGCCGCATCACGCTTGCACCGGAAGGAG
AAACGGAACGAGGCGTAACCCTTTATTTACAGGATTGAATACATGACAGGCAGAACAGGC
GGCAACGGCAGTACCCAAGCGCAACCCGAACGCGTCATGCTGGTGGGCGTAATGTTGGAC
AAAGATGGTACGGGCAGTAGTGCCGCCCGTCTGAACGGTTTTCAGACGGCATTGGCGGAA
GCTGTCGAGCTGGTCAAAGCGGCGGGCGGCGATTCCGTGCGCGTGGAGACTGCCAAACGC
GACCGTCCGCACACCGCGCTGTTTGTCGGCACGGGCAAGGCGGCGGAGCTGTCAGAAGCA
GTTGCCGCAGACGGCATCGATTTGGTCGTATTCAACCACGAACTCACGCCCACGCAGGAA
CGCAACCTTGAAAAAGAACTGAAATGCCGCGTATTGGACAGGGTAGGGCTGATTCTGGCG
ATTTTCGCTCGCCGCGCCCGCACGCAGGAAGGCAGGCTGCAAGTCGAGTTGGCGCAATTG
AGCCATTTGGCGGGACGCTTGATACGCGGTTACGGCCATCTGCAGAGCCAGCGCGGCGGT
ATCGGCATGAAAGGCCCCGGCGAAACCAAACTGGAAACCGACCGCCGATTGATCGCCCAT
CGGATCAATGCCTTGAAAAAAACAGCTTGCCAACCTCAAAAAAACAGCGCGCCCTGCGCCGC
```

```
        AAGTCCCGCGAATCGGGCACAATCAAAACGTTTGCGCTGGTCGGCTATACCAATGTCGGC
        AAATCCAGCCTGTTCAACCGGCTGACCAAGTCGGGCATATATGCGAAAGACCAGCTTTTC
        GCCACACTCGACACGACGGCGCGGCGGCTGTACATCAGTCCCGAATGCAGCATTATCCTG
        ACCGATACCGTCGGATTCGTCAGCGATCTGCCGCACAAACTGATTTCCGCCTTTTCCGCC
5       ACGCTGGAAGAAACCGCGCAAGCCGATGTGCTGCTGCACGTCGTCGATGCCGCCGCTCCG
        AACAGCGGACAGCAGATTGAAGACGTGGAAAACGTACTGCAAGAAATCCATGCCGGCGAT
        ATTCCGTGCATCAAGGTGTACAACAAAACCGACCTGCTGCCGTCTGAAGAACAAAACACG
        GGCATATGGCGCGACGCTGCGGGAAAAATTGCCGCCGTCCGCATTTCCGTTGCTGAAAAT
        ACCGGTATAGACGCACTGCGCGAAGCCATTGCCGAGTCTTGTGCCGCCGCACCAAACACA
10      GACGAAACCGAAATGCCATGAAAAAAACCTGTTTCCACTGCGGTCTGGATGTTCCCGAAC
        ACCTCCACCTGACTGTCCGTTACGAAAACGAAGACCGCGAAACCTGCTGCGCCGGCTGTC
        AGGCGGTCGCACAAAGCATTATTGACGCGGGCTTGGGCAGTTATTACAAACAACGCACCG
        CCGACGCGCAAAAAACCGAGCTGCCGCCCCAAGAAATCCTCGACCAAATCCGCCTGTACG
        ACCTGCCCGAAGTCCAGTCCGACTTTGTGGAAACCCACGGCGGCACGCGCGAGGCGGTTT
15      TAATGCTCGGCGGCATCACCTGCGCCGCCTGCGTCTGGCTGATCGAACAGCAGCTTTTGC
        GTACAGACGGCATCGTCCGCATCGACCTCAATTACAGCACGCACCGCTGCCGCGTCGTCT
        GGGACGACGGCAAAATCCGCCTTTCCGACATTCTGTTGAAAATCAGGCAGATAGGCTACA
        CCGCCGCACCCTATGACGCGCAAAAAATCGAAGCCGCCAACCAAAAAGAACGCAAACAAT
        ACATCGTCCGCCTCGCCGTTGCCGGGCTGGGGATGATGCAGACGATGATGTTCGCGCTGC
20      CGACCTACCTTTACGGCGGCGACATCGAACCCGATTTCCTGCAAATCCTCCATTGGGGCG
        GCTTTTTAATGGTGCTGCCCGTCGTATTCTATTGCGCCGTCCCGTTTTATCAAGGCGCGC
        TGCGCGACTTGAAAAACCGCCGCGTCGGCATGGATACGCCGATTACCGTCGCCATCATCA
        TGACCTTTATCGCCGGCGTTTACAGCCTTGCGACAAATGCGGGGCAGGGGATGTATTTCG
        AATCCATCGCGATGCTGCTGTTTTTCCTGCTGGGCGGACGCTTTATGGAACACATTGCCC
25      GCCGTAAGGCAGGCGATGCCGCCGAGAGGCTGGTGAAGCTGATTCCTGCGTTTTGCCATC
        ATATGCCCGATTACCCCGATACGCAGGAAACCTGCGAGGCAGCTGTCGTCAAATTGAAAG
        CGGGCGATATCGTGCTGGTCAAACCGGGCGAAACCATCCCCGTTGACGGCACGGTGCTGG
        AAGGAAGCAGTGCCGTCAACGAATCTATGCTGACCGGCGAGAGCCTGCCCGTCGCCAAAA
        TGCCGTCTGAAAAAGTAACCGCCGGCACACTCAACACGCAAAGCCCCCTGATTATACGCA
30      CCGACCGCACCGGCGGTGGCACGCGACTGTCGCACATCGTCCGCCTGCTCGACCGCGCCT
        TAGCGCAAAAACCGCGCACTGCCGAGTTGGCGGAACAATACGCCTCGTCTTTCATATTCG
        GCGAACTCCTGCTTGCCGTCCCCGTCTTCATCGGCTGGACGCTGTACGCCGACGCGCACA
        CCGCATTGTGGATTACCGTCGCCCTGCTGGTCATTACCTGCCCCTGCGCCTTATCGCTTG
        CCACGCCGACCGCGCTGGCAGCTTCTACCGGTACGCTGGCGCGCGAAGGTATTTTAATCG
35      GCGGAAAGCAGGCAATCGAAACCCTCGCCCAAACCACCGACATCATCTTCGACAAAACCG
        GCACGCTGACCCAAGGCAAACCCGCCGTCCGCCGTATCTCATTGTTGAGAGGCACAGACG
        AAGCCTTTGTTCTCGCGGTGGCGCAGGCTTTAGAACAACAGTCCGAACATCCCCTTGCCC
        GCGCCATCCTCAACTGCCGCATTTCAGACGGCAGCGTCCCCGACATCGCTATTAAACAAC
        GCCTCAACCGCATCGGCGAAGGCGTGGGCGCGCAACTGACCGTCAACGGCGAAACACAGG
40      TTTGGGCATTGGGCAGGGCATCCTATGTCGCCGAAATTTCAGGTAAAGAACCGCAAACAG
        AAGGCGGCGGCAGCGCGGTTTACCTCGGCAGTCAAAGCGGTTTCCAAGCCGTGTTCTACC
        TGACCGACCCCTTGAAAGACAGCGCGGCGGAGGCGGTGCGGCAGTTGGCAGGCAAAAACC
        TGACCCTGCACATCCTCAGCGGCGACCGCGAAACCGCCGTTGCCGAAACCGCACGCGCCC
        TGGGTGTCGCGCACTACCGCGCCCAAGCCATGCCCGAGGACAAACTGGAATACGTCAAAG
45      CCTTGCAAAAAGAAGGGAAAAAAGTGCTGATGATAGGCGACGGCATCAACGACGCGCCCG
        TTTTGGCGCAGGCAGACGTATCCGCCGCCGCAGCGGGCGGGACGGATATTGCGAGGGACG
        GCGCGGACATTGTGTTATTGAACGAAGATTTGCGTACCGTCGCCCACCTGCTCGATCAGG
        CGCGGCGCACCCGCCATATTATCCGGCAAAACCTGATATGGGCGGGCGCGTACAATATCA
        TTGCCGTACCGCTTGCCGTTTTGGGCTATGTCCAACCGTGGATAGCCGCACTGGGTATGA
50      GCTTCAGTTCGCTGGCGGTTTTGGGCAACGCCCTGCGCCTTCACAAACGGGGGAAAATGC
        AGTCTGAAAAAATGCCGTCCGAACAATGACGGACGGCGTTGCTTTAGACGTATAGTTGAT
        GAAAACAAAAATAAGACGATGAAGAATTGCAAACTTAAAGTATGTATTGTTACCGCTCAA
        ACACGTTGGCGTTCAAAATTTGAGATCGAATTGCTAGGTATTTGATTTTATTAAATAAGA
        GATTGTATTAATGAGGAAAAAAATTAAAAAGTGGATTTATGCGATAAATGGAATAATGAT
55      GTCAATATGGATTATTTTTTTTCCAAATACCGGTTCTGTGTATGACGGTGGCAGAACAAC
        CATTTTCAATGAAAACCATCCTTTTCATTTTATTTTCTGCATAACATTTCTTATTGGGAC
        AATTTTTCTTATATATCATGAATATAATGATAACTAATTTTTAACATCCTTATTGTTATA
```

```
      TCATGATGAAATGACAATAAGGATGGTTTTCTGCTTTGGCTACTGCAGAACACCGTCGTC
      AGTCTCGCGTAGGGGGGAATCCATATGCTTGGTTTTTCTTTTATTTTCAAATGCTAATTA
      ACGGATAGGTCTGGATTCCCGCCTGCGCGTGAATGACGGAAATGTGCATTTCTAATTTTT
      ACCCACTATATAGTGAATTAAATTTAAACCGGTACAGTGTTGGCTCGCCTTGCCGTACTA
  5   TTTGTACTGTCTGCGGTTCGCCGCCTTGTCCTGATTTAAATTTAATTCACTATAAAAACC
      CCGAATCCTGATTGGCAGGATTCGGGGTTTTTGATTGCTGGTGCCGTTCAGACGGGATTT
      TCAAACAGCTTATTGATCTACAAACGCACGCTCAATCAGGTAATCGCCGCGTACGCCTGT
      TTTCGGAGAGACGGTCAGTCCGAAATCGTCCAAAACTTTGCAGGTATCTTTCAGCATCGC
      GGGGCTGCCGCACAGCATGGCGCGGTCGTCTTGCGGGTTGATTTTGGGCAGGCCGATGTC
  10  TTCAAACAGTTTGCCGCTCACCATCAGGTCGGTTAGGCGACCGTGGTGTTCGAATTCTTC
      GCGCGAAACAATCGGGTAGTAAATCAGTTTTTCTTTAACCAAGTCACCGAGGTATTCGTG
      TTCGGGCAATTCTTTGGTAAAGCGGTCGTAGTACGCCAAATCTTTTTTGTAGCGCACGCC
      GTGTACGAGGATGATTTTTTCAAATTGCTCGTAAATTTCGGGGTCTTTGGTGATGCTCAA
      GAAAGGAGCGATGCCGGTACCGGTGCTCAACAAGTAAAGGTGTTTGCCCGGATTCAGGTC
  15  GCCGGCAACCAGGGTTCCGGTCGGTTTTTTGCTGATTAACACGTCGTCGCCGACTTTGAG
      GTGTTGCAGGCGGCTGGTCAGCGGGCCGTCTTGGACTTTAATGCTGAAAAATTCGAGGTG
      TTCTTCCCAGTTGGCGGAGGCGACGCTGTATGCACGCATCAGCGGCTTGCCGTCCACCAT
      CAATCCGACCATAACGAACTGTCCGTTTTCAAAGCGCAACGATTCGTCGCGGGTGCAGGT
      AAAGGTAAAATATGCGTCTGTCCAGTGGTGTACGGACAATACTTTTTGGGTATTGAATGC
  20  TGCCATTTGGGTTTCCTGTCAGTAAAAGAAATGGATAGTGCTTGTTCGGGAGGTGCGGCA
      GAGTGGAAATGTCTGCCCGATTCGGGATAAAGCCAAAATTCTAAACGAAACGGATGGTTG
      CGACAATGCTTGATGCGCGTTGGTTATATGCCGTCTGAAGGGCTTCAGACGGCATCGCGG
      GGCAGGCGGCGGCTTACGGCGGCATATCGGCAAGGGAAATCAGGGAAATCGAGGCTGCCA
      GCCTGAGTGCGTCCCGTCCCCAGCGGGGGTGTTCCAGCCTGCGTATCGGGAGGATCGGTT
  25  TGACGGTGGCGGCAATCAGCTTTTGTATTTCGGCAGGCTGATCTGACAATACGCCGCCCC
      ATTTTTCCGCAGCCGCTTCCAGCAGTCCGCCGTTTTTCAATATCAGCGCGGTCGAATGGA
      TGTAGCAGAGCCAATCGCGGGCTTGGCATTGCGCTATGGTCAGGACTTCGGAAGGGTCGT
      CTTCAAAATCCAAAAAGCTGATGTTTTTTCCGTCCGACATCATATTTCGCGCAAACGCCT
      GACTGAGGAACTGCCGTTTTTTATGCACGCGTGCAATGGCTTCCAAACCGGCAAGCCAAG
  30  CGTCCGACTTTCCAGCCTCGGCTTCTTGGCGGATTTGCGCATCGAGCGGGATGCCTTCCA
      AATTGCCGAACATAAGGGCATTTTTCCTGACGGCGAGCAATTCGGGAACGGCTATCCCCG
      CCGAGCGCAATTCGTACAGGCGTTTTGATTCGGTTGCAATGGCAGGCTCGCCGCCGAGGC
      TGGGAACCGGCTTCAACACCCCCAGTTTCAAATATCGGGCAACCATACCGAGCAGCGCGT
      AACGCCATCGTGCATTGTGCCTGCCTGCTTTGCGTATCCATACCTTGGTTCCGTCGGCAA
  35  GCAGGTGGGGGGCGATGGCTGCCTCCTGTTTTGCCGCCAATTCGTCTAGCAGTATGGAAA
      AACGGGTTTCCTGCATAGGTAAGGTCATTTTCTTTCAATCTTAAGTTCGGACGGAATGCC
      CCTGTACGGAATATCAGGCAAGGGTTTGTTCGATGATGCCTTTTACCGCATCCGCACTGT
      TCGGCACGGTTTGCACGCGCTGCGGCAGGTTTTCAAACCTTCCAGCGCGGCAGGGCGCG
      GAATGGCGGCATCGCCGACGGCTTCGCGTATGGTCGCATCGAATTTCGCCGCCAACGCGG
  40  TTTCCAAACAAACCACCATTTCACCTTCTTCGCGCACTTCGCGGGCGACTTTTACGCCGT
      CGGCAGTGTGCGGGTCGATGAGTTCTTGGTCTTGCTCGTAAACCTGCTTGATGGTGGCGA
      GGCGGTCGGCGTGGCGGTGGATTTGCCAGAGGTAAAACCGTATTTGCCACCGACTTTGTCCA
      AGGCAAATCGCAGGTCAAAGCCTTTGCCTGCAGCCACTTCCGCCCACAGCGTATTGATTT
      CCGCAGGATCGCGATCCATCAGGTCGAACACGAAACGCTCGAAGTTGGACGCTTTGGAAA
  45  TGTCCATAGACGGGCTGGAGGTTACATAAGTATGCGCGCTGTTGCGCGGGCGGTATGCAC
      CGGTTTTGAAAAACTCGTCCAACACATCGTTTTCATTGGTCGCGACAATCAGGCGGCGGA
      TAGGCAGGCCCATTTGTTTGGCAATGTGTCCCGCGCAAACATTGCCGAAGTTGCCGCTCG
      GTACGCAGAAGCTGACGGTTTCGTCATTGCTTGAAGTGGCGTTGAAATAGCCTGCAAAGT
      AATAAACCACTTGCGCGACGATGCGTCCCCAGTTGATCGAGTTGACCGTACCGATATGGT
  50  ATTTTTCCTTGAACGCcATCGTTCTGCACCGCCTTCACAATATCCTGACAGTCGTCAAAC
      ATTCCCTTCACGGCGATATTGTGGATATTCTCGTCTTGCAGGCTGTACATTTGCGCGCGT
      TGGAACGCGCTCATTTTACCGTCGGGCGACAACATAAATACGTTCACGCCCTTTTTGCCG
      CGCAAGGCATATTCCGCAGCCGAACCCGTATCGCCGCTGGTCGCGCCCAAGATATTGAGT
      TTTTTGCCTTCTTTGTTTAAAACATATTCAAACGCATTGCCCAAAAACTGCATTGCCATA
  55  TCTTTGAACGCCAGCGTCGGGCCGTTGGACAAGGCTTGGATTTTGATGCCGTCTGAAAGC
      GTGCGGACGGGGGTGATTTCCTTAGTACCGAACGCCGCTTCCGTGTAAGTACGGTTCAGA
      ATGTCGCGCAAATCGTCCTCCGGAATATCCGTAACAAACAGGCGCATAATTTCAAACGCC
```

-140-

```
AATTCGGGATAAGCTAAACCGCGCCATTTGTCCAAGGTTTCGCGCCCGATTTGCGGATAA
TGTTCCGGCAGCATCAGGCCGCCGTCGGGGGCAAGCCCCATCAATAAAACTTCGCTGAAC
GGTTTGTGTGCGGTTTCGCCGCGCGTGCTGATGTATTTCATGATTTTTCTCGTCTGTCGA
AATTGCAGGAAAACGGCTTCAGACGGCATCTGCCTCATGCCGTCTGAAGAAGGTTAGCGG
TACAGGTGTTTGAAGCAGGCGGAAACCGTTTTGGCGGTCAGGGCGGCAAGTGCCTGATTG
CGCGTGGACGGAGCCAGCATCTGCATCACATCGTTGCCGGTCATCCGTTCGGGTGCTTCT
TGGGCGACGCAAGCGCAAATCTTGTTTTCCCACTCCGCCTGTTTTTCGGCACTCATCGCC
AGCGCGGTCAAACGCCATTCGCTGCGTTTGTCCAATTCCGCACGGCATTGGCTCCCAACC
GCCATTTTGACGATGCTGCCGCCCATGCCTGTGCCACCGTCTAAGCTGCCGAATGTGTTA
CCGCCTCCGGCGGCGCAGCCGCCGAGTAAGATTGCCACCGGCAAAATAGACAAGGTTTTA
TTCATCTCAATTCCTTTTCGGTTGAAACCCCGCCTTTTATGGCGATAGAATCTGATTAGC
CGCCCCGTTCGGGATAACGCGAAGGGCGGCGTTTTATGCGCCGTTCCGAGTGTTGGAACA
AACCGTTTTGAATATCCGGTTGAAGCCCGGCAACATTATACTTCAATCGGGAAAATAAAA
AATCCCGCCGCCGTCATTTTGCCTGTTTGCAAAAATGCCGTCTGAAAGCGGTTCAGACGG
CATTTCCGATTTCAGCCTAGCCCAAAGATTTGAAGTGTTCCAAAAACGGCGGGATACCGG
GCAGCATCCCGACCGCACCCATCGCCACACACAAGATCAAGAAACCTACTGCGGGTATCA
ACACGCGTCCGGCGAAACCTAATTGCGCACTGCGCTCTTTGCAGCCGATTAAGCCCAAAT
TATCCAACAGCATCGTCAACGCCCAGCCGAAAACCGGATTGACCAAGGCGGAAGAGAACA
CCACGATGGCGGCGGATTGGGTGGTTTTGCCTTTGCGCGTCATTTCCATGCCCGCTTCCA
AAAGCGGTAAGTATACGCCTACGACCAAGGCTACGCTCAATACCGGCTGCCAAATCGCCA
AGTCCATCGGATAGCCCCATAACCCGGCGATAATACATAAAACCGCCGTTAAAACCGCAC
CGCCCGGAATGGGGCGTTTGGCAATCGATGCCGGTACGATATAAGTTCCCCAAGAAGAGG
TAAAATTTGCACCCCCTAAAATAGAACCCACTGCTTGACGGACAGAACAACTTGTCATGG
TGTCGTCTATATTCATCAATACCTTATCGGTTTTTTCCGGATAGCTGATTTTTTGGAACA
CTTGATGTCCTAAAAAATCGGGCGACCACATTGCAACAGCCAATACCGCAAATGGAAAGA
CAACCAAAAAACTTTCTGCCGTCGGCAACCCCAGATGCCAGCCGCTGTTTTCACCCCACC
AATAAGCAGGACTCATTGGAGGCAGGCCGGGGGCGGTGTGAAACTCAAACGGCGCACCCA
ATGCAAATGCCACCACACCGGCAATCAAGCATCCCAAAGGCACGGCTAACCAGCGTTTTT
TCCAATGCTCCAACAAAGCGTACATCACAATCGTTACAATAATGACGGTAAAAGCGATGT
AGGGCATATTAAAACCGCCTGCCCACGAAAACAATTTTTTTACCTGCCCCGTCGTGCCGA
TAAAGCCCAAATAGAGTAATAATCCGCCGCATACGCCGTTGCTTGTCAGCTTCGCCATAA
TACTGCCGCCGCGAAATAAAGCCATCAGCAGACCTAAAACCGCAATCGAAATGCCGAACG
CCAAAGGATGCCCGCCTGCCGACACAACGATGGGAATCATCGGAATCAGCGGCCCGTGCG
TACCGGGCAGGTTGGCGCCGGGCAGAAAAAAGCCCGATACCAATAAGATAAACGCGGCGG
CGATTAAAAGCTCATAGCGCACATTTTCCAGTACAAAGCTGTCAGGCAGCCCCAAAGGTG
CGGCAAACGCCGCCGCCACCGCCCCCACCATCACCACTTTTCCAATCGTTCCCGCCATCG
CAGGAATCAAATCCTCCCACTCGAAGCGGTAATCGCGAAAGGGCAGGTTGGGCCGCCAGC
GTTTTGGTTGCATAATCTGCAATTCATGTTCCAAATATTCGTCCCGCGTCGCAAATTCCG
AAGCTGGACGGTGCAAATCCCGATAAGTCCCATTATGTTTTTCCATAACCTTCCTCCTTA
TATATCGCGCCTCGTAAAAGGGGCGCATGACTTTTCTTTTTGATACGGGCTGCGTTCGGA
AGCCGTAACCCCATTTAAAGCCCAAACAGGCAATAAAACCAATCTTTTTTTTTGATAACC
ATCATCCGGAAAACTGATACAATTTACAAACCACTTGATTAAAAAGTTAATTTTCAGCAA
CAATCCACCTAAAAGATTTCGATTGCACAAATATAGAAAACATCCGCACAAGGAGGGATA
TATGGATGCCGTACAATTAAAATCATTTGTCGCCGTCGCGCACGAGGGCAACCTTACCCA
AGCCGCCAAACGACTTTTCCTTTCCCAGCCTGCCGTTTCTGCCCAAATTAAAGCCCTTGA
AGAATATGTCGGCACGCCGCTGTTCAGGCGCACGGGGAAAGGCATGGTATTGACGCGGGC
GGGCGAAATACTGTTGCCCGAAGCGGAATCCCTGCTGCAATACAnACACAAGCTGGAGCA
TTTTGCCAAAACGCTGGCAGGCGATTATTCGGAAGAGACAGTTTGGGCATTATCCACCCC
ATCGATTCGGCAAAACTCGTCGCGCTGACGGACAATATCGGTCAAACAGCCCCCAATACG
CGCCTGCACATCCAATACGGAATGAGCGGCGAAATCCTCTCGCGCATCCAACACAAAACC
CTGCACGGCGGCTTTATACTCGGCAACGCCGCCCAACGCGGCATCCGCAGCGTATTCCTG
CAAAACCTGACCTACGCGCTGATTTGCCCGCAAAGCCAATATCCCCATCTGACCCGCTCC
CTTCCGCAGAGCCTGCAAGAATGCGTATGGATAGAAATGTCGGGCGTGTCCGGAAGTAGG
AAGCACCTGCACCAGTTTTGGCGCAGCAACCGGCTCTCACCCAAAAAACAGATCTTGTGC
GACTACCCCCAAACCATTATCGATTTGGTTGCAGGCGGTATAGGTGTGGCAATGGTGCCG
GGAAACAAAGCCGAGCGGCGGCAAAAGAAGGCGCGGGCGTGGCTATTATCGAATCGTGC
CGCCACAGTATGCCGCTCAATTTCATTTATGCGGAAGAATACGAGGATAATCCCCACGTC
```

```
       TCACTCCTGCTCGAGTGCATTGAAAAAGTATGGGGAGTGCAGGCGGTGCAGCCGCCCGTT
       GTCTCGGACAACTGAAATAAATCCTGCTTTGCTGATTGTTTTAAAATAGAAATTTGAATT
       TTATCACGCTGAAAACACTGAAAACGCCATCCGCATTCTCTCAAATACGGCTTAAAATGC
       CCTTTGGAAATGCCGTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAG
   5   ACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCT
       CTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATAAACTGACGC
       AAATACCGTTTTGCACAATTCCAAAAGTTTTCAATTCCGTTAATGCGATTTTGCCGTTTG
       GCGAAATGCGTACTGTTCCAGTCGTGGATTGAACCCCCACCCTGTATAGTTCTTTCGAAG
       CATTGGGGTATTGTTTTTCAAAGCATCTTGGATTCGGATTTCAAGTGCAACACTAGTGT
  10   ATTAGTGGTTGGAACAGATTCAAGAATAAAACACTTGGCGTTTCGTAGCCAAGTGTTTTT
       CTTGGTCGGTGGTTCAACTCATCTTGAACCCTGCGTATCTCCCGATCACTGATGTTACGG
       AAATCGGTTTGTTTGGGGAAGTATTGCCGGATGAGTCCGTTGGTGTTCTCATTCAGCCCT
       TTCTCCCAAGAATGGTAAGGGCGACAAAAATAAGTCTCCGCTTTCAATGCTTTGGTTATT
       TTGGTGTGTTGGTAGAACTCTTTGCCGTTATCCATGGTAATGGTGTGCACCCTGTCTTTA
  15   TGTGCCTTTAATGCCCTAACAGCTGCCCGGGCAGTGTCTTCGGCTTTGAGGCTATCCAAT
       TTGCAGATGATGGTGTAGCGGGTAACGCGTTCGACCAAGGTCAATAATGCGCTTTTCTGT
       CCTTTGCCGACAATGGTGTCGGCTTCCCAATCGCCGATACGGGATTTCTGGTCGACGATA
       GCGGGTCGGTTTTCTATGCCGACACGGTTGGGTACTTTGCCTCTGGTCCATGTGCTGCCG
       TAGCGTTTGCGGTAGGGTTTGCTGCATATTCTGAGATGTTGCCACAACGTGCTGCCGTTG
  20   CTTTTGTCTTGGCGAAGGTAGCGGTAAATGGTGCTGTGGTGGAGCGTGATCTGGTGGTGT
       TTGCACAGGTAGGCGCATACTTGTTCGGGACTGAGTTTGCGGCGGATAAGGGTGTCGATG
       TGCTGAATCAGCTGCGAATCGAGCTTATAGGGTTGTCGCTTACGCTGTTTGATAGTCTGG
       CTTTGCCGCTGGGCTTTTTCGGCGCTGTATTGCTGCCCTTGGGTGCGGTGCCGTCTGATT
       TCGCGGCTGATGGTGCTTTTGTGGCGGTTCAGCTGTTTGGCGATTTCGGTAACGGTGCAG
  25   TGGCGGGACAGGTATTGGATGTGGTATCGTTCGCCTTGGGTCAGTTGCGTGTAGCTCATG
       GCAATCTTTCTTGCAGGAAAGGCCGTATGCTACCGCATACTGGCCTTTTTCTGTTAGGGA
       AAGTTGCACTTCAAATGCGAATCCGCCGTCGTTTGAACATTTTTTTCTTCCTGTTTGATT
       TCAGACGGCATTGCCGTTCCGTTTGGTTTCCAGCAGCTCCCAGCGTTCCAGCTTTTCCAA
       AAGCAGCATTTCGATTTCTTCGGCGCGGTTTTGCAATGCACCTGCTTTTTCGTAATCTTT
  30   GAAAATTTCAGGATAGGAAAGTTGGGTATTGATTTCAGCCTGCTCGGCTTCCAAAGCGGC
       GATTTCGTCGGGCAGGGCATCGAGTTCGCGCTGCTCTTTGTAGGACAGTTTGACCGTGCG
       GTTGGCTTTGGGTTTTTCTTTGGCGGGTTCGGCATCGGATGCTTTGGGTGCGGATGCCGT
       CTGAATTTTATCTTCCCGCGATTTTGCGTCGATATAGTCCTGATAGCCGCCGATGTATTC
       TTTCAGACGGCCTTGTCCTTCGAAAACAATGCTTTGGGTAATTACGTTATCAAGGAACAT
  35   ACGGTCGTGCGAGACAAGGAATACTGTGCCTTGATAATCGCGCAACAGGTCTTCGAGCAG
       CTCTTGGGTGTCGATGTCTAAGTCGTTGGTCGGTTCGTCCAAGACCAGGATATTGGCAGG
       ACGGGTAAAGAGTTTTGCCAGCAAAAGGCGGTTGCGTTCTCCGCCGGAGAGCGATGAAAC
       AGGGCTTTGCGCACGGGCTGGATGGAACAGGAAATCTTCCAAATAGCTCATGACGTGTTT
       TTTCTTACCGCCGACTTCAACGTAATCGTTTCCCTGTCCGAGGGTGTAAAACACGGTGTC
  40   GTTTTCATTCAACGCGCTGCGGAACTGGTCGAAATAGGCGACTTCCTGCTTACTGCCGAT
       ACGGATTCTGCCGTAGGTCGGCTGCAATTCGCCCAAAATCAGCTTAAGGAAGGTGGTTTT
       GCCGATGCCGTTGGGGCCGATTAGGCCGATTTTGTCGCCGCGCTGCAAGATAGCGGAÇAA
       TTTGTCCATAATGACTTTGCCGCCATAGGCAAACGAAGCGTGTTCCAATTCGGCGATGAT
       TTTGCCACTTTTCTCACCGCTATCGAGCTTGAAGTTGACTTGTCCCTGTACGTTGCGGCG
  45   TTCTGCACGCTGGCGGCGCAGCTCTTCCAAACGGCGCACGCGGCCTTCGTTGCGGGTACG
       GCGCGCTTCGATGCCTTTGCGTATCCATGCTTCTTCCTGTGCGTGGAATTTGTCAAAGAG
       GCGGTTGTGTTCCGCTTCGACTGCCAACTCTTGCGCTTTTTTCTCGCTGTATTTAGAGAA
       CGAGCCGGGATAGGAACGCAAAATACCGCGATCGAGTTCGACAATCCGCGTGGCGATATT
       GTCCAAAAAACGGCGGTCGTGGGTAATCACAACCAAGCTGCCTTCAAACGCTTTGAGCAG
  50   ATTTTCCAGCCAAATAATCGCGTCGATATCCAAATGGTTGGTCGGCTCGTCCAGCAGCAA
       TACGTCGGGCTTTTGCACCCAAGCCTGAGCCAAGGCGACGCGCTTTTTCTGACCGCCGGA
       AAGGTTGCCGATTTTTTCATTTTCCGGCAAACCGAGTTCCCCCAAAGTCTGCTTGACTGC
       CGCATCCAGTTTCCAGCCGTCCTTCGCTTCGATTTCAAGTTGCAATTCGTTGAGTTCTTT
       CAACAAAGCCTCACTCGAACCATTTTCCAACTCATGGCTGACATGATGATAACGGCGCAA
  55   TAAATCACGAATTTCGCCCAAACCTTCGGCAACGGTATCAAATACGGTTGCGTCCTTATC
       AAAAAAGGATTCCTGCGGTACATAAACGATTTTGAGGTTGTTTGAACAATAATCTGCCC
       GTCGTCGAGCTTTTGCAAACCGGCGAGGATTTTTAAAAACGAAGACTTGCCTGCGCCGTT
```

```
     GCGTCCGATTAAGCCGACTTTTTCGCCGCTGTCGAGTTGAAAAGAAGTTTTGTCGAGCAA
     GGCAACGTGGCCGATGGCAAAAGAAGCGTTTTCTACAGATAATATATTCATGATACAAAT
     TCTCAACAGTTACCGTTTGGATTTTACCGCAAGTTTGGCGCGGGCAATTTCAACCGCACC
     CGGCAGGACGGAAACAATAATGATGCCGCCCATCACCAAGCCCAGATTGTTTTTTACGAC
  5  GGGGAAGTTGGCAAAGAAATAGCCCGCGTAAGAAAACAGGATAACCCACAACAAGCCACC
     GATGATGTTGTAGCGGATAAATTTGGCATAGTGCATTTTCCCCATACCGGCGACGAAGGG
     GGCGAAGGTGCGGACGATGGGCATAAAACGGGCAATGATGATGGTTTTGCCGCCGTGTTT
     TTCGTAAAAACGGTGGGTTTTATCGAGATATTCACGTCGGAAGATTTTAGAATCGGGGTT
     GGCGAACAGCCTGCCGCCGAAATATTTGCCGACGGTAAAATTGAGCGCGTCGCCGAGTAT
 10  GGCGGCAAGGCTTAATAATGCAACCATCAAATGAATATCCATACCGCCCAGCGCGGCAAT
     CCCGCCGGCGGCAAACAGCAGCGAATCGCCGGGCAGTAAGGGCGTAACAATCAGGCCGGT
     TTCGCAAAAAACAATCAAAAACAGAATCGCATAAATCCACACACCGTATTGCGCCGACAG
     CGCGAGCAGGTGTTGGTCGATATGGAGGATGAAGTCGATGGCGGAGGCAAGCACGGCGCG
     TTCCTAAAAAAACAAACCGCGTATTTTAACCGATTGGAAAAATGCCGTCTGAAAAGTTTC
 15  AGACGGCATCGGCTATTCAAATTCATTTCACGTAAAAACCGCAAACCAAAATAGTTTGCG
     GTTTGGCATTTAAAGTGACAATGATGATTTCAAATCATCAGAATTTTATGCCGACGCGCA
     AGCCGTATTCACGAATACTGGTTTTCGGGATGGTGAGCGATACGTCGCCACTCTTGGTTG
     TTACACTAAACTCGCCGGATTCTTTGTAAGTGCGTTGTTTGTAGAACGGCCCCGCCTCGA
     TGCTGGCGGATTCGCCCAGTTTTTTACCAATATTTGCACCCAATCCAAAGCCCCAGCCGT
 20  TGGTTTTTTGATTGATGTCTTTTTTGAGATTGGTAACGCCGGTGTTTAATTTATAGCGGG
     AATTGAGGTCAAATTTCACTTCAGACCAAGGGTTGATATACCAGCCGTTACCCAGTTGGG
     AAAGCAAATCCGCGTGAACTTTGGCTAACCACGACTGACGGCTGCTGTGAAGCGTATGCT
     TGGTGGTTTTAATGCTGTCTTTTGAAGATTCAAAACCCAAGCCGGCACCCACACGGAAAT
     TTAAAGAATCACTTAACGTTTGGGTGTAGGTGTAGCCTGTGTAAAGATCGATACGGTTTT
 25  CAGGAACGCCGGTGGGCAGTTTTACATTTTTAGTCTTACCCAGCTTGTTCTCATCTGTTT
     CCAAATTAATAATATTTTTTTTGCTGCGCCCGAAACCGGCTTCCAAGCGGATGCCTTGGT
     TGGCATCAAAAGGAATATCAGCACGCACGCTGATGTGTTTGGCAGCTTTGTGTTTTTCTT
     TCAGGAAAGCACGAGTTGAAGAAATGGAAGAGAGGTCGGTGTGGACGGTAAACTCATTAG
     CGGTTTGAAGCTCTTGTGCAGCGGCGGCAGTACCGGTCAGGGCAATCATGGCACATGTAA
 30  AAACTGTTTTTTTTCATAGTTAAAACCTCTAAAATTTGGATTGTAGTCGGATATGGTAACA
     TAACGTAAATAATCGTTACGCTTACAATTATATTCTTAAGCTTTCGGGGGGGGGGGGGATT
     TTACATATATTAATAAAAATTAACAAATAGTTATTTGTTTACAACGAATTGTTATTCTCA
     CTTGGTTTTCTGTTTTTTATGGGAATGACGAAATTTTAGTTTGTGTGTATTTATCGGAAA
     AACAGAAACCCGCCGCCGTCATTCCCGCGCAGGCGGGAATCTAGAACCCAACGCGACAAA
 35  AATTTATCCGAAGCGACAACAATCTTTTCATCGTCATTCCCGCGCAGGCGGGAATCTAGA
     ACGTAAAATCTAAAGAAACCGTTTTACCCGATAAGTTTCCGTGCCGACAAACCTAGATTC
     CCGCCTGCGCGGGAATGACGGGATTTTAGGTTTCTGATTTCGGTTTTCTGTTTTAAGGGA
     ATGACGAGACTTGAGATGGCGGCATTTATCGGGAGCAACTGAAACCACCCTGCCGTCATT
     CCCGCGAAAGCGGGAATCTAGGTTCGTCCGGTTTCGGTTATTTCCGATAGATTCCTGCCG
 40  CGTTGGGGGTCTGGATTCCCGCCTGCGCGGGAATGACGGGACTTTAGGTTTCTGTTTTTG
     TTTGAGACCTTTGCAAAATTCCTTTCCCTCCCGACAGCCGAAACCCAAACACAGGTTTTC
     GGCTGTTTTCGCCCCAAATACCGCCTAATTTTACCCAAATACCCCCTTAATCCTCCCCGG
     ATACCCGATAATCAGGCATCCGGGCTGCCTTTTAGGCGGCAGCGGGCGCACTTAACCTGT
     TGGCCGCTTTCAACAGGTTCAAACACATCGCCTTCAGGTGGCTTTGCGCACTCACTTTAA
 45  TCAGTCCGAAATAGGCTGCCCGCGCATAGCGGAATTTACGGTGCAGCGTACCGAAGCTCT
     GTTCGACCACATATAGTGGATTAAATTTAAACCAGTACGGCGTTGCCTCGCCTTGCCGTA
     CTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTAAATTTAATCCACTATAAC
     GGGTCTTCGATAAATATCGGTTACGTTTGGTTTGCGTTTCCGTCAGCGGACGGTTGCGGC
     AGGCTTTGCGCATAATGCCGTCCAACAACTGATGTTCTTCCAGATGTTGCCGGTTTTCCG
 50  CACTGTCATAGCCTTTGTCGGCATAGACGGTCGTACCTTTGGGCAGTCCTTCCAACAAAG
     GCGGCAGGTGTTTGCACTCATGGGCATTGGCGGGGGTAATGTGCAGTTTCTCGATATAGC
     CTTCCGCATCGGTACGGGTATGTTGTTTGTAACCGAGTTTGTAGAGGCCGTTTTTCTTGA
     TCCAACGGGCATCGCTGTCCTTACTCGGTGTGGTTTGGCCGTTGATTTGTCCTTCTTCAT
     CGACTTCTATGACCTGACGCTGTGTGCTGCCGGCGGTCTGAATAATGGTGGCATCAATGA
 55  CGGCGGCGGATGCTTTCTCTACTTTTAAGCCTTTTTCGGTCAGTTGGCGGTTGATCAGTT
     CCAATAATTCGGACAGGGTGTTGTCTTGCGCCAACCAGTTGCGGTAGCGGCATAAGGTGC
     TGTAATCGGGAATGCTCAGTTCGTCAAAACGGCAAAACAGGTTGAAGTCGATGCGGGTGA
```

-143-

```
TGAGGCTGTGTTCGAGTTCGGGATCGGAGAGGCTGTGCCATTGTCCGAGCAGGACGGCTT
TGAACATGGACAACAGGGGATAGGCGGGACGGCCGCGGTAATCTCTGAGGTAACGGGTTT
TTGACGGTTCAGGTATGGTTCGATCGGCTGCCAATCAATCACCCGGTCCAACTTCAATAG
CGGGAAACGGTCGATGTGTTTGGCAATTATGGCTTGTGCGGTTTGCCGGAAGAAGGTGCT
CATGAGAAATCCCCTAAATGTCTTGGTGGGAATTTAGGGGATTTTGGGGATTTTTGCAAA
GGTTTCCGCCTGAAACATTATGAGATTTCAGGCGGCATTGGATTGCTTGGCGGAATATTT
TTAAAAAGGCTTACGCGCCGTAAACGGGGTATTTATTGCACAAAGCAGTTACTTGTTTGC
GGACTTTGGCGAGGTTGGCTTCGTCTTCGGGGTTAGACAATACGTCGGCAACCAAGTTCG
CCAATACGCGCGCGTCGGCTTCGTTAAAACCGCGTGTGGTCATGGCAGCGGAGCCGATGC
GGATGCCGGAGGTAACGAAGGGTTTTTCCGGATCGTTCGGAATGGCGTTTTTGTTGACGG
TGATGTGCGCTTTGCCCAAAGCGGCTTCGGCGGCTTTGCCGGTAATTTTCATCGGTTGCA
GGTCAACGAGGAAAACGTGGCTTTCGGTGCGGCCGGAAACGATGCGCAAACCGCGTTTAA
CCAACTCTTCCGCCATGGCGGCTGCATTGATTTTCACTTGTTTTGCGTATTGTTTGAACT
CGGGTTGCAATGCTTCTTTAAACGCCACGGCTTTGGCGGCGATAACGTGCATCAGCGGAC
CGCCTTGCAGGCTTGGGAAGATGGAAGAGTTCAACGCTTTTTCGTGGGTATTGTCGCGGC
ACAAAATTACGCCGCCGCGAGGACCGCGCAGGGTTTTGTGGGTGGTGGTGGTCACGAAGT
CGCAGAACGGCACCGGGTTGGGATATTCGCCGCCGGCAACCAGACCGGCATAGTGCGCCA
TATCGACAAAGAGGTATGCGCCGACTTTATCGGCGATTTCGCGGAATTTTGCCCAGTCGA
TTTGTAACGCGTAGGCAGACGCACCCGCCACAATCATTTTGGGTTTGTGTTCGAGCGCGA
GGCGTTCGACTTCGGCATAATCGAGCACTTCGTTTTCATCCAAACCATAAGTAACGGCGT
TGTAGAGTTTGCCTGAGATATTAACGCTCGCGCCGTGGGTCAGGTGGCCGCCGTGCGCTA
GAGACATACCCAAAATGGTGTCGCCTGGTTTTAAAACGGAAGCGTACACGGCTTGGTTGG
CTTGCGAGCCGGAGTGCGGTTGGACGTTGGCATAGGCTGCGCCAAACAGTTCTTTTACGC
GGTCAATCGCCAATTGTTCGACAATATCGACGTATTCGCAGCCGCCGTAGTAGCGTTTGC
CGGGGTAGCCTTCGGCGTATTTGTTGGTCAGCTGGGAACCTTGCGCGTCCATTACGGCGC
AGCTGACGTAGTTTTCGGAAGCAATCAGCTCGACGTGGTCTTGCTGGCGTTGGTCTTCTT
GGGCAATGGCTGCTGCCAAATCGGGGTCGTATTGTGCGAGGGTAACGCTTTTTGAAAACA
TGTTCTCGGCTCCTTTGTGTAATCAGGGTATCATGAGTGTTTTTTGTATAAAAAAATATT
TCAAAACCTAAGGCAGATAGCCCATAATGCGTAAATTTTCTTTGGCATTATCAGGTAATT
TATTTAACATGCTGGTTTTTAGCGTCTCATTACCTTTATTTAGTACAAGACTAATCAAAA
GCAATACATTAAATGGTAAATTTTCGGCAGTTTGTGCAAAATCAATCAAATAACCAGCAC
CAACCACATCTTTATCAGCCATAACCCGCTGATACACCACTTGCTAAGACAACTCTCCTG
CCCCACCATGTCTTAAAATCAGATGAATGGCTTGTAATGCTGTGTTTGGTGTCTCACAAA
TTGCCAAGATCTGCTCAGAAGCTTGCTTGATGGCTTGTATTTTTGTTTGATTACTCACAA
TTTCCCCCTATTTTAATAATTAACTTAAATGCGGTCAAATTCACAAAATACAAGCTTTAC
CTCTAATCACCCATCACTCGACCTTCTCGGCGTGGATCGGCACCACCAACCAGCCTGCTT
GGCTCGATAATAATGGCTTGAACACCTGAATTTAGCTCACGCACATCAGTCTTATAGCCC
AAATCATTTAATGCTTGTTGCCACTGGACGGCGGTTGTACCCGTTTCTAGTTCATAGCTA
CCAAAGCGATTTAATAAATTGGGTGCACTGATGGCATTTTGGATATCCATATTCCAGTCA
CTATGTGCCACAATCGTCTTAGCGACATAGCCAATGATACGGCTACCACCTGGGGAGCCG
ATTGCCATATAAGGCTTGCCTGCTTTAAATACGATGGTTGGTGCCATTGAGGAGCGTGGT
CTCTTGCCGGGCTCGACACGATTGGCGACCTGTTTGCCCTGCTTTATTGGCTCAAAACTA
AAGTCTGTCAGCTCATTATTCAGCAGGTAGCCATTTGCCATCAAAGTTGAGCCAAACGCA
TTTTCAATGGAAGTCGTCATTGATAGCACATTGCCCGCCTTATCCACAATTGATATATGA
CTGGTAGAAGGTAACTCAATCGCTTGTGAGGACACCCACTCATGAATAAAATCGCCTGCA
GATACGCTAGGCAATGCCTTATCCGACTGCTCAAGCAGCTGGCTGCGATGTTTTAGGTAG
TCTTTAGAAATCAACTGGCGAATGGGTACTGGTACAAAATCAGGGTCGCCCAAATATACA
TCACGATCCGCAAACGCAAGCCTAGAAGCGTCGCCCAAGAGACGTAAACCTTCAGCATCA
TACCCCACCTGATTGGGTGAAAATTCATTTAAAATCCCCAAAATCTGACCCACAGCAATC
CCACCTGAGCTTGGTGCACCCATACCGCATACTTCATAAATACGATAAGTCACACAAACA
GGCGGGCGTTCCACCACTTGATAATCAGATAAATCTTGTAAGGATAATTGACCGGGGTTA
TCCTTAGCATTTTGGACAACTGAAACGATATTTTGGGCATATTTACCAGTATGCAGAGCT
TTTGCACCTTGAGCTGCTAACGCCTGAACACTGTCAGCAAATTCTAAATTTTTCAGCAAG
CTGCCTGCTTGTAGCGGCACACCATTCGGCAAAAAATAAGCGGCTGTTTTGGATAGCGT
GCCAAATGCTGCTGATTTTGCTCAACCGAGATGGCAAGCCTTGGCGACACCTCAAAGCCT
TGTTTTGCCAAGCGGATCGGTGTATCAAATAATTTTCCCCAAGGCAATACACCGTATCGC
TGATGTATTGTCTCCATCAGTTTAGGGATAGCAGGCGTACCCACCGAGCGACCACCGACC
```

<div style="text-align: left">

5

10

15

20

25

30

35

40

45

50

55

</div>

```
ACCGCTTCCATAAATTTCAATGGTTGACCATCTTTATCCAAAAATAATTCCGGCGTCGCA
CGCATCGGTGCCGTCTCACGCCCATCAAATGTGGTCAATGTTTTGGCGGTATTATCCCAA
TACAACACAAATGCACCACCGCCCAAGCCTGACGACTGTGGCTCTACCAAGCTTAGTGTC
GTCTGCACCGCCACCATCGCATCTGCAGCGCTACCGCCTTGCTTTAAGATATCATAGCCA
GCTTGTGTTGCTAATGGATTGGCTGACGCTACCATAAATCACTTGCAATCACCTGCTTT
TGTTCGGTCAGTCCCGTTGCATGTTCAGGCGTGTGAGCGTCTGCACCTGTGATGACAGCA
GAATGAGTATTAACCTTACCTTGATTGGCATGGATGACTTGACATCCAGAGATTGTCATA
GACATTATCAATGCAGTCAATAAATATGTTTTAGCCACAAGCACTCCTTCGCCTGAGTTT
GATTGATGATTCATACAAGGCATGCTGATTATTGTATTTAATATGGCTAAATAATTCAAT
CCAAACTATCAATCTTGACCATCAAAAAAGACCGCTAATGTCATCAGCAGTCTTTTTTG
ATATTTATTTTAAGATATTAAGTAATCAGACCTTTGGGCTATGCTCTTCAATGAGTGGTT
TTAGCTCACCTGATTGGTACATTTGTAGGATAATATCACTACCACCGATTAACTCACCAT
TAACCCAAAGCTGTGGAAAGGTTGGCCGACTGGCGATGAGTGGTAGAGTACTGCGAATTT
CTGGGTTTTCTAGGATATTAACAAAGCAAAGGGTCTGCCAATTGGGTCAGCACCTCTAC
TGCACGCGCTGAAAATCCACATTGGGGAAACTGGGGCGTGCCTTTCATATATAGTGGATT
AACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGC
TGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGT
CCTGATTTTTGTTAATCCACTATACAGTAGGAAAGGCTGAAAATTTATGCGTAAAGCGTG
ATATTGTCAACGTTTTTATCAACCGGACGGCGGTGTTAAAAGAAAATTTTGCCGTATCCG
ATAAAACACTGGATAAAAATATTATCTTTGTTATAATTAATGTAAAGATTCAATTTGACT
TTTTAACCGTAAACCAAGAGAGGAAAGCGATATGTTCCCAGAATACCGTGATTTGATTTC
CAAATTGAAACAGGAAAATTCCCGCTTCGCCCGTCTGTTCGACGAACACAACGAGCTGGA
CGATAAAATTACCGGTCTGGTCAACAATCCGGTTACCAGCGGTGCGGAAACCATCGATGA
GCTGAAAAAAGCCAAATTGAAACTGAAAGACGAGTTGTACGCCATCCTGCAAAAAGCAGC
GGGAAAATAATTCGGGTTTGAGTTTTTGAAATGCCGTCTGAAATGTGTTCAGACGGCATT
TTTGTCATTTGACCGGAAGGCTTGTGCTGTTTGAAATAACGGCGGCGGTATCGGATTGCC
GCCGCCGTGTACTTGTGTGAACGGCTGTCTGTCTATTTTGCGTGCAGGCGGTCGAGATAG
GCGACTTCTTCGCTGCTGCCCATGAAGACGGCGACGCGTTAGTGCAGGTTTTCGGGCTGT
ATGTCGAGCATGGCTTGATATGCGTTGCTTGCCGATGCGCCCGCCTGTTCGAGTATCAGG
CTCATAGGGTTGGCTTCGTACATCAGGCGCAGTTTGCCGGGTTTAGCGGGGTCGCGTTTG
TCTTGCGGATACATGAACACGCCGCCGCGCATCAGGATGCGGTGGATTTCGGCAACCATA
CTGGCTACCCAGCGCATATTGTAGTTTTTGCCGCGCGTACCGGTTTCGCCCGCCAAGAGC
TCGTCGATGTATTGTTGGACGGGGGGCAGCCAGTGGCGGCGGTTGGACATATTGATGGCA
AATTCTTTGGTACTTTCGGGTACTTTCGGGTTTTCTTTGGTCAGCACAAATTCGTTTCG
GCATTGAGCGTGAACATATATACGCCATGTCCGAATGTGAATACGAGCTGGGTTTGAGGC
CCGTAAAGAACGTAACCAGCGGCAAGCTGCTGTCTGCCCGTTTGAAGGAATGATTCGGTT
GCCAATGCGCCTTCGGGTTTTTCAAGGATGGAGAAAATCGTACCGACGGAAATGTTGACA
TCAATATTGGACGATCCGTCTAAAGGGTCGAATAGGACGAGATAGCGTCCGTTTTCACCG
GCATTTACGAAAGTGTCTTCTTCCTCGCTCGCCAGCCCGGCAACGGCAGAATTGGCTTTG
AGTGTGTCAATCATGATGTTGTTGGCGATAACATCCAGTTTTTTTTGGTCTTCGCCCTGA
ATATTGCCCGTGCCCGCCATACCCAATACGCCGGCCAGTGCGCCGAGGCGGACTTTGGCG
TTGATTTCGGTGCAGGCGGAAACAACgGACAGTAAAACGCCGCCGAGTGCTTCGGGCAGC
TGGTTTTGTTGCAGGTGTTCGGGGAGGAATCGGGTCAGTGTGTCCATAGTTTGCTCGTTT
CGGAAAGGTTTGTGCCGTCTGAAAGGCGGCAGGTTATTGTGGCGTATTCCTTTGGTGCGT
TTTGCAGGATAGTCTAGGGGATTGTAGTGTAAAAAAACGGCATGGGGCAAGTCGGAACGC
GGCAGGCGGATGAGGGGATATTTATTCTTAAAAGTGCCGACTGCCGGTATATCGTCCGGT
TTTGTTTATTTGACGGGAGATGTTGTCTGAAGGGTTTCAGACGGCATCGGGGTCAGCGGA
TTTTGCTGTCCAAAAGGTAGCGCGAGCCTTCGTCTTGCGCCAGCAGCCGCGTCAGGGCGG
GGAGGTTTGCCGCCAATTGTTCCGCCAACAGATAGGGCGGATTGATGACGAACATTCCGC
TGCCGTGCATACCGAAACCGTCGGCTTTCGGCGCGTGGACGTGAAGTTCGGCGTGAAGGT
AGTTGTCGGGCAGGAGTTTTTTCAATTCTTCGGGCAGCTTGCGGCTTTCTTCGCGGCTGA
GGCAGGGATACCAAATGAGATAACAGCCGGACTCAAACCGTTTTAAAGCGGCTTTCAGCG
TTTCCGTTACACGCCGGTAGTCCTGTTTTTCCTCATAGGGCGGGTCGATGAGGACGGTGG
CGCGGCGCGGCGGGGGCGGCAGCAGGGAAATCAGCCCTTTGTAACCGTCTTCGCGTAATA
CTTGTCCGCGTTTGCCCAATCCTGCTTCGCCCATATTGTTTTGCAGATGGACAAAGTCGG
TGGGGTGCAGCTCAAACAGGCGTAATTTGTCGCCGACGCGGGTCAGCGATTGCGCCAGCC
ACGGAGAACCGCAGTAAAGTTTGGGCGAGGGCAGGATTTTTTGTATGTGCGCGGCAAAGT
```

```
CAGAGAGTTCGGCAGGCAGGTTTTGCGCCTGTCGGAGCAGGGCGATGCCTTGTCGGTATT
CGCCGACTTTCTGCGCCTCGCTGCCTTCGAGATTGTACACACCCGCGCCGCCGTGCGTGT
CGATGTACCAGTAGGGCTTGTCTTTGCGGTTGAAATATTGCAGCACTAAAAACAAGGTGA
AATGTTTGAGCATATCGGCGTGGTTGCCGGCGTGGAATGCGTGTCTGTAACTGAGCATAG
TCGGTAAAACGGCGGGATATTCGGATGCCGTCTGAAGCGGGGTTCAGACGGCATAAACAG
GGATGGATGGGAAATCAGCGGCTGCCGCCGATTTTGCTTTCTCTGCCTTCGAGCAGCTTG
ACGATATTACTTTTGTGGCGGAACAACACCAGCAAAGCAATGGCGACGGTCGCCCAAACC
CACGAGACGTGCGGCATAAAGAAGGATGCGGCGACCGGTGCGGCGATTGTGGCGGTTAAT
GCGGCAAGGGAGGACACCTTGAAGCCGAATGCCATAACAAGCCAAATCAACGCGCAGACC
AAGGCAGTTGCGGGAGAGAGTGCCAGAAGCACGCCCAATGCCGTTGCCACGCCTTTGCCG
CCTTTAAATCCGAAAAACACCGGCCACATATGCCCGACCAGCGCGGCGAGTGCGACGGCC
GCGATTGCGCTGTCGGATAAACCGAGCGGTTCTTGAAGCACGCGTGCAAGCAAAACGGCA
ACTAAACCTTTGGCGGCATCGCCCAAGAGCGTCAGCGCGGCCGCCTTTTTTTGCCGCTG
CGTAAAACATTGGTTGCCCCCGGATTGCCCGATCCGTAGGTGCGCGGGTCGTCCATGCCG
TAATACTTGGACACGATGACGGCGAAAGAAAGTGAGCCGATCAGATAGGAAACAGCAACA
GCCGGTATGTTGAACATTTGCGGTACTTTACTTAGAATGGTGCGGTTATTTAGCAAAAA
ACGGGGCGGATTATGGATAAAATCTTTTTGCACGGCATGAAGGCAGATACGCTTATCGGC
GTGTACGGCTGGGAACGCGAACGGTTGCAGACCCTGATTGTCGATTTGGACATCGGTGTT
CCCGAGAAAGCGGGTTCGGACGACGATATTGCCAATACGGTGCATTATGCCGAGGTATGC
GAAACGCTGCGCCGACATCTGAAAGAACAGGATTTCCTGCTTTTGGAAGCGTTGGCGGAA
TATATTGCCGATTTGGTTTTGGGATATTTCGGCGCGGTGTGGGTGCGCGTGAAAATCGTC
AAGCCGGGTATTTTGGAAGGCGTGCGCGAGGTTGGCGTGGAAATCGAGCGCGGCAAGCGT
GAAGATTGAACGGCAGAATAGGAAACGGAAAGGAGATATGAAGTGGATTTGAGGGAAGTA
AAATTAGGCGGCGAAACCATTTACGAGGGCGGTTTCGTCAGTATCAGCAGGGATAAGGTC
AGGTTGCCCAACGGCAATGAAGGGCAGCGTATCGTCATCCGCCATCCGGGTGCGGCATGC
GTGTTGGCGGTTACGGACGAAGGGAAAGTGGTTTTGGTGCGGCAGTGGCGTTATGCGGCA
AATCAGGCGACATTGGAACTTCCTGCGGGCAAGCTGGATGTGGCGGGCGAGGATATGGCA
GCGTGTGCGCTGCGAGAATTGGCGGAGGAAACACCTTATACCGCCGACAGCGTACGCCTG
CTTTACAGTTTTTATACGGCGGTCGGTTTTTGCAACGAAAAAATGTATCTGTTCGAAGCG
GAAGGCGTGCGTTTGGGCAGTACGCTTGCCAATGACGAAGACGAGATTACGGAAACCGTA
TTGATGTCGAAAGAAGAAGTCCGTCAGGCATTGGCAAACGATGAAATTAAAGACGGCAAG
ACATTAATCGGTTTGCAATACTGGTTGATGAAGGATTGACAGGATGTTGGACTTGCCCGC
CGGATTGGATCGGCGGGCGGTTTGTTTGGCGGATGGGATATGCCTTTTCGGCTTGTATCT
GGGCGCGTCCTTTAAAGTCATTCGTGCTTTAGTAATAAGAGAGAAAAGGGGGATGATAATT
ACCTAAAAGAACGTGATAATTTTTAAAATGGTTAATAATGAATATCTTTGTTACTAATTT
TTGTTATTGGTTTATTAGTTTATTGGCTATTTCTTATATACCATCTATTAATGCATGGCA
TGATGAATTAATAGATGATATTAATTTTGGCAAAAGGGTTATGATGGTTACTTTTTTTGC
ATTTTTAGGCACGGTAATAGAGCGTTTTTTTAAGAAAAAGCCTTGGTGGTTTTATCCTGC
CAAGGCTTTTTCTTTGTTACAGACCTAAAAGCTCAATTTGAATTTGAGAACGGTAATTGG
CACAGCCAGTATTTAAACAAGCGAAGCTAATTTATAGATTATGTCAAAACAAAGGGAGGC
AATTTGTTGCGGTTATTTGACTGCCGCCCCTATCTTCAGCCCGAGCCAGGTCAGCAGCAG
CGAACCTGCCGTGTGCAGGAAAATATTGGCAAGTGCTGAAGCGGGACGGTTCAATTGGAG
CAGGGTTACGGTTTCCAGCGAAAATCCGGAAAGCGTGGTCAGGCTGCCGAGAAAACCGGT
AATCAGCAGCAGCTTCCATTGCGGGTGGTTGACGGTTTCGGCAAAGATTCCGATAAGAAA
AGCGCCTATCCAGTTGGCAAACAGGTTGCCTGTGGCGGGAGGTATTGATGCGGGAACGGC
GAGGTTGAGCAGCCAACGCGCCGTTGCACCGAGTGCCGCACCGATGGAAAGGgGGATGAT
GTTGGAAAGCATGGTTTTGCCTGTCTATGCCGTCTGAAGGCTACCGCCATATGCCGCGGT
CGGACTTAAGATAGCGGTTGTCGTCGAAAGTGTTAATCCAATGGGGCTTCAGTGCAACAA
ATATGGCAGTTGAAATGCCGCTGAGGAAGGCTTCCGCCCACGCCAGCAGAATAAAGACGG
GCAGGGCGGTCGTCCACAATATTTCGGACGGAAAAGCGTTTGCGGCATCCAAAATACCGG
TCAGCACCAGCCCGGTCAGCAGAATGCCGGCGGCGGAAGCGAGAAAGCCGTTGACGAAAA
TAAAGATGAAAATATTGGGCGGCAGGCGGTTGACCAGCATACGCGACAGGCGGTTGACGG
TCAGCGCGGGCAGTATCAGCACCAAAGCGTTCGGCGGATATGCGCCGACAGAACCGGCAA
ACAGCAGGCAGTAGGGCAGCATCAGCAGCGCGGCAAGCCAAAGGGCGGCGGAAGTGCCCA
TCATCAGTGCAACCAAATTGACGGCGAGCAGGTGGTAGTTCATCTGGGCAAGCTGTCCGC
CGCCGGCAGAGGCGTTCAGACACCATGCTGCGGAAAAAAATTACGGTACACAGGGGAAGGG
CGGAACGGTAGCGGGCAAGCGAGCGGAATGCCGACGGCGCGGAAGCTGCCAGTATCAGGA
```

```
        TAAGGACAATCCACGAAACCGACAGTACCATATCTGAAAACCAGACTGTTTGGAAAATCA
        TGGCAATGCCGCAAAGATTAAGGGAAGGGACGGCTATTATACTGTCGGCGGGGGCAAACC
        GAAAGCCGAATCGGTTTCGGCAGAATTGCCGGCCGGTTGTTTTTTTTGGGATGGAAACAC
        GTTAAAATAAACCCGTTTAATCGTTTGTCTTGCGGGAAACGGCATATGTTTTGGATAGTT
  5     TTGATCGTTATTTTGTTGCTTGCGCTTGCCGGCTTGTTTTTTGTCCGCGCACAATCCGAA
        CGCGAGTGGATGCGCGAGGTTTCTGCGTGGCAGGAAAAGAAAGGGGAAAAACAGGCGGAG
        CTGCCTGAAATCAAAGACGGTATGCCCGATTTTCCCGAACTTGCCCTGATGCTTTTCCAT
        GCCGTCAAAACGGCAGTGTATTGGCTGTTTGTCGGTGTCGTCCGTTTCTGCCGAAACTAT
        CTGGCGCACGAATCCGAACCGGACAGGCCCGTTCCGCCTGCTTCTGCAAACCGTGCGGAT
 10     GTTCCGACCGCATCCGACGGATATTCAGACAGTGGAAACGGGACGGAAGAAGCGGAAACG
        GAAGAAGCAGAAGCTGCGGAGGAAGAGGCTGCCGATACGGAAGACATTGCAACTGCCGTA
        ATCGACAACCGCCGCATCCCATTCGACCGGAGTATTGCTGAAGGGTTGATGCCGTCTGAA
        AGCGAAATTTCGCCCGTCCGTCCGGTTTTTAAAGAAATCACTTTGGAAGAAGCAACGCGT
        GCTTTAAACAGCGCGGCTTTAAGGGAAACGAAAAAACGCTATATCGATGCATTTGAGAAA
 15     AACGAAACAGCGGTCCCCAAAGTCCGCGTGTCCGATACCCCGATGGAAGGGCTGCAGATT
        ATCGGTTTGGACGACCCTGTGCTTCAACGCACGTATTCCCATATGTTCGATGCGGACAAA
        GAAGCGTTTTCCGAGTCTGCGGATTACGGATTTGAGCCGTATTTTGAGAAGCAGCATCCG
        TCTGCCTTTTCTGCAGTCAAAGCCGAAAATGCACGGAATGCGCCGTTCCACCGTCATGCA
        GGGCAGGGGAAAGGGCAGGCGGAGGCAAAATCCCCGGATGTTTCCCAAGGGCAGTCCGTT
 20     TCAGACGGCACGGCCGTCCGCGATGCCCGCCGCCGCGTTTCCGTCAATTTGAAAGAACCG
        AACAAGGCAACGGTTTCTGCGGAGGCGCGAATTTCTCGCCTGATTCCGGAAAGTCAGACG
        GTTGTCGGGAAACGGGATGTCGAAATGCCGTCTGAAACCGAAAATGTTTTCACGGAAACC
        GTTTCGTCTGTGGGATACGGCGGTCCGGTTTATGATGAAACTGCCGATATCCATATTGAA
        GAACCTGCCGCGCCCGATGCTTGGGTGGTCGAACCACCCGAAGTGCCGAAAGTTCCCATG
 25     ACCGCAATCGATATTCAGCCGCCGCCTCCCGTATCGGAAATCTACAACCGTACCTATGAA
        CCGCCGTCAGGATTCGAGCAGGTGCAACGCAGCCGCATTGCCGAGACCGACCATCTTGCC
        GATGATGTTTTGAATGGAGGTTGGCAGGAGGAAACCGCCGCTATTGCGGATGACGGCAGT
        GAAGGTGCGGCAGAGCGGTCAAGCGGGCAATATCTGTCGGAAACCGAAGCGTTCGGGCAT
        GACAGTCAGGCGGTTTGTCCGTTTGAAAATGTGCCGTCTGAACGCCCGTCCTGCCGGGTA
 30     TCGGATACGGAAGCGGATGAAGGGGCGTTCCCATCTGAAGAAACCGGTGCGGTATCCGAA
        CACCTGCCGACAACCGACCTGCTTCTGCCTCCGCTGTTCAATCCCGAGGCGACGCAAACC
        GAAGAAGAACTGTTGGAAAACAGCATCACCATCGAAGAAAAATTGGCGGAGTTCAAAGTC
        AAGGTCAAGGTTGTCGATTCTTATTCCGGCCCCGTAATTACGCGTTATGAAATCGAACCC
        GATGTCGGCGTGCGCGGCAATTCCGTTCTGAATCTGGAAAAAGATTTGGCGCGTTCGCTC
 35     GGCGTGGCTTCCATCCGCGTTGTCGAAACCATCCCCGGCAAAACCTGCATGGGTTTGGAA
        CTTCCGAACCCGAAACGCCAAATGATACGCCTGAGCGAAATCTTCAATTCGCCCGAGTTT
        GCCGAATCCAAATCCAAGCTGACGCTCGCGCTCGGTCAGGACATCACCGGACAGCCCGTC
        GTAACCGACTTGGGAAAAGCACCGCATTTGTTGGTTGCCGGCACGACCGGTTCGGGCAAA
        TCGGTGGGTGTCAACGCGATGATTCTGTCTATGCTTTTCAAAGCCGCGCCGGAAGACGTG
 40     CGTATGATTATGATCGATCCGAAAATGCTGGAATTGAGCATTTACGAAGGCATCCCGCAC
        CTGCTCGCCCCTGTCGTTACCGATATGAAGCTGGCGGCAAACGCGCTGAACTGGTGTGTT
        AACGAAATGGAAAAACGCTACCGCCTGATGAGCTTTATGGGCGTGCGTAATCTTGCGGGC
        TTCAATCAAAAAATCGCCGAAGCCGCAGCAAGGGGAGAAAAAATCGGCAATCCGTTCAGC
        CTCACGCCCGACGATCCCGAACCTTTGGAAAAACTGCCGTTTATCGTGGTCGTGGTCGAT
 45     GAGTTTGCCGACCTGATGATGACGGCAGGCAAGAAAATCGAAGAACTGATTGCCCGCCTC
        GCCCAAAAAGCCCGCGCGGCAGGCATCCATTTGATTCTTGCCACACAACGCCCCAGCGTC
        GATGTCATCACGGGTCTGATTAAGGCGAACATCCCGACGCGTATCGCGTTCCAAGTGTCC
        AGCAAAATCGACAGCCGCACGATTCTCGACCAAATGGGCGCGGAAAACCTGCTCGGTCAG
        GGCGATATGCTGTTCCTGCTGCCGGGTACTGCCTATCCGCAGCGCGTTCACGGCGCGTTT
 50     GCCTCGGATGAAGAGGTGCACCGCGTGGTCGAATATTTGAAACAGTTTGGCGAACCGGAC
        TATGTTGACGATATTTTGAGCGGCGGCGGCAGCGAAGAGCTGCCCGGCATCGGGCGCAGC
        GGCGACGACGAAACCGATCCGATGTACGACGAGGCCGTATCCGTTGTCCTGAAAACGCGC
        AAAGCCAGCATTTCGGGCGTACAGCGCGCCTTGCGTATCGGCTACAACCGCGCCGCGCGT
        CTGATTGACCAGATGGAGCGGAAGGCATTGTGTCCGCACCGGAACACAACGGCAACCGT
 55     ACGATTCTCGTCCCCTTGGACAATGCTTGATTTTTTGCAAATGGAAATGCCGTCTGAAGA
        CTGTTTCAGACGGCATTTTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCG
        CAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCCTCAGCACCTTAGAGAATCGT
```

```
     TCTCTTTGAGCTAAGGCGAGGCAACGCCGTACCGGTTTAAAGTTAATCCACTATATCAGA
     CATTTGAATTCGGATTATTCCCTGACCTGTCCCGTGCCTTGTACGATGTATTTGTAACTC
     GTCAGCTCTTTCAAACCCATCGGGCCCCGGGCGTGGAGTTTTTGCGTGGAGATGCCCATT
     TCGCAACCCAAGCCGAATTCGCCGCCGTCGGTAAAGCGCGTGGACGCGTTGACATACACG
  5  GCGGCAGAATCGATATGAGTCGTGAAATAGTCCGCAGCGTGGCGGTTTTCGGTAACGATG
     CCGTCTGAATGGTGTGTGCTGTGGGTTTCGATGTGCCAGACCGCCTCTTCGACCGAAGCG
     ACGGTTTTCACAGCGAGGATGTAGTCTAAAAACTCGGTATCGAAATCGTCTGCACCCGCC
     GCTTCGCCGCCGATATGCCGCGCCGCCTGCGGATCCAAACGGAAGCGGATGGGCGGCAGT
     CCGGCTTCTATGCGGTCGCGAACCAACAGCCGTTCGAGCTTGGGCAGGAAGTCGGCAGCA
 10  ATGTCTTCATGTACCAGCAGCACTTCCATCGAGTTGCACACGGACGGACGGCTGGTTTTG
     GCGTTGTACACGATACGGAGCGCCTTGTCCCAATCCGCGTCCTTGTCGATATAAATGTGG
     ACAATGCCCGTTCCCGTTTCAATGACCGGCACGACGGCATTTTCAACCACCGCCCGTATC
     AGCCCCGCCCCGCCGCGCGGAATCAGCAGGTCTAGATAATCTTTCGCCCTCATCATTTCG
     TAACTGCTTTCGCGCCCGGTGTCTTCAATCAGTTGGAGCGCGTCGGGGTCGATGCGGGTT
 15  TGCGCCAACCCCGTTTTCAGGGCGGCAACGATGGCGCGTGCGGATTGGAATGCATCTTTG
     CCGCTGCGGAGTACGACCGCGCTGCCGCTTTTCAGTGCCAAAGCCGCCGCATCGGAAGTA
     ACGTTCGGGCGGCTTTCGTAAATAATGCCGATAACGCCCATCGCCACGCGCTTTTTGACG
     ATTTCCAAGCCGTTGGGCAAAGTCGAGGTTTCCAGTATTTCGCCCACGGGGTTGGGCAGC
     GCGGCAACCGCCCTGATGCCGTCCGCCATCGCGCAAATGCGTTTGCCGTCCAACAAAAGG
 20  CGGTCGGTCATGCTTTCGGGAATGTTGCCTGCCGCGGCTTCCAAGTCTTGACGGTTTGCC
     GCCAAAATATCTGCCGTCGCCGCTTCCAAGCTGTCCGCCATCGCAAGCAGCGCGCGGTTT
     TTTTCTTCCGTATCCGCCGTGTTGACGGATTTTTTTGCCGCTTTGGCAAGGGCAAGCTGT
     TTTTGTGTGTTTGACATGGGTTTCCTTTTCTAAAATTCGGTCAGAAGCAGGCGTATTTCG
     GGCGTGATGGAAATCCAGTCGTCCCGATGGATGAACACGCCTTTCGCCTTACGCGATTTG
 25  AGCAGGTCTTCGGCGGCGGCAGAGCCGAACAGGACGCGCCCTTTGCCCAGGGGCTGTTTG
     GTTGCCTTGCTGTACACGGTTACGGTGTCCATACGGGAAAAATGCCCTTCGATTCCGGCA
     ATGCCCGACATCAGCAGGCTTTTCCCCTGTTCGGACAAAGCGTGTTCCGCACCTTCGTCC
     ACATAAACGCTGCCCCGGCTTTCGGAATAGAACGCCAGCCATTGCTTCTGCGTCCGCAAA
     CCTTTGGCACGGGGGACGAAAAACGAGCCGTCCGCCTGATGTTCGGCAGCTTCGGCAAGT
 30  GCATCGGGTTTGAGCGAGGAACAGATATACACCGGTACGCCGGATTCGGCGGCGATGGTT
     GCCGCTTTGATTTTGGTCAGCATACCGCCCGTGCCCGTTGCCGAACCCGAGCCGCCCGCC
     ATTTCGATGATTTCATGGTTGATGTGTTCGATTTTGTCCAGCCGTACGGCATCGGGATTG
     CTGTTCGGGTTGCCCGTGTAAAGACCGTCTATGTCGGTCAGCAGCACCAAGAGGTCTGCC
     TGTATCATCGCCGCCACTTGCGCACTCAATGTGTCGTTGTCGCCGATTTTCAATTCCTCA
 35  ACCGAAACCGTATCGTTTTCATTGATGATGGGGACGGCGCGGCGTTGCAGCAGCACGGAA
     AGTGCGCCGCCGGCATTTTGGTAGCGGCGTTTGTCGGCAAAGTCGGCGCGGCTGAGCAGG
     ATTTGCGCGGACACGATGCCGTCTGAAGACAGGTTTGCCGTATATTCTTCCATCAGCAGC
     CCCTGCCCGACGGCGGCGGAAGCCTGTTTGTCGGCGATTTTGACCGGACGTTTTTTGAAA
     CCCAGCGCACCGAACCCTGCCGCAACCGCGCCGGAAGACACCAAGACCAGCTCGTGTCCC
 40  GCATGATGCAATGCGGCAAGCTGGCAGGTGATGGTTTGGATTTTGCCGCGCGAGAGACTG
     CCGTCCGAATGGGTAATCGAAGATGTGCCGACTTTAAATACGATTCTTTTGTATTTCATT
     GTTTCCGTCCTTGTTGGTTTGTCCTGTCTCGTTGCCACCTTGTGCCGCCGAATTTGCCCT
     GTTCTGCCGCAATTGTCAACAATCACGCCGCGTCTGCAATAAAATGGACAAAATGTATAA
     AATTAATAAAATCTATGGCGGCTTATTGAGATTTTTCAAATTTATATTGCCGTTTTGTCC
 45  AAAATGCGTATAATCCTGTCCATATTTCTGCTGTAGGCTGATTTATTTTAGACAAGGACT
     ACCATGCAATTAGATATAGACCGCTTGGTTGCTTATTTCGGCGGCGTGAACGCGCTTGCC
     GAAGCGTTGAAACAGCACGATCCCGAAAATGCCGCGACGACCGCCGCCATCTATAAATGG
     CGCACGCGCGGCTCGCTGCCTCTGGCGCAACTGCAAAAGCTGACCGCGTTGGCGGAAGCG
     CAAGGCAGGCCGCTGGATTTGAATGCTTTTTTACAAAAAAACGAATCTCTGGAGAGAACA
 50  GAAATGACACAGACCAACCGCGTTATCATTTTCGACACCACCCTGCGCGACGGCGAACAA
     TCGCCCGGCGCCGCTATGACCAAAGAGGAAAAAATCCGCGTCGCCCGCCAGCTGGAAAAA
     TTGGGTGTGGACATCATCGAAGCGGGTTTTGCCGCTGCCAGCCCGGGCGATTTCGAGGCG
     GTCAATGCGATTGCGAAAACCATTACCAAATCAACGGTCTGTTCATTGTCCCGCGCCATC
     GAGCGGGACATCCGTCAGGCGGGTGAGGCCGTTGCGCCCGCGCCGAAAAAACGCATCCAC
 55  ACCTTCATCGCCACCAGCCCCATCCATATGGAGTACAAATTGAAGATGAAGCCGAAGCAG
     GTGATTGAGGCGGCGGTCAAAGCGGTGAAAATCGCTCGTGAATACACCGACGATGTGGAA
     TTTTCCTGCGAAGACGCGTTGCGTTCGGAAATCGATTTCCTTGCCGAAATCTGCGGCGCG
```

```
GTGATTGAAGCGGGCGCGACCACCATCAATATTCCCGATACCGTCGGCTATTCCATCCCG
TATAAAACCGAAGAATTTTTCCGCGAACTGATTGCCAAAACGCCCAACGGCGGCAAAGTC
GTTTGGTCGGCACACTGCCACAACGATTTGGGCTTGGCGGTTGCCAATTCGCTTGCCGCA
TTAAAAGGCGGCGCGCGTCAGGTGGAATGTACTGTCAACGGCTTGGGCGAACGTGCAGGC
AATGCTTCGGTTGAAGAAATCGTGATGGCGTTGAAAGTGCGCCACGACTTGTTCGGCTTG
GAAACCGGCATCGATACCACGCAAATCGTGCCTTCGTCCAAACTGGTGTCCACCATTACG
GGCTATCCCGTGCAGCCCAACAAAGCCATTGTCGGTGCCAATGCCTTTTCGCATGAATCG
GGCATCCATCAGGACGGGGTGCTGAAACACCGCGAAACTTACGAGATTATGTCCGCCGAA
TCGGTCGGCTGGGCAACAAACCGTTTGAGCTTGGGCAAATTGTCCGGCCGCAACGCCTTC
AAAACCAAGCTGGCGGATTTGGGCATCGAGTTGGAAAGCGAAGAGGCACTGAACGCGGCA
TTTGCACGCTTCAAAGAACTCGCCGACAAAAAACGCGAAATCTTCGATGAAGACCTGCAC
GCACTGGTATCCGACGAAATGGGCAGCATGAATGCCGAGAGCTACAAATTCATCTCCCAA
AAAATCAGCACCGAAACCGGAGAAGAACCGCGCGCCGACATCGTGTTCAGCATCAAAGGT
GAAGAAAAACGCGCTTCCGCAACCGGTTCCGGCCCCGTGGATGCGATTTTCAAAGCGATT
GAAAGCGTGGCGCAAAGCGGCGCGGCTTTGCAGATTTATTCCGTCAACGCCGTCACGCAA
GGTACGGAAAGCCAGGGCGAAACCAGCGTCCGTCTGGCGCGCGGCAACCGCGTCGTCAAC
GGTCAGGGCGCGGATACCGACGTTTTGGTCGCCACCGCCAAAGCCTACCTTTCCGCTTTG
AGCAAGCTGGAATTTAGTGCCGCCAAACCGAAAGCGCAGGGCAGCGGTACGATTTGAGCG
TGAAAACAGACGATGCCGTCTGAAGCATAAAAAGGCTTCAGACGGCATTGCGGCGATAAT
AGGGCGCAAAACCCATTTGAAAAGGAAAATGATGGATTCCCGAAAATTTACCGAAGCATC
CAAACGGCGGTTGAGCGAATTGTTGGATGCCAAAAGCGAACAAGGCAACACGATGCGTTG
CGACGAGGTTCAAGGTTTTATGACGGCGCTGTTGAGCGGGCCGGACAAATTGACACCGCT
CGACTGGCTGCCCGAAGTGTTGGGCGACGAATCGCAATTTACCGCCGCCGAACGTTCCGA
AATCGAACGGCTGGTTTTGGCAATGGCGATGGAAACAACCGCCGCGATGTCGGATAAAAA
ACTGCCCGATTTGTGGCTGTATGAAAACGAAGACGGCGGCAGCGATTTTTACACATGGTG
CAATGCTTATCTTTACGGTTTGGATATTGTGCCGACCGATTGGTTTGAAGCCGTCGATGA
TGAAGCGTTTGAAGAGTTGTTTTATCCCATCATGGCATTGGGCGGTATTTACGACGAAGA
GGAAAACGGCGCTATCCGTCTGCAATTCACAGAAGGCGAGCTGGCGGAACTGGAATCCGA
GTTGCCTTATGCATTGGCGGATATCTACCGCTACTGGCAGGCAGTCATCAACAAACCGCA
AACCGTCCGCAGGGAAGGCGAAAAAACAGGCAGGAACGATCCCTGTCCGTGCGGCAGCGG
CAGAAAATACAAGGCGTGTTGCGGTAAGAATTGAAGCGTTTGTTTCCATGAACCAAACGT
AAAAATACCGTCTGAAACCGGATTTCCATGTTTCAGACGGTATTTTTCACAGGCGGTCAG
TGCTGTTTTTTCATGCCGAACCGGACAAAGCCGACGATACCCAAAACAATCATCGGGACG
CTCAACCATTGCCCCATCGACAGCCCCAAGGTCAGCAGCCCGAGATAGTCGTCGGGTTGG
CGTGCGAATTCGGCAATGAAGCGGAATATGCCGTAGCCGCCGAGGAAGAGCGAGGCGACT
TGTCCGGTCGACCGCTGTTTTTTAGAGAACAGCCAAATGACGGTGAACAGGCAGATGCCT
TCAAGTGCAAACTGATAAAGCTGCGAGGGATGACGCGGCAGCATACCGTATTGTTGCAGC
CATTCTGCCCAAAGCGGATTGTGCGCGGCGGCTTCGGCATCTTCGTAACGCGCCTGCGGG
AAGCCCATTGCCCAAAATGCGTTGATGTCGGTAACGCGTCCCCAAAGTTCGCCGTTGATG
AAGTTGCCGATACGTCCCGAAGCGAGACCCAGCGGAACGAGCGGTGCGACCGTATCCATC
AGTTTGAGGAAGCCGATGCCGTGTTTGCGGCCGAACAACCGTATGGCAATAACTACACCC
AAAAAGCCGCCGTGGAACGACATTCCGCCTTCCCATACCTTGAAAATATCAAGCGGATGG
GCGAGGTAGTCGGAAAACTTGTAAAACAGGACGTAACCCAAACGCCCGCCCAAAATTACG
CCCAAAATGCCCCATGTCAGGAAGTCGTCGAGCGATTCTTTGGTAAAAACGGACAAGCCT
TGCGCGATGCGCCTTCTGCCGAGAAAGGTAAAAAGAATAAATCCGAGGATGTAGCTTAGG
GCATACCAGCGGACGGCAAGCGGGCCGATACTGATAAGGACGGGATCGAATTGGGGATGG
GTAATCATAACGGGCTTTCGTTTTCAAATGCCGTCTGAAAGGCATGATGCTTCAGACGGC
ATTTCTGCAATAAGGGTTTCAGCGCAAATCGCCGATGACGTTGAGGATAGCGGACAACGC
GGCTTCGCCCAGCCGTAAAGAACGCTGACCGTTCCAGCCGAAGTCGTCGTCGGGCAGATT
GGCATTGTCTTTGAACGGCATTTCCAGCGTATAGGCAAGGCAGTTGAAACGGTTGCCGAC
CCAGTTGGTCGCCAAGGTCATATTCGCTTCGCCCGGCGCATCTTTTTCGTAACCGTATTC
GTCTTGGAAATCGGGGCTGGCGTTTAAAAGGGCATTTTTAAACTGCGCTTCCAACGCGGC
GATGCGCGGATTGTAGTTCGGCACGCCTTCCGTACCTGCGACAAAGACAAAGGGCAGCCC
TTCGTCGCCGTGGATGTCCAAAAACAAATCCACTCCGGTTTCCAGCATTTTTTCGCGCAC
GAAGAACACTTCCGGGCTTTTTTCTACCGTCGGGTTTCCCACTCGCGGTTGAGGTTCGC
GCCGGCGGCGTTGGTACGAAGGTTGCCCAGTGCCGAACCGTCGGGGTTCATATTGGGGAC
GATATAGAACGTGGCGCGGTCGAGCAAGGCGCGGGCGGTAGGGTCTTGCGGGTCGAGTAA
```

```
TCTGCCGAGCAGCCCCTCGATAAACCATTCCGCCATGGTTTCTCCCGGATGCTGGCGGGC
GGTAATCCAGATTTTCAAATCGCTTTCGACCTGATTGCCTATGGTCAGCAGATTGATGTC
GCGCCCTTGCACGGTGCTGCCCAAGTCGTCGATGCGGCACAGGCCGCTGCCTTGCGCGTC
GCCGAGGAGGTTTAAATGCTGTTCTTCGGAGTAAGGTTCGAAATAGGCGTAATACACGCT
GTTGGACAGCGGAGTATGATTGACGGTCAGTACGCCGTTTTCGTAGGAAGTCGGTACGCG
GAACCAGTTGCGGCGGTCGTATGAGGCACACGCCTGATAGCCTTCCCAGCCTTTCGGGTA
GGCGGCTTCTGCCGCGTTTTCAAAATGCATGATGCAGTTTTGATATGCCGCGCCTTGCAG
CCGGAAGTAGAACCATTGTGCAAAATCGGAGGCGTTGTCGGGACGCAGGGCGAGGCGGAT
GTTGGAAGGATCGGTCAGGTCTTTGACGACGACCGAGCCGGCATCGAAGCGGGTGCTGAT
TTTAATCATGGGAAAGTCCTTGCTGTCGCCGGTTTCTCGAACCGGATAAACCGCGATTTT
ACCGCCCGTATCGCAAGGCTTCAACCTGCCCGAAAGTCTGCCGGATGCCGTCTGAAGATT
GTTTCAGACGGCGTTTGGCGTTAACATAAGCCGAAATTGTCAACAATAGGGAGCCGTTAT
GGAGTCTGAAAACATTATTTCCGCCGCCGACAAGGCGCGTATCCTTGCCGAAGCGCTGCC
TTACATCCGCCGGTTTTCCGGTTCGGTCGCCGTCATCAAATACGGCGGCAACGCGATGAC
CGAACCTGCCTTGAAAGAAGGGTTTGCCCGCGATGTCGTGCTGCTGAAGCTGGTCGGCAT
TCATCCCGTCATCGTTCACGGCGGCGGGCCGCAGATCAATGCGATGCTTGAAAAAGTCGG
CAAAAAGGGTGAGTTTGTCCAAGGAATGCGCGTTACCGACAAAGAGGCGATGGATATTGT
CGAAATGGTGTTGGGCGGGCATGTCAATAAAGAAATCGTGTCGATGATTAACACATATGG
CGGACACGCGGTCGGCGTAAGCGGACGCGACGACCATTTCATTAAGGCGAAGAAACTTTT
GATCGATACGCCCGAACAGAATGGCGTGGACATCGGACAGGTCGGTACGGTGGAAAGCAT
CGATACCGGTTTGGTTAAAGGGCTGATAGAACGTGGCTGCATTCCCGTCGTCGCCCCCGT
CGGCGTAGGTGAAAAAGGCGAAGCGTTCAACATCAACGCCGATTTGGTAGCAGGCAAATT
GGCGGAAGAATTGAACGCCGAAAAACTCTTGATGATGACGAATATCGCCGGTGTGATGGA
CAAAACGGGCAATCTGCTGACCAAACTCACGCCGAAACGGATTGATGAACTGATTGCCGA
CGGCACGCTGTATGGCGGTATGCTGCCGAAAATCGCTTCTGCGGTCGAAGCCGCCGTCAA
CGGTGTGAAAGCCACGCATATCATCGACGGCAGGTTGCCCAACGCGCTTTTGCTGGAAAT
CTTTACCGATGCCGGTATCGGTTCGATGATTTTGGGCGGTGGGGAAGATGCCTGAAGCAA
AGTCGGAAAATGCCGGCTTTGGCGGAAAACCTGTTTGTCTGGTTTCTGTTTTTGGGGTTT
CGGGCAATTTCCAAACCGTCATTCCTGAAAAAATATAGTGGATTAACAAAAACCAGTACG
GCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAA
TCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAAT
CCACTATAGAAACAAAAACAGAAGCCTAAGATCCGTCATTCCCGCCGGGCATCTGGTTTT
TTGAAATCCGGTTGTTTGGGGATAAATTCTCCGGCTTTGATTTTTTGTTTTTCCGATAACG
CCATAACTTTGAAATTTCGTCATTCCCGCGCAGGCGGGAATCTAGACCTGTCGGCACGGA
AACTTATCGGGAAAAAAGGTTTCTTTAGATTTATAGTGGATTAACAAAACCAGTACGG
CGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAAT
CGGTTCCGTACTATTTGTACTGTCTGCGGCTTGGTCGCCTTGTCCTGATTTTTGTTAATC
CACTATACGTCCTAGATTCCCACTTTCGTGGGAATGACGGGATGTGGGTTTTTGTGCGGA
TTTGAACCGGTAAGGGTGGTGTGGGATTGGTGGTTTGCTTAGGATCTTTTGGATTGTATT
TTGTATATACATTTACTTGTTGATAAAAGATAAAATAAAATTAGAAACTAAAAGTGAGAA
AAAATTAATAATAATAGGGATGTATAAATGTAAAGGCTCCGTTTCATAGCTAAGGTTATC
TGAATATATGGAAAAAAAGTAAAAGTCCATAAAACTAAAATATATAGATAATGCTAATGA
TAATAGAATTATCACTTTCCTAGAGTAAGGATAATATTTTTTATCGTAAAAAAATATAA
AATAGGATAAATAATTGCCATATAGATAGATTTTGTAACAAAATTAAAAATAAATAATAA
AAATAATGTAATAAAGTATATTTTTTGGCTATGAAATAAAATTGTACATAATTGAACGAG
CAGATCAAAAAATGAACTACATATAACAATAAATAATAACGTATTTACCATACTAAATTT
AATAGGTCTCATTATCATATTTAATAACCACTTCATAGTATAGTGGATTAAATTTAAACC
AGTACAGCGTTGCCTCGCCTTGCCGTACTATCTGTACTGTCTGCGGCTTTGTCGCCTTGT
CCTGATTTAAATTTAATCCACTATAAATGCAGAGTGGGTGGAAACACTCACTTTATGGTT
TGCTACGCTCTGCTCAATTAGCAACCCGATAACCCAATATGGATAATAGGGTAATTAATC
CAATCTAATTTGTCAGCATCCGTTAATTTATTGCAAAATAAAGTATTGAATTATGTCGGG
TGCAAATGACGAAATATAAGTTTCCGTGCGGACGGATCAAGATTCCCACTTTCGTGGGAA
TGACGGTGGAAAGATTGTTGTTTTTCCCGATGAATTCCTGTGTTTTTGTTTTTCCGGAT
AAATTCCTGTGGCTTTGAGTTTTTTGGATTTCAGCCTCAATGCCGTCTGAACGCCGAATC
GGGCTTCAGACGGCATTGCGTCATTTGAAATTCAAAACCGGCCAGCCTTTTTCTTTGGCT
TCTTTTTCCAGCTCGGCATCGGGGTTGACGGCGACGGGTTCGCTGACAAGGCGCAGCAGC
GGCAGGTCGTTTTTGGAGTCGCTGTAAAAATAGGTTTTGCCGTAGCTTTGGAGCGTTTCG
```

```
        CCGCGTTCGGCAAGCCATTGGTTCAGGCGGGTGATTTTGCCTTCTTTGAGGCTGGGCGTG
        CCGATGTAATTGCCGGTGTAGCGGCCGTCAGAACCGGTTTCGAGTTGTGTGCCGATGATG
        TTGGTGATGCCGAAAAGGTGGCAGACGGGGGTGATGATGAACTCGTTGGTTGAGGAAATC
        ACAAGGGTTTCGTCGCCTGCCATTGGTGGCTCTGCACCAGCATACGCTGCATAGGCGAG
    5   ATGTGGGGGATGATGTATTCCGCCATAAATTCGCGGTGAAACTCTGCCAGCTCTTCTTTG
        CTGTAACGAGCGAGCGGGGCAAGGTGGAATTTGAGGAATGCGTCGATGTCGAGGCAGCCG
        TTTTGGTAGTCGCGGTAGAATTTTTCGTTTTGCGCTTCGGTTTCGGCAGCGTCAACCAAG
        CCTTTTTTGATGAGGTATTGCGGCCAGGCGTGGTCGGAATCGGTGTTGATGAGGGTGTTG
        TCGAGGTCGAAGATGGCGAGGTTTTTCATTGGGTTTCCTGTTGTTTCAAAAGCTGGCGCA
   10   AAAGCGGCAGGGTGATGCGTTTGCCCATCGTGACGGCGTAGTTGTCCAGCGTGTCGAGCA
        TCATCATCAGGCTGTCCATATCGCGCCGCCAGTGTTTGAGCAGGTATTCGAAAATTTCGG
        AATCGACGGTTACTTGGCGTGCCGCCGCCATACTGGCGAGCGCGTCGATTTTTTCTTGGT
        CGGTTAAGGGTTTGACTTCGTAAACGAGGCAGTACGCCATACGCGTCCGCAAATCTTCGC
        GGATGACAAGCTGCTGGGGCGTGTATTCCGAACCGAGCAGCAAAAAGCCTTTGCCGCTGT
   15   TGCGGAAGCGGTTGAAGATGGAAAAAAGCAGGGCTTGTTCTTCGTTGCCCAGTTTTTCGA
        CTTGATCGACGGCGAGGTATTCCGCCTCGAACGCGGCATCGGTCAGCGGCATGGAGGCGG
        CATCGATATAGGCGGCGTTTTTGCCGGCTTCGAGCGCCTGTGCGACCCACGCCTGCAAAA
        GATGGCTTTTGCCCGCGCCTTCTTCACCCCAGACATAGATAAACTGTCCGTGTTTGTGTC
        GGAGGACATAGACCAGTTCCGCGTTTTCCGTGCCGAGGAATTTGTCGAAACTCGGATAGT
   20   CGTGTGCGGCAAAGTCGAAAATAAGCTGGTTCACGGTTCGGCATTCCGAGGGGTGGTAAA
        CGGGTTTATTGTACGTTGTTTTCGCGCGCCTTTCCAATTTGAACGATGCCGTCTGAAAAC
        GGCTTCAGACGGCATCGTTCAACCGCAGGCAACGTTGCCGACATCGAGGCGCATATTGTG
        GAACGCGTTGAGCGTGCTGCGGTGGCCGATGCTGATGATGATGCTGTCGGGCAGTTTTTG
        TTTCAGTGCGCGGTAGAGCAGGGCCTCGGTCGGTTCGTCCAAAGCGGCGGTGGCTTCGTC
   25   GAGCAGGACGATTTTGGGCTTGGAAAGCAGGGCGCGGACGAAGGCGACGCGTTGCAGTTC
        GCCCGGGGAGAGTTTGTGTTGCCAGTCGTCGGTTTTATCTAATTTATCAACCAGATAACC
        CAAGCGGCAGGTGTTCATGGCTTCGGCTAACTCGGGATGCTGCTTGTCAATGTCGGGGTA
        ACAAACCGCGTCGCGCAGGCTGCCCTGTGCCGTGTACGGGCGTTGCGGCAGGAAGAGGAT
        GTCTTGATGCGGCGGACGGCTGACTTTGCCGCTGCTGCCGAACGGCCAAAGCCCCGCCAG
   30   CGCGCGCAACAGCGAGGTTTTGCCGCAACCGCTCGGGCCGCGTATCAGCAGGGAATCGCC
        GTTTTTGAGGTTTATGTTGATGCCGCTCAACAGGATTTCGCCGTTGTGGCGGAACAGAGC
        GACGTTTTCCTGTGGGGGACTGTTAGTTTTTGCACAAGGAACAAATAGAGTAAAAAAACG
        CTGAAATCTTCGGAAGACGTGGATTTCGGCGTTTTTTTGTATCCGGAAAAGTTACGCCAG
        CTTTTTCACAAAACCGCGCCGGAATGCGCGGTTTTCTGTTTAAAGCTGACGAGATTAGGG
   35   AATTTTTAAAACTGTTTTAAGAGGTTTTTAAAATGGATTTAATCAATACTCCGGCCATAC
        CATTCAACACGGCCTATGATGGCGATGTCGTCTTGGGCATTGCTCAAATCTATTTCAAAC
        GGTGCGTAACGTGGATTTTCAGACGTTACAAGCAGTTTGCCCGGTATACGTTGCACACGT
        TTGACAAAGAGGTCATTGCCTATACGCAAGACATATAGGCCGTCACGCGGGTCAGTTTCG
        GCGTGGTTGATGAGAATGGAATCCTCATGATTGAGCACGCCCTCCATTGAATCGCCTTTA
   40   ACGGTAATTACAGACAGTTTTTCCGGCTGTTTGGTCACATAGTTGTCAATCCAATATTTC
        CGGAAAGCCAAGCAGAATAAAGGTTCTTCGCCGAAGACTGGTGCGCCATACCCTGCTGCT
        GCGGCTACGTTGTAGCGCGGCACGAATACAAACTCGGACAGGTCGACAGGATTGCCCATA
        GTGTCGGTGATTCCATCAGAATTTCTACTTACAGAGAATGCTCCGGCGTTTTCCGGCCTG
        GCTTTATCGAGATACGGCAAGCCTTTTCCGGTCAGCAGCCAGTTTAAATCACAACTGAAT
   45   TTTTACTAGGTAATCGGCTGTTGGGATAGCTCCCTCTTTCCAAACTCTATTAAATCCAGA
        AGCCGACATTTCTATTTGTTATAGATGTCAGATGGCTTAGCCCCATGAGGCCAAAGAAA
        TTTGAGCCTATCTAAAAAAGTATCCATAGTAATCCTAATTTAACTCATTTAAGCAAAACA
        TTAAGCAAAAAAGAAACTCTTTTGCTTAAATAAGATTACTCAAATAATCAATATTTTGT
        AAAAATAATTACGTTTTTGAGAAAATATTTTAGCAAAAGAGTTTCATGAAGCTGTTTTGC
   50   TAAATGTAATTCACTCATTTGCTAAATGACGGCGGTTAATAAACCTACTTAATTAAGGAA
        TTGCGAGAATGAAAAAAAGCAAGAAAGCATGACTGATTGGCATCGTGCTGACATTGTGGC
        TCGTCTTAAAAAGGCAGGCTGGTCTGTGAGAGCGTTATCTATCGAGGCTAATTTAGCACC
        AAATACATTAGGGAAAGCTTTAGATGCTCCTTATCTGAAAGGCGAAAGAATCATTGCAGC
        AGCGATTGGAGTACCCGCAGAAGAAATCTGGCCATCTCGTTTTGAGAAACGAAACCATAA
   55   GCCAACCTTCCCAAGATCTATAAATAGATAACTGTTTTGCTAAATAGTTCCAAAAGAGTA
        CCGCATTTAAGCAAAAATAGAAAGCGGAAAAAATGAAAATATCTGCATCTGATATTGCGA
        AATTAGGAATTCCGAGCCTACCAACTGATAGACAAGGGATTGAATACCATGCCAAGAAAA
```

```
    ATAATTGGCAACACTGTTTTGAGCAAAAAGGAAGAGGCCGTCCTAAAAAACTGTATGAAA
    TCGCTTCCCTCCCTGCCGAAATCCGAGCAGCCATCATGAAACGGCAGTCGGACGAGCTGG
    CGGAGAAGATGCCGAAAATGCTGCCCAAAGTCAGACCGGGGACGGCGATGTCGGCTCAAG
    CACTGGCTGAAGCGGCCAAGCTGTTGAACGAGAAACAACGGTCGGTGGCGGATGCGCGAT
5   GTGCGGTGGTAGCGGCGGTATTGGGGATTAAATACGAATACGATTGCTCTGCCAAGGCTG
    CGGTGGCTCAGTTTTTGGGCTTGCTGGCAGAAGGTAAATTGGACGCGGTCACGCTTGGGA
    ACTTGGAAAAGGCCAATGACCGCAGCCGGACGGCGAAGGTCGGCGAACGTACTTTAGACG
    GCTGGATTTCTGCTTATTGAAAGCGGAAAACGCGACGGAGCGGTTGGTTGCTTTGGCTC
    CGAAGACGACGAAGGCGGTCAAGCCGATTGAAAGTTACGGATGGTTGCCGATGTTTATGC
10  AGTTTCACAATATTCCGTCCGCGCCAAAGCTGGCGCACAGCTACCGCTGGTTTGTGCAGT
    GGGCGGAAGCGGAAAATATGCCGGTCAATGATGTGCCTAACTTGAGTATGGTGCGGCGCG
    TTTGGGAAAAGCTCCCGTTGATTATGCAGGAGCGCGGCAGGAAAACGGGGGCGGCTTATA
    AATCGCTGCTGCCTTATGTGAAACGTGATTGGGGGGGCTTTGAAGCCGAACGATGTTTGGA
    TCGGCGACGGCCATAGCTTTAAGGCAAAGGTGGCGCATCCGGTACATGGCAGACCATTTA
15  AGCCGGAAGTGACGGTGATTATTGATGGTTGTACGCGGTTTGTGGTCGGGTTTTCGGTCT
    CTCTTGCTGAAAGTTGTGTGGCGGTATCGGACGCTATGCGTATCGGGGTCAAGCATTTTG
    GTTTGCCGATTATCTATTACTCGGATAACGGCGGCGGCCAAACCGGCAAGACGATAGACC
    ATGAAATCACGGGTATTACGTCCCGACCGGGTATCCGCCATGAAACGGGTATCGCGGGCA
    ACCCGCAAGGGCGCGGCATCATTGAGCGATGGTGGAAAGACAATCTGATTGAGATGGCGC
20  GCCAGTATGAGACGTTTGCGGGTGCAGGGATGGACAGCAGCACGAAGAACCTGATGTACC
    GCAAGATGGAAAGTGCGTTTAACGCTTTGGAAAAAGGCAAGGATTTGACGGAGGAACAAC
    AGAAATATTTGAAAAAACTGCCGAGCTGGTCGCGTTTTATAGCGGATGTGGTCAAGTGTA
    TCGACGAATACAACAACCGCCCGCACGGCGAGCTGCCCCGACATCCTGACGGCGGGCATT
    ATACGCCTAAGGCTTATCGGGAAATGAGGCTGGAACAGGACGGTATCGCCGCCGGATATGT
25  TGTCGGCGCAAGAGCTGGCGACGATGTTTATGCCGCAAGAGGTGCGAAAGGTACAGCGCG
    GTTGGCTGGATTTGTTTAACAACTCTTATTTCTCAACCGAGCTGGCGGAGTATCACAAAG
    ACGAGGTACGGGTCAGCTACGATTTGAGCGATGCGTCGGCGGTCAATGTGTTTGATATGG
    ACGGCAAGTTTATTACTAAGGCGCAGGCCAACGGCAATACCCGCGAGGCTTTCCCGACGG
    CTCGTATCGACCAACTGGCGGAAAAACGTCGAAAAGGCAAAATAAAGCGGGCGGAAAATG
30  CAATCAAGCTCGCAAACGCGGAAGTCAATCCTGCTCTGGAACAGGCTGCGGTTTGGGACG
    AGCTGGGACATTTGGGCGGAAACGACATCGAGGCGGAGTATGCGGTATTGCCGAAAACGG
    GCACAGACGATTTTGTGTTGTTTGAGGCGGATAGATAAAGGAAAACATGATGGACAAACA
    GCAAATGCAGCGTTTTCGGCCGAGCTTGTTGAAAAATTGAAACTCAAGCGAGCTCTTGG
    GCGGATTCAACGAGCTCAAGCAAAGATTCAAGGTGTTCCCGCTGAACGGAATCAGGCTCA
35  AACGTTTTTGCCTGCGCTTGAAGGAAACTGCGAACCTGCTCAATCGAAGTCGGCTCTTGA
    CGGGTAATCCGCTGGAGCAGCCAGGAAAGTACGAAAGAATCGGCAAGTGACCTGTCTTCC
    AAGTCTTGAACGGCGACTTCCAGCATGATCAGGCGTTTTTCTAAATCGGGAAACTCTTTC
    ATTTCAGACGGCCTTTAAAGGTTGTTTAAAACTCAAGGATATTAAAAATGAAACAAATTA
    ATCAAGCATTGCAACAAAAACTGGTTGAATTTAAAGAAAAATCAGGCATGAACCAAACCC
40  AACTGGCACGCGGTATCGGTACTTCGCCGGCATCCATCAGTATGTATCTGAACGGCACTT
    ATGCGGAAAAAGGCGGCAATTATGAAACCATCGAGCCGAAAATCGAGGCGTTTTTGGAGA
    TGCAGGACAGTAAAGCGCAACGCGAAGAGCTGGTGTTGGGTTTTGTATCGACTAAGACGA
    CCCGCCGTATTGCAGAAGTGATGCGCGATGCGCACGAAGGCGGCGAAACAGTGGTGATCT
    ACGGTCAGGCGGGATTGGGCAAGACTCAGGCGGTCAAAAACTACTGCGAGAAAAACCCTG
45  CGGCCATCTTGATTGAGGCTAATCCGAGCTTTACGGCTTTGGTCTTGATGCGCAAGTTGG
    CGACTGCGGCGAAGGTATCGGCGATGGGCAGCCTGAATGATTTGTTTGAGTCTGTATCTG
    ACCGCCTGCGCGATTCGGGCCGTCTGATTGTGGTCGATGAAGCGGAAAACCTGCCTTTAC
    GCGCCCTTGAAATTGTACGCCGTCTGCACGACGAGACTGGCTGCGGCTTGGTGTTGAGCG
    GTATGCCCCGACTGGTGGCCAACCTGCGCGGTAAGCATGGCGAACTGGTACAGCTTTACA
50  GCCGCGTGTCTGTTGCGCTGAATTTGGGCGAATCTTTGCCGGATGACGAACTCTTTGAGA
    TTGCGAAAGCGGCTTTGCCTGATGCGGTCAAGCATCTGCTCCCTGATAGTGTACAAGCGT
    TGATTACGGTCATCGGGTTTAATGAAACGCTGGAGCTGGTGCGCCTGATGGGCGGTACGA
    CTTATCCTTTGCGGCAGGGTTATACGAAAAACAGTCAATCCCGTGTTGCATACTTGGAAG
    AGATTATCGGCAGTGAGGCGGCCGGTCGGCTGGTGGAGGCAATGGCTCCGTGCAATCTGT
55  TTATACCCCGTTGCGAGACGGCCTTGTATGAGTTGCGAAACCGTAAAATCCGCAGTCAGT
    TTGACCGGCAGACGGCAGGCGGTACCCCTGCTTATGAGGCCGTTAACGATTTGGCCTTGG
    CACACCGCCTAAGCGACCGCCATGTGTGGCGAATTTTAAAGCAGGCGGATAAGGAAGCGG
```

```
    AGCAGGAGAATTTGTTTTAGAATGGAATGCCATGCAGATGTATGGCATTTTATTTTGGAG
    AAAAATATGAAAAAGTTTTATTTTGTGCTGCTGGCGTTGGGTTTGGCAGCGTGTGGGCAA
    GAACAATCGCAGAAAGCTGATGCGGAGCAGTATTTTTTTGCCAATAAATATCAATTTGCA
    GATGAGAAACAGGCTTTTTATTTTGAACGCGCCGCCCGTTTCCGTGTATTGCAACAAGGC
5   CTTGGCGGGGATTTTGAGAGGTTTTTAAAAGGAGAAATACCTAATCAAGAAAATCTTGCA
    AAGTATCGTGAAAATATTACTCAAGCAGTCGCTTATTATGCGGACACGAATGGAGATGAT
    GACCCATACCGCGTCTGCAAACAGGCTGCGCAAGATGCAGAAATCCTGATGAAGAGTATG
    GTAACAAGCGGTGGAGGCGGTACAACTGATTTAGATAAGGAAAGTTATCAAAATTACCGA
    AAATCAATGCAAGAATGCCGTAAAACAATAACGGAAGCTGAAGCCAATTTGCCGAAAAAA
10  TAAAATAAACGATTCTAAGGCCGTCTGAACAACAGGCGGCTTTTTGTTGCCTACTGACA
    CTGTTTCGCCCGCTGCAAAAGCCATGCCGTTTGAAAATGTAAGCCTCTGAAAGTGCATTT
    TAATCTGATTTTGAGGGAGGCTTTAATGAGCAAAATTATTTGTCTGACTGCCGGACACAG
    TAACACCGACCCGGGCGCAGTCAACGGAAGCGACCGTGAGGCGGACTTGGCGCAGGATAT
    GCGCAACATTGTGGCTTCAATCCTGCGTAACGATTACGGCCTGACCGTTAAAACCGACGG
15  CACGGGCAAAGGCAATATGCCGCTGCGCGATGCGGTCAAGCTGATTCGCGGCTCGGATGT
    GGCGATTGAGTTCCACACCAATGCGGCGGCGAACAAAACGGCGACAGGCATCGAAGCCTT
    GTCCACGCCGAAAAATAAACGCTGGTGTCAGGTGCTGGGCAAAGCCGTTGCCAAGAAAAC
    CGGCTGGAAACTGCGCGGCGAAGACGGCTTTAAGCCGGATAACGCAGGGCAACATTCGCG
    CCTGGCTTATGCGCAGGCAGGCGGCATTGTGTTTGAGCCTTTTTTCATCAGCAACGACAC
20  TGATTTGGCCTTGTTTAAGACGACCAAATGGGGCATCTGCCGCGCGATTGCGGACGCGAT
    TGCGATGGAATTGGGAGCGGCGAAGGTATGAAAAAGTCTTTGATTGCTTTATGTGTTGCC
    CATTGTGCAAAGTTGAAAAACGATTTTGGCGTACCACCGTTACCTGAAATCAAAATCACG
    CCAAGCCCTGTTCGGGTAGGCTCTTTGAAACAACATCCGAGCCTGCGCTTGGGTAAATCA
    GGCGTGGCGGCTGCTAAACGTGCGGCGCGCAAACGCAAGAATCGTCGTTAATCATGGGAC
25  AGGTTGCGTTTTACGAAAAGATGATTGGGCTGTGGTCGGCCAAAAGCCGTGAGGCAAGCG
    AACAGGCGGACTTGGCTGCGTTTGAATTTGCGGAGGGCGAACTGGCCAATTATCGGGAAA
    TGCTGAAACGGCACCTGCAAACCAAAAGTGTGGAATAGCAATGCGTATTTTGGATATTTT
    TAAAAACCCGGCGACAGGCAATGTGTCGCACTCGAAACTGTGGGCAAACGTTGCCTGCGC
    GGCTGGGACGTTTAAGTTTGTGATGTTGCCCTAT
30
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 13>:

gnm_13

```
    GAACGCTCGACCAACGGATTAAAAGTCCGCTGCTCTACCCCCGGGAGCTAACGACCCGAT
    AAGCCGTGCATTATACAGCACCATCCTACCTCGTCAAGCAAATTTTACAGGCTTAATTGC
35  AGACCACTGTTTGCACGGGATATTTTGACAACGGATTTTCACAATCCGCCGCATACCGTG
    TAAAAGTTCGCACAAGGAAAAGCAAACCGCCCGAAATCAATGTACACTTTCCGCCCGTTT
    CCCTTCCCAACCTGCACACAGAAACACACATTATGAACATACAAAACATCCGCACCCTCC
    TCGACACCGTCGCCGTTCCGAATACGGCACGCACGCTCGGCGGCGAAAGGCCGTCCGTT
    CGGTCGAACAGCGTTCAGACGGCATCCATATCGCCCTGCATTTCGGCTTCCCCGTCGCGC
40  ACATTGCCTCAGAAACAGCCGACCGCATACAGGAAATCCTGATGCCCGAAACAGGCGACA
    CACACATCCATCTGTCCATGGACACTGAAATCGGCACACACAAAGTCCAGCCCGGCGTTA
    CCACCATCAAAGGCGTGAAAAACATCATCGCCGTCGCATCGGGAAAAGGCGGCGTGGGCA
    AATCGACAACCACCGCCAACCTTGCCGCCGCAATGGCGCGCATGGGCGCGCGCGTCGGCG
    TGCTCGATGCCGACCTTTACGGCCCGAGCCAACCGACCATGTTGGGTGTGGACGACCGCA
45  AACCCGATCAGAAAAACCAAAAACTCATTCCCGTCGAATCTTCAGACGGCATACAGGTCA
    TGTCTATCGGCTTTCTCGTCGATACCGACCAAGCCGTCGTCTGGCGCGGGCCGATGGTCA
    GCCAAGCCTTGCAGCAGCTGATGTTCCAAAGCGAGTGGGACGAAGTGGACTACCTGTTTA
    TCGACCTGCCCCCCGGCACGGGCGACATCCAGCTCACGCTGTCCCAGCGCATCCCCGTAA
    CCGGTTCCGTCATCGTAACCACGCCGCAGGACATCGCCCTGATAGACGCGCGCAAAGCCG
50  TGGATATGTTCCGCAAAGTCAACATTCCCATTTTGGGCGTATTGGAAAATATGTCCGTCC
    ACATCTGCACCAACTGCGGACACAGCGAAGCACTGTTCGGCACGGACGGCGGCAAAGATT
    TCGCCGCACGCCTCAACGTCCCCCTGCTCGGACAGCTTCCCCTAAGCCTGCCCGTGCGCG
    AAGCCATGGACGGCGGCACACCGGCGCAACTGTTCGACGAACACCCCGCCATCGCCCGAA
```

```
TCTACACCGATGCCGCATTCCAAATCGCCCTGAGCATTGCCGACAAAGGCAAAGACTTCA
GCAGCCGCTTCCCCAAAATCGTCGTCGAATAAAGCCGCGTCCGAAACCGCAACAGCAATG
CCGTCCCAAGCCCCGCGCCTGCCGGCGGGCAAACTTGCCGGATAAAACGGTTTTTTTGAG
ATTTTACGTTCCGGATTCCCGCCTGCGCGGGAATGACGAATTTTAGGTTTCTGATTTTGG
TTTTCTGTTTTGTAGGAATGATGAAATTTTGAGTTTTAGGAATTTATTGGAAAAAACAGA
AACCGCTCCGCCGTCATTCCCGCGCAGGCGGGAATCTAGACCTTAGAACAACAGCAATAT
TCAAAGGTTAGCTGAAGCTTTAGAGATTCTAGATTCCCACTTTCGTGGGAATGACGGGAT
GTAGGTTCGTGGGAATGACGCGGTGCAGGTTTCCGTGCGGATGGATTCGTCATTCCCGCG
TAGGCGGGAATCTAGACCATTGGACAGCGGCAATATTCAAAGATTATCTGAAAGTCCGAG
ATTCTAGATTCCCACTTTCGTGGGAATGACGGGATGTAGGTTCGTGGGAATGACGCGGTG
CAGGTTTCCGTGCGGATGGATTCGTCATTCCCGCGCAGGCGGGAATCTAGACCTTAGAAC
AACAGCAATATTCAAAGGTTAGCTGAAGCTTTAGAGATTCTGGATTCCCACTTTCGTGGG
AATGACGGGATTTGAGATTGCGGCATTTATCGGAAAAAACAGCAACCGCTCCGCCGTCAT
TCCCGCGCAGGCGGGAATCCAGACCTTGGGATAACAGTAATATTCAAAGATTATAAAAGA
CCCGTCATTCCCGCGCAGGCGGGAATCCAGACCTTAGAACAACAGTAATATTCAAAGATT
ATAAAAGACTCGTCATTCCCGCGCAGGCGGGAATCCAGACTGTCGGGCATCTGCAGCGGT
TTGCTAAAAAACGCTTTACCGTGATCAGTGTGCAAAGTTAAAATGGGGAGGTAAGCTTTT
CAATCAGCAATCCGGCGGGCGCGGGATCGGGCGGTTTACCGAACCCCGGTGTTCGCGGCG
CGCCTGCCGCCGACGGTATCCCGCGAAGCAAGATTTAAGGGATAAAATATGTTCCAACAC
GCAGGGCGGCACATAAGGCGCCGCCCTGATTCGGAAGGGCTTGCACCCCTCCCGGACAAA
GCCTGATCCTGCCGCCCCGAAGGACGGATGCCCGAAGGGCGGGGGGTTTGACCGAAAAGG
AAATACGATGAATAAAACTTTAAAAAGGCGGGTTTTCCGCCATACCGCGCTTTATGCCGC
CATCTTGATGTTTTCCCATACCGGCGGGGGGGGGGGGGGCGATGGCGCAAACCCATAAAT
ACGCTATTATCATGAACGAGCAAAACCAGCCCAAGGTAAAGGGGAATGGGCAATATTCAA
CAATAAAGGACAAAGACAGGGAACGCAAATTTATCTATAATAAAAGCGGCCGGGGTGGAG
GCTCTGTCTTTTTCGACAATACCGATACCCTTGTTTCCCGACAAAGCGGTACTGCCGTTT
TTGGCACAGCCACCTACCTGCCGCCcTACGGCAAGGTTTCCGGTTTTGATGCCGACGGGC
TGAAAGAGCGCGGCAATGCCGTTAATTGGATTCATACGACCCACCCAGGGTTGATAGGCT
ACAGCTACACCAGTGTCGTATGCAGAGACAGCACAGGCTGTCCCAAACTTGTCTATAAAA
CCCGATTTTCCTTCGACAACACCGGTTTGGCAAAAAATGCGGGCAGCCTGGATAGGCACC
CGGACCCAAGCCGCGAAAATTCGCCCATTTACAAATTGAAGGATCATCCATGGTTGGGCG
TGTCTTTCAATTTGGGCAGCGAGAATACCGTCAAAAATGGCAACTCATTCAACAAATTGA
TATCTTCTTTTAGTGAAGACAATAATAATCAAACCATCGTCTCTACGACAGAAGGCTCCC
CTATTTCCCTTGGCGACCAGCAGCGCGAACATACCGCCGTGGTCTATTATCTGAACGCCA
AACTGCACCTGCTGGACAAAAAAGGGATTAAAGATATCACCGGCAAAACAGTGCGGTTGG
GTGTCTTGAAGCCGAGCATCGATGTGAAGACACAAAATACGGGGCTTGGCGGCATTCTAG
CTTATTGGGCTAGGTGGGACATTAAAGATACCGGGCAGATTCCAGTCAAGCTCGGCCTGC
AGCAAGTCAAAGCAGGCCGCTGCATCAATAAACCGAACCCCAATCCCAACAAAAAGACC
TTTCGCCGGCCCTGACTGCCCCCGCGCTGTGGTTCGGACCTGTGAAAGATGGTAAGGCGG
AGATGTATTCCGCTTCGGTTTCTACCTACCCCGACAGTTCGAGCAGCCAAATTTTCCTGC
AAAACCTTTCCCGCAAGGATGACACAAGCAAACCGGGCCGCTATTCCCTCAAACCCTTGA
GTACGTCGGAGATTAAAAGTAAAGAGCCGAGTTTCACGGGGCGGCAAACCGTCATCCGAT
TGGATGGCGGCGTACGGCATATCCAACTGGATAGAAACAATGAGGCCACCGGTTTAAATG
GAAATGACGGCAAAAACGACACTTTCGGCATTATTAGAGAAGGGAGCTTCATGCCTGATG
CCAGCGAGTGGAAAAAAGTATTGCTGCCTTGGACGGTTCGGGGTTTTGCTGATGACAGTA
AATTTAAAGCATTCAACAAAGAAGAAAACAACGACAACAAGCCAAAATACAGCCAAAGAT
ACCGCATCCGCGAAAACGGCAAGCGCGATTTGGGCGACATCGTCAACAGCCCGATTGTCG
CGGTCGGCGAGTATTTGGCTACTTCCGCCAACGACGGGATGGTGCATATCTTCAAAAAAG
GCAACGGGGACGCGCGCGACTATAGTCTGAAGCTCAGTTATATCCCGGGCACGATGCCGC
GCAAGGATATTCAAAACACCGAATCCACCCTTGCCAAAGAGCTGCGCACCTTTGCCGAAA
AAGGCTATGTGGGCGACCGCTATGGCGTGGACGGCGGCTTTGTCTTGCGCCGCATTACAG
ATGACCAAGACAAGCAAAAACACTTCTTTATGTTCGGCGCAATGGGCTTTGGCGGCAGAG
GCGCATACGCCTTGGATTTAAGCAAAATCGACAACAGCAACCCGGCCGGCGTTTCCATGT
TTGATGTCAAAAACGACAATGGCGTGAAATTAGGCTACACCGTCGGTACGCCGCAAATCG
GCAAAACCCACAACGGCAAATACGCCGCCTTCCTCGCCTCCGGTTATGCGACTAAAGACA
TTAACAACGGCGAGAATAAAACCGCGCTGTATGTGTATGATTTGGAAAACAACAACGGTA
CGCCGATTGCAACAATCAACGTACCCGACGGCAAGGGCGGGCTTTCGTCCCCCACGTTGG
```

```
TGGATAAAGATTTGGACGGCACGGTCGATATCGCCTATGCCGGCGACCGCGGCGGGAATA
TGTACCGCTTTGATTTGAGCAACAACGATCCGACCAAATGGTCTGTACGTACTATTTTTA
AAGGCACGCTGGATAAGCCGATTACCTCCGCGCCCGCCGTTTCCAAACTGAAAGACAAAC
GCGTGGTTATCTTCGGTACGGGCAGTGATTTGAGTGAGGATGATGTTGATAAAAAGGATA
TACAATCTATTTACGGTATTTTTGACAATGACACAGGCACGGATGTGGCAGAAGAAGGAC
AGGGCAAAGGGTTGCTCGAGCAACACCTTACTCAGGAAGATAAAACCTTATTCCTGACCG
ATTACAAGCGATCCGACGGCTCGGGCGACAAGGGCTGGGTAGTGAAATTGGAAGCCGGAC
AGCGCGTTACCGTCAAACCGACCGTGGTATTGCGTACCGCCTTTGTAACCATCCGCAAAT
ATAACGACGGCGGCTGCGGCGCGGAAACCGCCATTTTGGGCATCAATACTGCCGACGGCG
GCAAGCTGACCAAGAAAAGCGCGCGCCCGATTGTGCCGGAAGCCAATACGGCTGTCGCGC
AATATTCCGGTCATAAGCAAACCGCCAAAGGCAAATCCATCCCTATAGGTTGTATGTGGA
AAAACAATGAAACCGTCTGCCCGAACGGATATGTTTACGACAAACCGGTTAATGTGCGTT
ATCTGGATGAAAAGAAAACAGACGGATTTTCAACAACGGCAGACGGCGATGCGGGCGGCA
GCGGAACATTCAAAGAGGGTAAAAAACCCGCCCGCAATAACCGGTGCTTCTCCGGAAAAG
GTGTGCGCACCCTGCTGATGAACGATTTGGACAGCTTGGATATTACCGGCCCGATGTGCG
GTATGAAACGAATCAGCTGGCGTGAAGTCTTCTTCTGATTTGCACGCGAAAATGCCGTCC
GAAAGGTTTTCGGACGGCATTTTTTGCGTTTTTCGGGAGGGGCGGGTTCGTAAAAGGCGG
GCTATAGGGTAGGCTTCATCTCGCCAATCTCACTGAATCCATCAATTTCCACAATTCAAT
TAAATACCGTCAAACCGATGCCGTCATTCCCGCGCAGGCGGGAATCTAGACATTCAATGC
TAAGGCAATTTATCGGGAATGACTGAAACTCAAGAAACTGGATTCCCACTTTCGTGGGAA
TGACGGGATGCAGGTTCGTGGGAATGACGTGGTGCAGGTTCGTAGGAATGACGTGGTGCA
GGTTTCCGTGCGGATGGATTCGTCATTCCCGCGCAGGCGGGAATCCAGACATTCAATGCT
AAGGCAATTTATCGGGAATGACTGAAACTCAAAAAACTGGATTCCCACTTTCGTGGGAAT
GACGGGATTAGAGTTTCAAAATTTATTCTAAATAGCTGAAACTCAACGCACTGGATTCCC
GCCTGCGCGGGAATGACGAAGTGGAAGTTACCCGAAACTTAAAACAAGTGAAACCGAACG
AACCGGATTCCCACTTTCGTGGGAATGATGGGATTAGAGTTTCAAAATTTATTCTAAATA
GCTGAAACCCAACGCACTGGATTCCCGCCTGCGCGGGAATGACGAATTTTAGGTTTCTGA
TTTTGGTTTTCTGTTTTTGTAGGAATGATGAAATTTTGAGTTTTAGGAATTTATCGGAAA
AAACAGAAACCGCTCCGCCGTCATTCCCGCGCAGGCGGGAATCTAGGACGTAAAATCTCA
AGAAACCGTTGTACCCGATAAGTTTCTGCGCCGACAAACCTAGATTCCCGCCTGCGCGGG
AATGACGGTTCAGTTGCGTAGGACTGGATTGTGAAAAGGGGCGGATTCGGTGAAAACGGC
GGAAATGTGGGATTGATGGAATCGGTGGGCTGAAGCCCTCCCTACAGAGCTTTCAGACGG
TATTGTTTGCGTTTTCGGGATGGGGGCAAATGAAACACCGACAAACCGATACCGTCATTC
CCGCGCAGGCGGGAATCTAGACATTCAATGCTAAGGCAATTTATCGGAAATGACTGAAAC
TCAAAAAACTGGATTCCCACTTTCGTGGGAATGACGATTCGGACATTCCTTAAACTACCC
GTGTATCGCTGTAAATCTTAGAGATGGAGGAATAAAGACCGTTGGGCATCTGCAGCCGTC
ATTCCCGCGCAGGCGGGAATCTAGGATGCGGAATCTCAAGAAACCGTTATACCCGATAAG
TTTCTGCACCGACAGGTCTGGATTCCCGCCTGCGCGGGAATGACGATTCGGGTATTTCTG
ACGGTTCGGGCATTCCCGACAAGGTGGATTTTCAAGGTGTTGTATAGGGTGTAGGAGGAT
TCGTAAAAGGTGAGTTATAGGGTGGGCTTCAGCCCACCGATTCCAACGATTCCACCAATC
CTACACCGTTCCCATAGACTCAAATCAACACAGAAACTTATGCGCCGTCATTCCCGCGCA
GGCGGGAATCTAGGATGCGGAATCTCAAGAAACCGTTATACCCGATAAGTTTCTGCACCG
ACAGGTCTGGATTCCCGCCTGCGCGGGAATGACGATTCGGGTATTTCTGACGGTTCGGGC
ATTCCCGACAAGGTGGATTTTCAAGGTGTTGTATAGGGTGTAGGAGGATTCGTAAAAGGT
GAGTTATAGGGTGGGCTTCAGCCCACCGATTCCAACGATTCCACCAATCCTACACCGTTC
CCATAGACTCAAATCAACACAGAAACTTATGCGCCGTCATTCCCGCGCAGGCGGGAATCT
AGGATGCGGAATCTCAAGAAACCGTTATACCCGATAAGTTTCTGCACCGACAGGTCTGGA
TTCCCGCCTGCGCGGGAATGATGGTTCGGGTATTCCTGACGATTCGGGTATTCCTGACGA
TTCGGGTATTCCTGACGATTCGGGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGG
TATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCC
TGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGA
TTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCGGG
TATTCCCATAGTTTCGCCGGGCGGACGTGGGAAATGCGTAACGGGCATAGTGGGCGCGG
AGCGGGCGGTTTTATGCCCCGGATTTCCGTTTTCGCGCGAACATATCAGCCCGCCTGCCG
CGTTTGCGCTTGAAATCGGGTATGTTTCGTCTTAAAATATGCTGCTTTCAGGGTATAGGC
ACTTGCCCGAAAAGCACGTTACGCGTCTATCTTGCGCGGCGTGTTTTTTTTGACCGGAT
TTTTCCGACCGGATGCCCCCTGCCGAAGTCCCTTCAGACGGCATTGTCAAGAATTTTATT
```

```
     AAAAACAGGATTCCCATCATGAGCACCCCGCCCTCCTCGTCCTCGCTGACGGCAGCGTA
     TTTCACGGCACATCAATCGGTTACGAAGGTTCGACTTCCGGCGAAGTCGTGTTCAATACT
     TCGATGACCGGCTATCAGGAAATCCTGACCGACCCGTCCTACTGCAAACAAATCGTTACC
 5   CTCACCTACCCACACATCGGCAACACCGGCACCAACGCCGAAGATGAAGAAAGCCGCAGC
     GTTTATGCCGCCGGCCTGATTATCCGCGACCTGCCGCTCTTGCACAGCAACTTCCGCGCC
     TCCGAAAGCCTGCACGACTATCTGGTACGCAACAAAACCGTCGCCATCGCCGACATCGAC
     ACCCGCCGCCTGACCACGCTGTTGCGCGAAAAAGGCGCGCAAGGCGGTGCGATTCTGACC
     GGTGCGGATGCCACAATCGAAAAAGCGCAAGAACTCATCGCCGCGTTCGGCAGCATGGTC
10   GGAAAAGATTTGGCAAAGAAGTTTCCTGCACGGAAACTTACGAATGGACGGAAGGCGAA
     TGGGCATTGGGCAAGGGTTTCGTTACCCCTGACGAACAGCCTTACCACGTCGTCGCCTAC
     GATTTCGGCGTGAAAACCAACATCCTGCGTATGCTCGCCTCGCGCGGCTGCCGCCTGACC
     GTCGTCCCCGCCCAAACGAGCGCGGAAGACGTGTTGGCACTCAACCCTGACGGCGTATTC
     CTATCCAACGGCCCCGGCGACCCCGAGCCTTGCACCTACGCCATCAAAGCCGTACAAAAA
15   CTGATAGAAAGCGGCAAACCGATTTTTGGCATTTGCTTGGGACACCAGCTCATCAGCCTC
     GCCATCGGCGCGAAAAACCCTGAAAATGCGCTTCAGCCACCACGGTGCGAACCACCCTGTG
     CAAGATTTGGACAGCGGCAAAGTCGTCATCACCAGCCAAAACCACGGTTTTGCCGTTGAT
     GCCGACACCCTGCCCGCTAACGCACGCATTACCCACAAATCCTTGTTTGACAACACTTTG
     CAAGGCATCGAGCTGACCGACAAACCTGTGTTCTGCTTCCAAGGCCACCCCGAAGCCAGC
20   CCCGGTCCGCAAGATGTCGGCTATTTGTTTGACAAATTCATTGGCAATATGAAAGCGGCA
     AAACGGGCATAATGGTTTTCAGACGGCAACAGTATGCTGCTGCCGTCTGAAAAACAAAGC
     TGGAAATGAAGATTAGCGCACTCGACCATCTAGTACTAACTGTTGCCGACATTGACCGAA
     CCATCGCGTTTTATAGTGAATTAAATTTAAACCGGTACAGCGTTGGCTCGCCTTGCCGTA
     CTATTTGTACTGTCTGCGGCTCGCCGCCTTGTCCTGATTTTTGTTAATTCACTATACACA
     CAAGTTTTGGGCATGGAAGAAGTTTCATTTGGCAGCGACCGTAAAGCTTTGTTGTTTGGC
25   AGTCAGAAAATCAACCTACACGGGCGCGGTGCGGAAATTCAGCCTAACGCGCAACACGCC
     GCCTGCGGCACAGCGGATTTATGCCTGCTGACCGATACGCCACTGGAAACGGTTTTACAG
     GAATTATCCGCACACGGCATCAAACCTTTAAGCGGCATCGTAGCGCGCACAGGCGCAATG
     GGCAAAATCCAATCGGTTTACCTGCGCGATCCCGATGGCAACCTGCTGGAAATCAGCAGT
     TATTGATTTTCAGACGGCTTATGCAAAATAAAAAACAGCCTGCACAAGCTGTTTTCCTTG
30   CAGCCTCTTTAACCCCAACAGCCGCCCCGTCCTCTCTCCCTGTGGGAAAGCGTTAGAGAG
     AGGGCAACAAGCCGCAAGGCTTGTGTTTGGGCGGTTAGGGTGTTGGGGAAGGTTGCCGAA
     ATTCGGGGAATGCCCTCTCCCCGGCCCTCCCCCACGGGGGAGGGGAGAAGGTTGCAGCAGA
     TTTTGCGGTTGCAGGCGGTTTGAAAGGCAACTTAGATTTGCAGCTGTTGTTTCAGGTCAT
     CTGAAAAATAAAAAGCAGCCTGCACAACCTGTTTTCCTTGCAAAACCCTTAATCCCAACC
35   GCCACCACGTCCTCTCTCCCATGGGAGAGAGTCAGAGAGAGGGCAACAAACTGTAAGGCT
     TACACAAACAGTAACCCGACAACAGAATGAGCACGCACGAGAAACTTTTAACCGCCGACA
     ACCCCGTCCTGCATCAACGCGCCAAAGCCATGCGCCAAGAAATGAGCGAGGCGGAAGCAA
     AATTGTGGCAGCACCTGCGGGCAGGCCGTCTGAACGGCTATAAATTCCGCCGCCAGCAGC
     CGATGGGGAATTATATTGTTGATTTTATGTGCGTAACGCCCAAGCTGATTGTCGAAGCAG
40   ACGGCGGGCAGCACGCGGAACAAGCCGTATACGACCACGCGCGGACGGCATATCTCAACA
     GCCTGGGCTTTACCGTGCTGCGTTTTTGGAATCACGAAATTTTGCAGCAGACAAACGATG
     TACTGGCGGAAATCCTGCGCGTATTGCAGGAATTGGAAAAGCAGTATGCGCAATAACAAA
     CGGTTAATTTTGATTAGAGTTTTGAAAATTATAGGATACAGGTAGGGTACAGGCTGCTTG
     AATTGAGCGTTTAGAAGACCGTCTGAAAAACAAAAAACAGCCCGCACAACCTGTTTTTCC
45   TGCAGAACCCTTAATTCCAACAGCCGCCCCGTCCTCTCTCCCTGTGGGAAAGCGTTAGAG
     AGAGGGCAACAAGCCGCAAGGCTTGTATTTAGGCGGTGAAGGCATTGGGGAAGGTTGCCG
     AAATTCGGAGAATTCCATCTCCCCAGCCCTCCCCCACGGGGGAGGGGGCAGGTTGCAGCG
     GATTTTGCGGTTGCAGGCGGTTTGAGAAAGAATGCCCGAAATATCAACAGCGGGAATTTT
     TCAGGCAGCCTTTATCGCAAGGCAGGTGGAACAAACGCCGCGAACGTTTTTTCAGACGAC
50   CTTTGAACTCATCGGCAGAGAGTGTGCCGCAAGGCACGCACGCGGTGGGTTGGGGTTGCA
     GGGAAAATGGAGAACGCGTGCATACGTACCGCACATACCCTACATACGGGCTACGGCTTG
     CTACGATACGGGGGTTTCGATATACAAGTTAGGTTTTAGCAAACCCAACATTTTAGACAA
     TTAAGCGGTTTGTGTTGGGTTTTCAACCCAACCTACGCTTGCTACGTTTATTGCAACATA
     TTCGCAGGAGTTTAAATATGTCAATACCTATTAATTTCAATAATTTAAAGTATTTGCTTA
55   ATGATATGAGAAACAAAAATAGAATAATTGAAGCATTTCCTTTTAATTATAATCAAAGGC
     AATACGCCGTTATTTTGACTAGGTATAAACCTGATGAACCTAGACCAGATGATTATGCAC
     AAGCAAAATTAGAGTTTTTTAATTTGAATAGTGAAAATTCAATATTTGCGTATGCTGATT
```

```
TTTATGAAGTTCATTTTAAAAGTGCTACTGATTTTATTAATTTTTTTAAAATTAATGTTC
AGGCTGGTGCTGCGAAAATCAGAGAAATTTTTCAGAGTTTTAGTAATCTTTTTGCAGATT
TCATTCCAACACAAACTAAAAAAGATTTAGACATAATTTATAAAAAGATTGTAGCTACTC
GTTTAGAACCTAATTCTCCTAACACTATTTATTGCTATGATGTCCGTAGAAATGGGAAAG
ATAAGGCTGGCAAGCCTAATCGCAGGAGCGTGGAAAATAGTGAAAAAGCAAAAATTTTGC
GCCCAGAGCTATACGAAAAATTTAAAGCCGATAGTAATTACAGTTTTTTCTTTTCAGATA
ATCCAAGCGATGAAAAAACAGATGCAGAAATAATTAGAGAAGTTACCAATCGTCAATAAT
CCAAATTCTTCAAAAGAAAGACCCACCATGCCCAAACGTACCGACCTAAAATCCATCCTT
ATCATCGGCGCCGGCCCTATCGTTATCGGTCAGGCCTGCGAATTTGACTATTCGGGCGCA
CAGGCCTGCAAAGCCTTGCGTGAAGAAGGCTATAAAGTCATTTTGGTGAATTCCAACCCC
GCCACGATTATGACCGACCCCGAAATGGCGGATGTTACCTACATCGAGCCGATTATGTGG
CAGACGGTGGAAAAAATTATTGCCAAAGAGCGTCCTGACGCGATTCTGCCTACCATGGGT
GGTCAGACTGCGCTGAACTGTGCGCTGGATTTGGCGCGCAACGGCGTGCTGGCGAAATAC
AATGTCGAGCTGATCGGCGCGACCGAAGACGCCATCGACAAAGCAGAAGACCGTGGCCGC
TTTAAGGAGGCGATGGAGAAAATCGGCCTCTCCTGCCCGAAATCTTTTGTCTGCCACACG
ATGAACGAAGCTTTGGCGGCGCAAGAACAGGTCGGCTTCCCTACCCTGATTCGTCCTTCT
TTCACCATGGGCGGTTCGGGCGGCGGCATTGCCTACAATAAAGACGAGTTTTTGGCGATT
TGCGAACGCGGTTTCGATGCGTCGCCCACGCACGAGCTGTTGATTGAGCAGTCCGTTCTC
GGCTGGAAAGAGTACGAGATGGAAGTGGTGCGCGATAAGAACGACAACTGCATCATCATC
TGCTCGATTGAAAACTTCGACCCGATGGGCGTGCATACAGGCGACTCGATTACGGTTGCG
CCGGCGCAAACGCTGACGGACAAGGAATATCAAATTATGCGTAATGCTTCGCTGGCGGTA
TTGCGCGAAATCGGCGTGGACACGGGCGGCTCGAACGTGCAGTTTGCGGTGAACCCTGCA
AACGGCGAGATGATTGTGATTGAGATGAACCCGCGCGTGAGCCGTTCTTCCGCGTTGGCT
TCCAAAGCAACGGGTTTCCCGATTGCGAAGGTGGCGGCGAAGCTGGCGGTCGGCTTTACG
CTGGACGAGTTGCGCAACGACATCACCGGCGGCAAAACCCCGCGTCGTTCGAGCCTTCC
ATCGACTATGTGGTTACCAAAATCCCGCGTTTCGCGTTTGAAAAATTCCCTGCCGCAGAC
GACCGCCTGACCACGCAGATGAAATCGGTGGGCGAAGTGATGGCGATGGGCCGCACGATT
CAAGAAAGTTTCCAAAAAGCCCTGCGCGGCTTGGAAACAGGCTTGTGCGGCTTCAATCCG
CGCAGTGAAGACAAAGCGGAAATCCGCCGCGAACTGGCGAACCCCGGCCCCGAACGTATG
CTGTTTGTGGCAGACGCGTTCCGCGCGGGCTTCACGCTGGAAGAAATCCACGAAATCTGC
GCCATCGACCCTTGGTTCTTGGCGCAAATCGAAGACTTGATGAAGGAAGAAAAAGCGGTT
TCAGACGGCATTTTGAGTGATTTGGATTTCGCCGCCCTACGTCGTCTGAAACGCAAAGGC
TTCTCCGACAAACGTTTGGCACAATTGTTGAACGTAAGCGAAAAAGAAGTTCGCGAACAC
CGCTACGCGCTGAAGCTGCATCCGGTTTACAAACGCGTCGATACCTGCGCCGCCGAGTTC
GCCACCGAAACCGCCTATCTTTACTCCACTTACGAAGAAGAATGCGAATCTCGTCCTTCC
GACCGCAAAAAAGTGATGATTCTCGGTGGCGGCCCGAACCGCATCGGTCAGGGCATCGAG
TTTGACTACTGCTGCGTTCACGCCGCGCTCGCCCTGCGCGAATCGGCTTTGAAACCATC
ATGGTCAACTGCAACCCCGAAACTGTGTCCACCGACTTCGACACCAGCGACCGCCTGTAT
TTCGAGCCGCTGACGCTGGAAGACGTGTTGGAAATCGTCCGCACCGAAAACCCGTGGGGC
GTGATTGTGCATTACGGCGGCCAAACCCCGCTCAAACTCGCCAACGCGCTGGTTGAAAAC
GGCGTGAACATCATCGGCACGTCCGCCGACAGCATCGACGCCGCCGAAGACCGCGAACGC
TTCCAAAAAGTGTTGAACGACTTAGGCCTGCGCCAACCGCCCAACCGCATCGCCCACAAC
GAAGAAGAAGCGCTCGTCAAAGCCGAAGAAATCGGCTATCCGCTGGTCGTGCGCCCGTCT
TACGTCCTCGGCGGCCGCGCCATGCAGGTCGTCCATTCCGCCGAAGAGCTGCAAAAATAC
ATGCGCGAAGCCGTGCAGGTTTCCGAAGACAGCCCCGTGTTGCTCGACTTCTTCCTGAAC
AACGCGATTGAAGTGGATGTGGACTGCGTTTCAGACGGCAAAGACGTGGTTATCGGCGGC
ATCATGCAGCACGTCGAACAGGCGGGCATCCACTCCGGCGACTCCGGCTGCTCGCTGCCG
CCCTACTCCTTAAGCGAAGAAATCCAAGACGAAATCCGCCGCCAAACCAAAGCGATGGCG
TACGCGCTGGGCGTGGTCGGACTGATGAACGTGCAGTTTGCCGTACAAGACGGCGTAGTG
TTCGTATTGGAAGTGAACCCGCGCGCCAGCCGCACCGTGCCCTTCGTCTCCAAAGCCACC
GGCGTGCCGCTCGCCAAAGTCGGCGCGCGCTGCATGGCAGGCATTTCCCTGAAAGAACAA
GGCGTGGAAAAAGAAGTTGTCCCCGATTTCTATGCCGTTAAAGAAGCCGTGTTCCCATTC
ATCAAATTCCCCGGGCGTGGATACGATTTTGGGACCGGAAATGCGCTCCACCGGCGAAGTC
ATGGGCGTGGGCGCAAGCTTTGGCGAAGCCTACTACAAAGCCCAACTCGGCGCGGGCGAA
CGCCTCAACCCCGACCGGCAAAATCTTCCTCTCCGTGCGCGAAGAAGACAAAGAACGCGTC
ATTAAAACCGCTAAAAACTTCCAAGTTTTAGGCTACGGCATCTGCGCCACGCGCGGCACG
GCGCAATACCTGACCGAACACGGGCTGATTGTGCAGACCATCAACAAAGTACCCGAAGGC
```

```
CGCCCGCACATCGGCGACGCGCTGAAAAACGGCGAAATCGCACTGGTCGTGAACACCGTT
TCCAGCGATCCGCAATCCGTGTCCGACAGCCACATCATCCGCCAAAGCGCATTGCAGCAA
CGTGTGCCGCAATACACCACCACCGCCGGCGGCGAAGCGATGAGCGAAGGCGCGAAAAGC
CGAGACCATCTGGGCGTGTACAGCGTTCAAGAACTGCACGGGCGTTTGAAAAACCGCAAC
```
5
```
TGATGCCTGAATCAGGTTGAAAATGCCGTCTGAAGCCGTTTTGCGGTTTCAGACGGCATT
TTGTCATTTGGAAAGCCGATGTTGCCACACACAAGCCGTACATAAGGAACAGCCCTATCA
CGCTCCCCATATAGATTGCCATTGCCGCCGACTATACATTATCTTATTTATTTTTTCTCA
AAGTTATTAAGTGAGTAAAAACAGTTTTATGACAGGTTTTATAGAATTATCCACAGAGA
TTGTTTCCCAGTTCCTCCACTAAAAAATCCAAAAATACGCGTAAGCGGAGATTGACGGCT
```
10
```
TTATCGCTGTAATAAACAGCATTAAAGGGGTGTGTTTTATCGGAGGTTTGTTCGGCGAGC
AGGGGAATTAACTTTCCTTCAGCGATGTCGTTGTCAACCAAAAAATCTGATAAGCAAACA
ATACCGCAACCTGAAAGGCACAACGAGCGTAAGATTTCACCGCTGCTGGCGGTAAAGTGC
GGTGAAATCTTATAGGGATTTCCCTGCGCATCTAAAACCGCCCATGTATTTAGAGAACCG
GGTTCGGTGAAGCCTAAACATTGGTGGCCGGCAAGCTCTTCTGTAGATTGCGGCGTGCCG
```
15
```
TGTTTTGCCAGGTATTCAGGACTGGCGATTACGCGGAAGCGGCTGTCAAACAGATGGCGT
GCACGCAGCCCGGAATCGTCCAATTCTCCGGCCCGTAAGGCAATATCGACTTTGCGTTCA
ATCAGATTGATATAGCCTTCGGAAGAAACGAGCGAAAGTCGGATATGCGGATAGCGTTCG
TTGAATTTTGCTGCCAGCGGCGCCAGCAGATGCAGCACCATCGGCATCGCGGAATCCACG
CTCAACACGCCTTGCGGTATTTCGTGCACTGCCAGCATTTCGGTTTCCGCCGCTGCCATT
```
20
```
TCTTGCAGGATTCTCTGCGCGCGGCGGAAATATTGCGCGCCTTCTTCCGTCAGACTGAGT
TGCCGCGTGGTGCGGTTGAGCAGGTTCACACCCAACTTTTCCTCCAGCCGTTTGACGATG
CGGCTTACGGCAGAATTTGCCATCGCCAACTGCTCCGCCGCACGGCTGAAGCTGCCGCTT
TCCACCACTTGAACAAATACGGTCAGTTCTTCTGAATTGGTTTTCATCGTGTTTCCTTTT
CGGTTGGAACCCCGCCCTTTAGGGCGGCAGGATCAGACTTTATTTGGGAGGGGTGTAACC
```
25
```
CCTTCCGAATCAGGACGGCACACAGGGCGGTGCTTTATGTGCCATCCCGTGTGTTGGAAC
ATCTGATTATTTCATTTGACGCAAAAGTGTTTTCTTATTTTTGCACTTTTAAATTATAAA
GTAAAACGGCACAATACATTCATCAATTCACAAACGAGGTAACAAATGAATATTTTATTA
TTAGACGGCGGCAAGGCGTTCGGACATTCTCACGGCGGGTTAAACCGTACGCTTCACAAA
AAAGCGAAAGAAGTTTTGACCGCGCTCGGACACAATGTTCAAGAAACCGTGATTGATGCC
```
30
```
GGCTATGATGTTGAGGCAGAAATCGAAAAGTTCGTTTGGATGGATGCTGTGATTTGGCAG
ATGCCGGGCTGGTGGATGCACGAGCCTTGGCAGTGAAAAAATACATAGACGAAGTATTA
ACCGCTGGACACGGCAAACTCTACCAAAGCGACGGCAGACACAGCGTCAATCCGACTGAG
GGCTACGGCACAGGCGGCTTGTTGCAAGGCAAAAAACATATGATTTCACTGACTTGGAAT
GCGCCGATTGAAGCCTTTACCCGCGAAGGCGATTTCTTTGAAGGCAAAGGCGTTGATGTT
```
35
```
TTGTATATGCACTTCCACAAAGCCAACGAGTTTTTGGGTATGACCCGCCTGCCGACATTC
TTATGTAACGATGTGGTTAAAAATCCGCAAGTGGAAAAATACTTGGCAGATTATCAGGCA
CACTTGGAAAAAGTGTTCGGCTAAAAATTTATCTTATAAACAAACAAAGGCAGCCTGAAA
GATTGAATGGTCTGCACCCCTAAGGTTGGACTAACCAACCGACTAAGGTGCAGATTATTT
TTTGTTGCTTTTTCAGCTTTTCGTTGGGTTAGATATTCTTGCCCACTGTTTTCAGGCAGC
```
40
```
CTTGAATACAAAAAAATGGCGTATGTAATATGTTTATACGACCAAAACGGAATGAATTTT
AACGTATTGCGCGTCATCAACAATGACTGAGTTTCTCGCCTCTCGCGCCTGAATCTATAG
TGGATTAACAAAAACCAGTACAGCGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGC
GGCTTCGTTGCCTTGTCCTGATTTAAATTTAATCCACTATATGTCATGCAGTTCCTTTCA
TTCAAATCAACAAAGAATGCCGTCCGACGTCCGTTCAGACGGCACTTGTCTTCCCACA
```
45
```
ATAGACTTGAGGCTGTTCTAACGTACCACCCCTTCGTTCCGCCCCAAAACCATCGCATCG
CCGTAGCTGAAGAAACGGTATTCGCGTTCGACCGCATGACGATACGCGGCGCGGATATGA
CCCATACCCGAAAACGCGCTGACCAACATCAGCAGCGTCGATTTCGGCAAATGAAAATTG
GTAACCAGTCTGTCGACAACATTAAAACGGTAGCCCGGCGTGATGAAAATATCGGTGTCG
CCCTGCCCCGCTTTCAGACGACCCGTCGCACGCGCGGCAGATTCGAGGGCGCGCATGGAA
```
50
```
GTCGTGCCGACCGCCCAGACTTTGTTCCCCCGGGCTTTTGCCGCCTCAACGGCGGCGGCG
GTTTCAGACGGCACTTCAAACCATTCGCTGTGCATTTGTGCTCTTCGATTTTGTCCACA
CGCACGGGTTGGAACGTTCCGGCACCGACGTGCAGGGTTACTTCTGCGGTTACCGCGCCT
TTGTCTTTCAGACGGTGCAAAAGTTCTTCCGTAAAATGCAGCCCGCCGTCGGCGCGGCG
ACCGCGCCCTGATATTTGGCATAAACGGTTTGATAACGGCTGTCGTCATCCGCATCGGCG
```
55
```
GCGCGTTCGATATAAGGCGGCAGGGGCAGGTGTCCGTTCTGTTCCAAAAGTTCGTAAACG
GTCTCTCCGCCTTCAAAACGCAGGCAGAACAGTTCGCCCTCACGCCCGACCGTCACGGCG
CGGATGCCGCCTTCAAACACCAGCCCCATACCGGGCTTGGGCGATTTGGACGAACGGATG
```

```
TGCGCCAGTGCGGTATGGTTGTCCAACACGCGCTCAATCAGGGCTTCGATCCTGCCGCCG
CTGTCTTTCTGCCCAAACAGCCGCGCCTTCATGACTTTGGTGTTGTTGAACACCAAAACG
TCGCCCGCCTCGACATAATCCGGCAAATCGCCGAACACCCGGTCTTGCAGCGGCATATCG
GGCAACGCAACCAAAAGGCGGCTGCTGCCGCGCACTTCGGGCGGATGCTGGGCAATCAGC
TTTTCGGGCAGGGTAAAATCAAAATCTGAAATATCCATTTTTACACTCTCGTTCGGGCAA
GCCGCCATTATACGCACTTTAGCCCTTTTTCAGACGGCATCTTTGTCCGAAAAACCAACA
GATTAGAATAAACACTCTTAACCTGGAACATCTTGTGCGCAAAATCAAACTTCCTGCACA
TTTCCCCCAAAAACCGCCGTTTTTTGATATTTTACTGGACATTTACCGACAACTTCGGGA
AAATAAACACATTCTCACGGTCGTTTTCCACCACAGGAAAACCGTATCCGAACACCATTC
CGCCCGGTTTGCGCCGTTGCCGCAAGCCGGCTGTTTTCTGAAAAACCAACGCAACAACCC
GCCGGAACACCGGCAGCCTTTAAAGGAACAGAAATGGATTTGCGCAAATTAAAAAAACTG
ATTGATTTGGTTGAAGAATCGGGTATCGCCGAAATCGAAGTAACCGAAGGCGAGGAAAAA
GTCCGCATCACCCGAACCATCGCCGCCGCACCCGTTTACGCCGCGCCCGTACCTGCCGCC
GCGCCGGCCGTAACGCCTGCCGCCGCACCCGTTGCGGCATCCGCGCCCGCCGCCGCACCT
GCCGCCCGCGATTTGTCCGACGCGCAAAAATCGCCTATGGTCGGCACGTTCTACCGCGCA
CCCGGCCCGAATGCCGCGCCTTTTGTCGAAGTCGGCCAACAAGTTAAAGCCGGCGACACG
CTGTGCATCATCGAAGCGATGAAGCTGATGAACGAAATCGAAGCCGAAAAATCCGGCACG
GTCAAAGAAATTTTGGTCGAAAACGGTACGCCCGTCGAATTCGGCGAACCGCTCTTCATT
ATCGGATAATCCTGTTTTCAGACGGCATAAACTTCCGATGCCGTCTGAAATGCTTTCCCC
CTTCAGCGTTCCCGCACCCTTTTTTACGGACGGGTTGCCGGAACCGCAGGAAAGGTCATC
ATGCTGAAAAAAGTTTTAATCGCCAACCGAGGCGAAATCGCATTACGCGTACTCCGTGCC
TGCCGCGAAATGGGCATTGCCACCGTCGCCGTGCATTCCGAGGCCGACAAAGACAGCCTG
CACGTCAAACTCGCCGACGAATCCGTGTGCATCGGCCCTGCCGCtTCCGCGCAAAGCTAC
CTTAACGTCCCCGCCATTATCGCCGCCGCCGAAGTAAGCTGCGCGGACGCTGTCCATCCG
GGTTACGGTTTCCTTGCCGAAAACGCCGATTTCGCCGAACAGGTCGAGCAGTCCGGCTTT
ACCTTTATCGGCCCGAAACCCGACACCATCCGCCTGATGGGCGACAAAGTCTCCGCCAAA
CACGCGATGATAGCGGCAGGCGTACCCTGCGTCCCCGGTTCTGACGGCGCATTGCCCGAC
GACGGCGAAGAAATCCTCAAAATCGCCGATAAAGTCGGTTATCCCGTCATTATCAAAGCC
TCTGGCGGCGGCGGCGGCCGCGGTATGCGCGTGGTCGAGAAAAAAGAAGACCTCCTCCAA
TCTGTCGAAATGACCAAAGCCGAAGCAGGCGCGGCATTCGGCAACCCGATGGTTTACATG
GAACGCTATTTGCAACGTCCGCGCCACGTCGAAATCCAAGTGATTGCCGACGAACACGGC
AACGCCATCTACCTTGCCGAGCGCGACTGTTCGCTGCAACGCCGCCACCAAAAAGTCATC
GAGGAAGCACCGGCTCCGTTCATCACTGAAAAAGAACGCGCCAAAATCGGCAACGCCTGT
GCCGATGCCTGCAAACGCATCGGCTACCGGGGCGCGGGTACGTTTGAGTTTTTATACGAA
GACGGCGAATTTTTCTTTATCGAGATGAACACGCGCGTTCAGGTCGAGCATCCGGTTACC
GAGCTCATCACCGGCGTGGACATCGTGCAGGAGCAACTCCGCATCGCCGCCGGCCTGCCT
TTGCAATACAAACAAAAGGATATTCAAGTCGAAGGCCACGCGTTTGAGTGCCGTATCAAC
GCCGAAGACCCGTACAACTTCATTCCAAGCCCGGGCCTGATTGAAAGCTGCCACCTGCCC
GGCGGCTTCGGTATCCGCGTGGACAGCCACATTTACCAAGGCTACCGCATCCCACCGTAC
TACGACAGCCTGATCGGCAAAATCTGCGTACACGCAAAACGCGTGAACAGGCAATGGCG
AAAATGCGCGTCGCACTCGCCGAGCTGGCGGTAACCGGCATCAAAACCAATACGCCGCTT
CACCGCGACCTGTTCGCCGATGCGGGTTTCCAAAAAGGCGGCGTCAGCATCCACTATTTG
GAACACTGGCTGGAAGATCGCAAAGCCAAACAGGACAAGTAAACCGCCGCCGATATGCCG
TCTGAAGCCGCCCGTCCGCGTTCAGACGGCATTTCCCTTGCCCCGCGCCGTCTGAAACCG
ATTTCGATATAGTGGATTAACTTTAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGA
GAAAGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTC
TGCGGCTTCGTCGCCTTGTCCTGATTTAAATTCAATCCACTATATTTCCAAGAAAGCCCG
TTATGCCCTACCAACAAATCACCGTCAACGTCAACGATGCCGTCGCCGAACGCCTCGCCG
ACGCGCTGATGGAACACGGCGCACTCTCCGCCGCCATCGAAGATGCCTACGCCGGCACGC
AAAACGAACAGGCGATTTTCGGCGAACCCGGTATGCCCGCCGAACAAATCTGGCAGCAGA
GCAAAGTCATCGCCCTGTTCGGCGAACACGACGAAGCCGCCGCCATCATCCAAACCGCCA
CACAAGAATGCGGGTTAAAAGACTTGGCATACACCGGCGAAACCATCGAAGACCAAGACT
GGGTGCGTCTCACGCAATCGCAATTCGACCCCATCCGGATTTCCGACCGCCTGTGGATTA
CCCCCTCTTGGCACGAAGTCCCCGAAGGCAGTGCCGTCAACCTCCGCCTCGACCCCGGAC
TCGCCTTCGGCACCGGCAGCCACCCGACCACGCGCCTCTGCCTCAAATGGTTGGATACGC
AACTCAAAAACGGCGAAAGCGTCCTCGACTACGGCTGCGGTTCGGGCATCCTGACCATCG
CCGCCCTCAAACTCGGTGCAGGTTTCGCCGTCGGCGTGGATATTGACGAACAGGCCGTCC
```

```
        GCGCCGGCAAGGACAACGCCGCGCAAAACAACGTCGATGCACAATTCTTCCTGCCCGACG
        GTCTGCCTCAAGGGCAATTCGACGTAGTTGTCGCCAACATCCTCGCCAACCCTTTGCGTA
        TGCTTGGCGAAATGCTCGCCGCCCGCACCAAACAGGGCGGACGCATCGTGTTGTCCGGTT
        TGTTGGACGAACAGGCCGAAGAACTCGGCGGCATTTACAGCCAATGGTTCGACCTCGACC
5       CGGCGGAAACCGAGGAAGGATGGGCGCGATTGAGCGGCGTAAAACGCTGAAACGGAAAGG
        AAACACCGTGCAGGATAAAAACAACCTCTGCTGGCTCGATATGGAAATGACGGGGCTGAA
        TCCCGAAACCGACCGCATTATCGAAGTCGCGATGATTATTACCGACTCGGATTTGAATGT
        GTTGGCGCAATCCGAAGTTTACGCCGTCCACCAAAGCGACGACGTGCTGAACAAAATGGA
        CGAATGGAACACCGCCACACACGGCAGGACGGGGCTGACACAGCGCGTACGCGAATCGTC
10      GCATACCGAAGCCGAAGTCGAACAGAAACTGCTGGACTTTATGTCGGAATGGGTACCCGG
        ACGCGCCACGCCGATGTGCGGCAACTCCATCCACCAAGACCGGCGTTTTATGGTCAAATA
        TATGCCGAAACTGGAAAACTACTTCCACTACCGCAACCTCGACGTTTCCACGCTGAAAGA
        ACTCGCCAAACGCTGGAATCCGCCCGTTGCCAAAAGCGTCGTCAAACGCGGTTCGCACAA
        GGCATTGGACGACATTTTGGAGAGCATCGAAGAAATGCGCCACTACCGCGAACACTTTCT
15      GATTTCCGCCCCGAGAGCCGAAGCGCAATAAGAAACAAACAATGCCGTCTGAAACGCAGT
        TTGCATTTCAGACGGCATTTTTACAGCAGATTGAAATCAAAAATATACACGCCCGTCATT
        CCCGCACAGGCGGGAATCCGGAAGGTCGGGCCTGCCGTTATTTTCAATCATTACAGAAAC
        TGAAAGGTCTGGATTCCCGCCTGCGCGGGAATGACGGGCGTGTGCATTCTTATAGTGGAT
        TAACAAAAATCAGGACAAGGCGACGAAGCCGCAAACAGTACAAATAGTACGAAACCGATT
20      CACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCG
        TACTGGTTTTTGTTAATCCACTATACTTCAATCTGCCAAACAGATCGAACAGAGAAACCC
        TGTCCGTCAAAACATCATTCAGCCATCGCCTTGAACACTTCAACCGCAACCGCAACCGTT
        TCGTCAATCAGCTCGGGCGTATGCGCGGCGGAAACGAAACCTGCTTCATAAGCGGACGGG
        CCGAAGGCGACATTGCGGTCGAGCATCCCGTGGAAAAACTGTTTGAAGCCTTCAATATTG
25      GAACGCGCCATATCGGCATAGTTTCGCGGCGCGTGTGCGGCGAAATACAGACCGAACATA
        CCGCCCACGCTGTCGGCGGTGAACTCGATGCCCGCCGCATCCGCTGCCGTCCGAAAACCT
        TGAACCAACTGTTCGGTACGCGCCGTCAGGTTTTCATAGAAGCCTTCGCGCTGGATGATT
        TCCAGCGTTTTCAAGCCTGCGGCGACAGCAATCGGGTTGCCCGACAAGGTGCCTGCCTGA
        TACACGCCGCCCAGCGGGGAAATACATTCCATAATGTCTTTGCGCCCGCCAAACGCGGCA
30      AGCGGCATACCGCCGCCGATGACTTTGCCCATCGTGGTCAGGTCGGGCGTGATGCCGTGC
        AAAGATTGCGCGCCGCCGAGCGCGACGCGGAAGCCGGTCATCACTTCGTCGTAAATCAAC
        ACCGCGCCGTATTTTTCGGTCAATCCGCGCAAGGCTTTGACAAAGGCTTCGGTCGGGCGG
        ACGAGGTTCATATTGCCGACGAAGGGTTCGACAATCACGCAGGCGATTTCATTGCCGCTT
        TGAGCAAAGGCTTCTTCGAGTTGGGCGATATTGTTGTACTCGAGTACCAAAGTGTGTTTG
35      GTAAAGTCGGCAGGCACACCGGCGGAAGACGGGTTGCCAAACGTCAGCAGACCGCTGCCG
        GCTTTCACCAGCAGGCTGTCGGAATGCCCGTGGTAGCAGCCTTCAAACTTGATGATTTTG
        TCACGCCCGGTAAAACCGCGTGCCAGACGGATGGCGGTCATGGTCGCTTCGGTACCGGAG
        CTGACGAGGCGCAGCCGTTCGACGGACGGCATGATTTTGGCGATTTCTTCGGCAATGACG
        ATTTCGCCTTCGGTAGGCGCGCCGAACGACAAACCGCCCAATGCGGCTTCGCATACGGTT
40      TCGACGACTTCGGGGTGCGCGTGTCCGACAATCGCAGGTCCCCACGAGCCGACGTAATCG
        GTATAGCGCGTGCCGTTTTCGTCCCAAACATACGCGCCTTCGGCTTTTTTGATAAAGCGC
        GGTACGCCGCCGACGCTGCCGAATGCGCGGACGGGGGAATTCACGCCGCCGGGGATGATG
        GCTTTGGCGCGGTCGAATAAAATTTCGTTACGGTTCATATATATCCTCAAATGCCGTCTG
        AACGGCAGGTTTCGGGCTTGGAAGCAGAAAGCCCCATTTTATCATTTTTCAGGTTGCGAC
45      AAGGATTTGCCCGCTTCTTTGCGGATCACGCCAACCGCATCCGGATGACGGAACGCTCG
        TCTTTTTCCACTTTATGTGTAAAGCGGTAGTCTCGGACGACTCCCTCCCCGTCGTAATCC
        ACACACCACTCCCAATGTCGGCGTTCTGATTTCATATAAATGAAATTGGTCGGCAAAAAA
        TTATAAATCGGCAGGsTGACTTCATGATAGGCATAACAACCGAAAGGGTTGCGCTTCCCG
        AAACGTGCCTCTACACCTCCGCCCGGGTCGTTTTGCCTTTAACAACGTTTGTGCGATTC
50      CCTCTTCCGTCTGATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGAC
        AGTACAGATAGTACGGCAAGGCGAGGCAACGCTGTACTGGTTTTTGTTAATCCACTATAA
        CGCAGGAACTGATGTTCCCTGTCGCCGAAATTGCTGGTACACGCACACAGCAGCAATGCC
        GCCCATACAGCCGGTTTCATACACATCTCCCATTAAAGCCAAACATTATACAGCCGTCCC
        GACCGATTAAATTCATATTTTAAAACAATATCCTGCCTCCAAAACCCACATCGTGCTATA
55      ATCCGCACCGATTTTCAGACGGCATCGTCGTGCCGTCTGAAATTTTTTCATTCCAACAAC
        AATCAGCCCCGCGATTACGGCTGCCTGAGAAAGACACAAACCATGAAAAAAGTATTTATC
        CGCACCTTCGGCTGCCAGATGAACGAATACGACAGCGACAAAATGCTCGCCGTCCTCGCC
```

```
      GAAGAACACGGCGGCATCGAACAGGTTACCCAAGCCGACGAAGCCGACATCATCTTGTTC
      AACACCTGCTCCGTGCGCGAAAAAGCGCAAGAAAAAGTCTTCTCCGATTTGGGGCGCGTG
      CGTCCGCTCAAAGAAAAAAACCCCGGCCTCATCATCGGCGTTGCCGGCTGCGTCGCCTCG
      CAAGAAGGCGAAAACATCATCAAACGCGCGCCTTATGTGGACGTGGTTTTCGGCCCGCAA
 5    ACGCTGCACCGCCTGCCAAAATGATTGTGGACAAAGAAACCAGCGGGCTGTCGCAAGTC
      GATATTTCCTTCCCCGAAATCGAAAAATTCGACCACCTGCCGCCCGCCCGCGTCGAAGGC
      GGCGCGGCATTTGTATCGATTATGGAAGGCTGTTCCAAATACTGCTCCTTCTGCGTCGTC
      CCCTACACGCGCGGCGAAGAATTCTCCCGCCCGCTCAACGACGTATTGACCGAAATCGCC
      AACCTTGCCCAGCAAGGCGTGAAAGAAATCAACCTCTTGGGACAAAACGTCAACGCCTAT
10    CGCGGCGAAATGGACGACGGCGAAATCTGCGACTTCGCCACCCTGCTGCGCATCGTCCAC
      GAAATCCCCGGCATCGAACGTATGCGCTTCACCACCAGCCACCCGCGCGAGTTTACCGAC
      TCGATTATCGAGTGCTACCGCGACCTGCCCAAACTGGTTTCCCACCTGCACCTGCCGATT
      CAAAGCGGTTCCGACCGCGTATTGAGCGCAATGAAACGCGGCTACACCGCTTTGGAATAC
      AAATCCATCATCCGCAAACTGCGCGCCATCCGTCCTGATTTGTGCCTGAGCAGCGATTTC
15    ATCGTCGGCTTCCCCGGCGAGACCGAACGCGAGTTCGAGCAAACCTTGAAACTGGTGAAA
      GACATCGCCTTCGACTTGAGCTTCGTGTTTATTTACAGTCCGCGCCCCGGCACGCCTGCC
      GCCAACCTGCCGGACGACACGCCGCACGAAGAAAAAGTGCGCCGCCTCGAAGCCTTGAAC
      GAAGTCATCGAAGCCGAAACCGCGCGCATCAACCAAACCATGGTCGGCACGGTACAACGC
      TGCCTGGTCGAAGGCATCTCCAAAAAAGACCCCGACCAACTGCAAGCCCGTACCGCCAAC
20    AACCGCGTCGTCAACTTCACCGGCACGCCCGACATGATTAACCAAATGATCGATTTGGAA
      ATCACCGAGGCCTACACCTTCTCCCTGCGCGGCAAAGTTGTCGAAGCCTAAACCCTCACG
      CCGAAAAAATGCCGTCTGAAGCGTTTCAGACGGCATTTTGCCTTGTATCGGCAGACGACG
      GCGCGGCCGGGCGGCTTAATTTGCCGCATCCCGATCCGACAGCCACGCGCGCACACGCCG
      TTCCACCGCTTCGGCACTCAAGCCCAAATCGTCTAAAAGTTTTTTCGGATCGCCGTGTCC
25    GGTTACGGTATCGGCAACGCCCAAAAGCAAACGGGTTTGCAGATGCCGTGTTTCGCCAA
      TACTTCCAGCACCGCGCCGCCTGCGCCGCCCTGTTCGGCGTTTTCTTCAAGGGTAACGAT
      GCGGTCGTGGCTTCGGGCAAGGCGGACAATCAACTCTTCGTCTATCGGTTTGACGAAGCG
      CATATCGGCGACGGTGGCGTTCAGTTTTTCGGCAACCGCCAATGCGGGGGCGGACCATACT
      GCCGAAGGCAATGAATGCGGTTTTCTCACCTTCGCGGCGGATAATGCCCTTGCCGATTTC
30    CACGGTTTCCATGCCGTCTGAAACCGGCGCGCCCGTACCCGTGCCGCGCGGATAGCGGAC
      GGCGGCGGGGCGCGTCTGCCTGATAGCAGGTCGAAAGCAACAGGCGGCATTCGTTTTCATC
      GCTCGGCGCGGCGACAATCATGTTCGGCACGCAGCGCAAAAAGCTCAAATCGTACAGACC
      GGCATGGGTCGGGCCGTCCGCGCCGACGATGCCCGCGCGGTCGACGGCAAACAAAACGGG
      TAGGTTTTGCAGGGCGATGTCGTGCACCAGTTGGTCGTAGGCGCGTTGTAAAAAGGTGGA
35    ATAAATCGCCACGACGGGCTTCATCCCTTCGCAAGCCAAACCGCCGGCAAAGGTAACGGC
      GTGCTGCTCGGCGATGCCGACATCGAAATAGCGGTCGGGGAATCGTTGTTCAAACTCAAC
      CAAGCCGCTGCCCTCGCGCATGGCGGGGGGTAATCGCAACCAGTCGGGAATCTGCCGCCGC
      CCGGTCGCACAGCCATTTGCCGAACACTTGGGTATAGGTCGGTTTGGCGGCGGGCTTGGG
      TTCTTTTTCAGACGGCATTTGCGCCGCGCTTTCTTTAGGCAGGTTGGCGACGGCGTGGTA
40    TTTGACGGGGTCGTTTTCGGCGAGTTTGTAGCCGTTGCCCTTTTTGGTGATGACGTGCAG
      CAACTGAGGGCCTTTGCGGCTGCGCAAGTCTTTCAATACGTCCACCAGATTTTCGACGTT
      GTGTCCGTCCACGGGGCCGGTGTAGCGGAAGCCGAAGTTTTCAAACAAAGACAGCGACTG
      TTTGGCGTGTTCGGCTTCTTCGGCAAGGGTTTTGATTTTGTGTTCGACTTTTTGGGCAAA
      CTCCATCGCGCCGGGTATTTTGTCTAATACCTTGCCCGTTTGCGCTTTGACGGTACTCAA
45    CAGGCCGTGCATATCGCGCACGACGTTGCTGGCAAGGTATTTCGGCAGCGCGCCGACGTT
      GGGGGAAATCGACATTTCGTTGTCGTTGAGGACGACCAGCAAATCCACATCCATATCGCC
      TGCGCAATTCAAGGCTTCAAACGCCTGCCCCGCCGTCATCGCGCCGTCGCCGATGATGGC
      GACGCTGCGGCGGTCGCTGCCCAAGAGTTTGTCTGCCGCCGCCATGCCCAACGCCGCGCC
      GATGGAGGTGGAGGAATGCCCCACGCCGAACGCGTCGTACTCGGACTCGCAACGTTTCGG
50    AAAACCCGCCAAACCGCCATATTGGCGCATGGTGTGCATCTGGTTTTTCCTGCCTGTCAG
      GATTTTGTGCGGATAGCTTTGGTGTCCGACATCCCACACCAGCTTGTCTTCGGGCGTGTC
      GTACACATAGTGCAGGGCGATGGTCAGTTCGACCGCGCCCAAATTGCTGGCGAAATGCCC
      GCCGGTCTGCCCGACAGATTCCAGCAGAAAGGTGCGCAACTCGCCGGCAAGGCGCGGCAG
      CTGTTTTTTGTCCAGACGGCGCAAATCTTGCGGGCTGTCAATCAGGTCGAGTAGGGGGCT
55    TGGGTTCATGGTGTGTCTTTTTTATGTGTCGTCCGGGTGCAACGGTCAATTATATATCAA
      GAGCGTGCGGCTGACGGCTGATTTTGCCGTATGTCATTCGTCCTGCCGCTTGGCGCGCGG
      GTGGGCTTCGTCATACAGGCGGGCGATGTGGTCGAAATCGAGCTTGGTATAAATCTGCGT
```

```
GGTCGAAAGGCTGCTGTGCCCGAGCAGCTCCTGCACCGCCCTGATGTCGCGCGAAGCCTG
CAATAGGTGTCCGGCGTAGCTGTGGCGCATCATATGCGGCGAAACGTGCCTGCCGTCGCC
GTTTTGCGCCGCCCATTGCGCCAAACGTTTTTGGATTTGGCGTTGGCTCAGGCGCGTGCC
GTTCCTGCCGGTAAACAGGGCTTTGCCGTCCGATGCCGTCTGACGCAGCGGCAGATAGTT
TTTCAGGGCTTCCACGCTTTTGCCGACCAGCGGCACCTGCCGCTGCTTGCGCCCTTTGCC
GATAACGTGTACCCACGCCTCGTCCAAATAGACATCATCTGCATTCAAGCCGTGTATCTC
GCTCACGCGCAAACCGCTGCCGTACATCAGTTCGAACAGGGCGTGGTCGCGCACCGCCAG
CGGGTCGCCGCCGTCCACGGGCAAATCCAGCATCCGGTTCAGCCATTCCTGCGGCAGGGC
TTTGGGTACGCGCTCGGGCTGCTTCGGCGGTTTGATGTCGGCGGTCGGGTCGGCGTGCAT
CAGGCCGCGCTTTACCAGCCAAACGCAATACTGCCGCCAAGACGAAAGCTTGCGAGCCAG
CGTCCGTTCCCCCAAACCGCGGCCGGACAGCCGGCGTAATGCCTGTACGAAGTCGCCGCG
AGTGCAATTTGAAGGGTTTGCAGACGGCATTTCTTCCAGAAGGGCAAGCAGTTCCTGCAA
GTCGCGCCGGTATGCGGCAACCGTGTGCTCCGATTTACCCTCGCGCACGATATTTTCCAA
ATAAGCGTCCAAGTATGCCGCAAGTCCGTCCAAACCCATTCCCACACCTAAAATAACATT
AGAAACATTATCATAAATCGGAATATCCGAATCCCGAAACGTCAAAACCCGACAAACCTG
CATACTGGCATCGTTAATATAAAATCAATGAGCTGTTTATGGTTTTTTGCTGTAAAAAAC
ATTATAATCCGCCTTATTTACCTATTGCCCAAGGAGACACAAATGGCACTCGTATCCATG
CGCCAACTGCTTGATCATGCTGCCGAAAACAGCTACGGCCTGCCGGCGTTCAACGTCAAC
AACCTCGAACAGATGCGCGCCATCATGGAGGCTGCAGACCAAGTCGACGCCCCGTCATC
GTACAGGCGAGTGCCGGTGCGCGCAAATATGCGGGTGCGCCGTTTTTACGCCACCTGATT
TTGGCGGCTGTCGAAGAATTTCCACACATCCCCGTCGTCATGCACCAAGACCACGGCGCA
TCACCCGACGTGTGCCAACGCTCCATCCAACTGGGCTTCTCCTCTGTAATGATGGACGGC
TCGCTGATGGAAGACGGCAAAACCCCTTCTTCTTACGAATACAACGTCAACGCCACACGT
ACCGTGGTTAACTTCTCCCACGCTTGCGGCGTATCCGTTGAAGGCGAAATCGGCGTATTG
GGCAACCTCGAAACCGGCGAAGCAGGCGAAGAAGACGGTGTAGGCGCAGTGGGCAAACTT
TCCCACGACCAAATGCTGACCAGCGTCGAAGATGCCGTATGTTTCGTTAAAGATACCGGC
GTTGACGCATTGGCTATTGCCGTCGGCACCAGCCACGGCGCATACAAATTCACCCGTCCG
CCCACAGGCGATGTATTACGTATCGACCGCATCAAAGAAATCCACCAAGCCCTGCCCAAT
ACACACATCGTGATGCACGGCTCCAGCTCCGTTCCGCAAGAATGGCTGAAAGTCATCAAC
GAATACGGCGGCAATATCGGCGAAACCTACGGCGTGCCGGTTGAAGAAATCGTCGAAGGC
ATCAAACACGGCGTGCGCAAAGTCAACATCGATACCGACTTGCGCCTTGCTTCTACCGGC
GCGGTACGCCGCTACCTTGCCGAAAATCCGTCCGACTTTGACCCGCGCAAATACCTGAGC
AAAACCATTGAGGCCATGAAGCAAATCTGCCTCGACCGTTATCTTGCGTTTGGCTGCGAA
GGTCAGGCAGGCAAAATCAAACCTGTTTCGTTGGAAAAAAATGGCAAGCCGTTATGCCAAG
GGCGAATTGAACCAAATCGTCAAATAACAGGTTGCCTGTAAACAAAATGCCGTCTGAACC
GCCGTTCGGACGACATTTGATTTTTGCTTCTTTGACCTGCCTCATTGATGCGGTATGCAA
AAAAAGATACCATAACCAAAATGTTTATATATTATCTATTCTGCGTATGACTAGGAGTAA
ACCTGTCAATCGAACTGCCTTCTGCTGCCTTTCTCTGACCACTGCCCTGATTCTGACCGC
CTGCAGCAGCGGAGGGGGTGGTGTCGCCGCCGACATCGGTGCGGGGCTTGCCGATGCACT
AACCGCACCGCTCGACCATAAAGACAAAGGTTTGCAGTCTTTGACGCTGGATCAGTCCGT
CAGGAAAAACGAGAAACTGAAGCTGGCGGCACAAGGTGCGGAAAAAACTTATGGAAACGG
TGACAGCCTCAATACGGGCAAATTGAAGAACGACAAGGTCAGCCGTTTCGACTTTATCCG
CCAAATCGAAGTGGACGGGCAGCTCATTACCTTGGAGAGTGGAGAGTTCCAAGTATACAA
ACAAAGCCATTCCGCCTTAACCGCCTTTCAGACCGAGCAAATACAAGATTCGGAGCATTC
CGGGAAGATGGTTGCGAAACGCCAGTTCAGAATCGGCGACATAGCGGGCGAACATACATC
TTTTGACAAGCTTCCCGAAGGCGGCAGGGCGACATATCGCGGGACGGCGTTCGGTTCAGA
CGATGCCGGCGGAAAACTGACCTACACCATAGATTTCGCCGCCAAGCAGGGAAACGGCAA
AATCGAACATTTGAAATCGCCAGAACTCAATGTCGACCTGGCCGCCGCCGATATCAAGCC
GGATGGAAAACGCCATGCCGTCATCAGCGGTTCCGTCCTTTACAACCAAGCCGAGAAAGG
CAGTTACTCCCTCGGTATCTTTGGCGGAAAAGCCCAGGAAGTTGCCGGCAGCGCGGAAGT
GAAAACCGTAAACGGCATACGCCATATCGGCCTTGCCGCCAAGCAATAACCATTGTGAAA
ATGCCGTCCGAACACGATAATTTACCGTTCGGACGGCATTTTGTATTGCACCGTCCGACG
GCATGCCCAAGGGGGGAAATCCCTATTTTCAGGCCAACCGCTATATAATGCCGTCTGAAC
CAACGAGAGAATGCCATGCAAGCTGATTTTAACCGTCCCGTCCTGGCCGTCGATACCGGT
ACTTCCCGTTTGTCGCTCGCGCTGCGTGCCGACGGCGAAACCCGTCTGTTCCATCAGGAA
GTCGGCAGCCGCCAGTCCGAACTGATTCTGCCGGAAATCCGCACCCTATTCCGCGATGCA
GGCATTACCGCCGCCGATTTGGGTGCGGTCGTGTACGCACAGGGTCCCGGCGCGTTTACC
```

```
GGACTGCGTATCGGCATCGGTGTAGCTCAGGGTTTGGCAACGCCGTTTGATACCCCCTTA
ATCGGCGTACCCTCGCTCGATGCCGCCGCCTCGCTGCCGCCGCCGCAAAGCTGCATCCTT
GCCGCTACGGACGCTCGTATGGGCGAAGTGTTTTATGCATGGTTCGATACGCTGAACTGC
CACCGTTTGAGCGATTATCAGGTCGGGCGGGCGGCAGACATCCGGCTGCCGGAGGGATGC
GCCTTTTCAGACGGCATAGGCAGCGCGTTCGCGCTGGAAGAAGCTCCGCCGTTCTCAGGC
AGACCGGATATGCCGACTGCCGCCGACTTTCTCGCATTGGCAGCCAAGGGCGGTTATCCT
GCCGTCCATGCCGCACACGCCGGTTTGCTCTACGTCCGCAACAAAATCGCCCTGACTGCC
AAAGAACAGGCCGAACGGAGAGCGCGCCCGTGAACATCCGCCGTGCCGTTTGTGCCGATT
GTGAGGAGCTGGCCGCACTCGATGCCGTCTGCAACCCGTCCGCATGGACGCAACGCCAAT
TTGAGTCCGCACTGGTTTCGCCGTCCGAACAGGTTTTCCTTGCGGAAAAAGACGGCGGGA
TTGCCGCCTTTATCGTTTGGCAGAACCTGCCCGACGAATCCGAACTGCACCTGATTGCCA
CCGCGCCCGAATGCCGCCGCCAAGGAATTGCGTCCGCCCTGCTCGAATATTGGTTCACAC
ATCTGCCCGAAGACACGCAACGCCTGCTGCTCGAAGTCCGTGCAGGCAACACCGCCGCAC
AGGCACTGTACACGGCGCACGGCTTCAGCATTACGGGCAGGCGGAAAAACTATTACCGTA
CAGCCGACGGTAAAACCGAAGATGCCGTCTTAATGGAGAAAATATGTTAAGCGCGCGCTA
CCTCCACCTGCACGAAGCTTTGGGTTTGGGTCCGATGTGGCTGAAACAGGCCGCCGCCGT
CCTGCCGCCCAAAAACACACCCGCACCCTCGGCACAGGCACGTCCCCAAACCGTCCGCGC
CGCCCCGATCCGCCCTTCCCAACCCCATAACGGTCAGGCGCGGCTCGAAACGATGAAAGC
GTTGGAAACCGCCGCCGTACCTACGCGCAAACCCGCGCCTGAAACCGAAACGCCTCTGCC
CGGCCTTTCAGACGGCATCGCCCCCGTTCCCGCCGCTTCGGGCATCACCAAGCTTGCCGT
CGTCAGCCTTTGCCCACCGATCGAGGATGCGGTTTACGGGCAACTGTTCCACGGCAAAGC
AGGCATCCTGCTCGACAACATACTCAAAGCCGTAGGACTGGATGCCGCCTATGTCCACAA
AACCTGTTGGGTGAAAACCGCCGCCGTCGGCAACCCGATGCCGTCTGAACAGGCCGTCGC
GAATGCGCTGGGTCAAATCGCCCGCGAACTCGACGGCTGCCGCGCCCCGGCTGTCCTTTT
CCTCGGGCAGGCTTTTGTCCAGCCTGAACGGCAAACGATGATTGAAACTTTGTGCGGCAG
CCGTCCCTTCTTCATCATCGACCATCCCGCCCGGCTTTTACGCCAACCCGAACTCAAAGC
CCGCGCCTGGCAGGTGTTGAAACAGTTGAAACGCGCCTTGCGGCAAGGCGGCGGCAGTTG
AAGCGCGCCGCACGGGGCGGTAGAATCGCAACTGCGTCCCAATATCTGACAGAAAGCACA
AAATGACCGATTTCCGCCAAGATTTCCTCAAATTCTCCCTCGCCCAAAATGTTTTGAAAT
TCGGCGAATTTACCACCAAGGCAGGACGGCGGGTCGCCCTATTTCTTCAATGCCGGCCTCT
TTAACGACGGCTTGTCCACGCTGCAACTGGCAAAATTTTACGCACAATCCATCATTGAAA
GCGGCATCCGATTCGATATGCTGTTCGGTCCCGCCTACAAAGGCATTATTTTGGCGGCGG
CAACCGCGATGATGCTGGCGGAAAAAGGCGTGAACGTCCCGTTTGCCTACAACCGCAAAG
AAGCCAAAGACCACGGCGAAGGCGGCGTGTTGGTCGGCGCGCCGCTTAAAGGGCGCGTGC
TGATTATCGACGACGTGATTTCCGCCGGCACATCCGTACGCGAATCGATCAAACTGATTG
AAGCGGAGGGTGCAACCCCCGCCGGTGTCGCCATCGCGCTCGATCGCATGGAAAAAGGCA
CGGGTGAATTGAGCGCGGTTCAGGAAGTGGAAAAACAATACGGTCTGCCCGTCGCCCCCA
TCGCCAGCCTGAACGATTTGTTTATTCTGTTGCAAAACAACCCCGAATTCGGACAGTTCC
TCGAACCCGTCCGAGCCTACCGTCGGCAGTACGGCGTAGAATAAAAACAAAGCATATGCC
GTCCGAACCGCCTTACGCCTCAGACGGCATCAAACCTGACACACACGAGGAAATACCATG
CCCGCCTGTTTCTGCCCCCACTGCAAAACCCGTCTCTGGGTCAAAGAAACCCAACTCAAT
GTCGCCCAAGGCTTCGTCGTCTGCCAAAAATGCGAAGGACTGTTTAAAGCCAAAGACCAT
CTGGCAAGCACGAAAGAACCCATATTCAACGATTTGCCCGAGGCTGTTTCGGATGTCAAA
CTCGTTCACCGTATCGGCACGCGCGCCATCGGCAAGAAACAGATTTCCCGTGACGAAATC
GCCGGCATCCTCAACGGCGGTACAACCCAGCCCGATATTCCGCCCGCAACCGCCGCCACC
CCTGCTGCCGCACCGCAGGTTACCGTACCGCCCGCCGCGCCCGCCCGTCAGGATGGGTTC
AACTGGACGATTGCAACCCTGTTTGCCCTTATCGTCCTCATTATGCAGCTTTCCTACCTC
GTCATCCTATGAGCGCGCCCGACCTCTTTGTCGCCCACTTCCGCGAAGCCGTCCCCTACA
TCCGCCAAATGCGCGGCAAAACGCTGGTCGCCGGCATAGACGACCGCCTGCTCGAAGGTG
ATACCTTAAACAAGCTCGCCGCCGACATCGGGCTGTTGTCGCAACTGGGCATCAGGCTCG
TCCTCATCCACGGCGCGCGCCACTTCCTCGACCGCCACGCCGCCGCTCAAGGCCGCACGC
CGCATTATTGCCGGGGCTTGCGCGTTACCGACGAAACCTCGCTCGAACAGGCGCAGCAGT
TTGCCGGCACCGTCCGCAGCCGTTTTGAAGCCGCATTGTGCGGCAGCGTTTCCGGGTTCG
CGCGCGCGCCTTCCGTCCCGCTCGTATCGGGCAACTTCCTGACCGCCCGTCCGATAGGTG
TGATTGACGGAACCGATATGGAATACGCGGGCGTTATCCGCAAAACCGACACCGCCGCCC
TCCGTTTCCAACTCGACGCGGGCAATATCGTCTGGCTGCCGCCGCTCGGACATTCCTACA
GCGGCAAGACCTTCTATCTCGATATGCTTCAAACCGCCGCCTCCGCCGCCGTCTCGCTTC
```

-163-

```
AGGCCGAAAAACTCGTTTACCTGACCCTTTCAGACGGCATTTCCCGCCCCGACGGCACGC
TCGCCGAAACCCTCTCGGCACAGGAAGCGCAATCGCTGGCGGAACACGCCGGCGGCGAAA
CGCGACGGCTGATTTCGTCCGCCGTTGCCGCGCTCGAAGGCGGCGTGCATCGCGTCCAAA
TCCTCAACGGAGCCGCCGACGGCAGCCTGCTGCAAGAACTCTTCACCCGCAACGGCATCG
GCACGTCCATTGCCAAAGAAGCCTTCGTCTCCATCCGGCAGGCGCACAGCGGCGACATCC
CGCACATCGCCGCCCTCATCCGCCCGCTGGAAGAACAGGGCATCCTGCTGCACCGCAGCC
GCGAATACCTCGAAAACCACATTTCCGAATTTTCCATCCTCGAACACGACGGCAACCTGT
ACGGTTGCGCCGCCCTGAAAACCTTTGCCGAAGCCGATTGCGGCGAAATCGCCTGCCTTG
CCGTCTCGCCGCAGGCACAGGACGGCGGCTACGGCGAACGCCTGCTTGCCCACATTATCG
ATAAGGCGCGCGGCATAGGCATAAGCAGGCTGTTCGCACTGTCCACAAATACCGGCGAAT
GGTTTGCCGAACGCGGCTTTCAGACGGCATCGGAAGACGAGTTGCCCGAAACGCGGCGCA
AAGACTACCGCAGCAACGGACGGAACTCGCATATTCTGGTACGTCGCCTGCACCGCTGAC
CGCAACGGAAAGCCGCCGCAGAAATGCCGTCTGAACCCCGTTTCAGACGGCATTTCCCCG
ATTATATAGTGGATTAAATTTAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAAT
AGTACGGCAAGGCGAGGCAACGCTGTACTGGTTTAAATTTAATCCACTATAAAGACCTGC
CCAACCCTCAAGGACCCCGATGAAATCCTACCCCGACCCCTACCGCCATTTTGAAAACCT
CGATTCCGCCGAAACGCAAAACTTCGCTGCTGAAGCGAATGCCGAAACGCGCGCGCGTTT
TTTAGAAAACGACAAGGCGCGCGCGCTTTCAGACGGCATTTTGGCGCAGTTGCAGGACAC
GCGGCAGATTCCGTTTTGTCAGGAACACCGCGCGCGGATGTACCATTTCCATCAGGACGC
GGAGTATCCGAAGGGCGTGTACCGCGTGTGTACCGCGGCGACGTATCGTTCCGGCTATCC
CGAGTGGAAAATCCTGTTTTCGGTGGCGGATTTCGACGAATTGCTTGGCGACGATGTGTA
TTTGGGCGGCGTGTCGCACTTGGTGGAACAGCCCAACCGCGCGTTGTTAACACTGAGCAA
ATTGGGCAGCGATACGGCGTACACGCTGGAAGTGGATTTGGAAGCAGGGGAGTTGGTCGA
AGGCGGTTTTCACTTTCCGGCAGGCAAAAACCATGTGTCGTGGCGCGATGAAAACAGCGT
GTGGGTGTGTCCGGCTTGGAACGAACGCCAGTTGACCCAATCGGGCTATCCGCGCGAAGT
ATGGCTGGTGGAACGCGGCAAGAGTTTCGAGGAAAGCCTGCCTGTGTATCAAATCGGCGA
AGACGGCATGATGGTGAACGCGTGGCGTTATCTCGATCCGCAGGGTTCGCCGATTGATTT
GATTGAAGCGTCGGACGGTTTTTACACCAAAACCTATTTGCGGGTCTCAGCCGAAGGCGA
GGCGAAACCGTTAAACCTGCCCAACGATTGCGACGTGGTCGGCTATCTGGCGGGGCATCT
TTTGCTGACGCTGCGCAAGGACTGGAACCGCGCGAACCAAAGCTATCCGAGCGGCGCGCT
GGTGGCGGTGAAGCTGAATCGGGGCGAACTCGGGGCGGCGCAGCTTTTGTTTGCGCCCGA
TGAAACGCAGGCATTGGAAAGCGTGGAAACGACCAAGCGTTTTGTGGTGGCGAGCCTGTT
GGAGAACGTACAAGGCCGTCTGAAAGCATGGCGGTTTGCCGACGGCAAATGGCAGGAAGT
CGAATTGCCGCGCCCTGCCTTCGGGCGCGTTGGAAATGACCGACCAACCTTGGGGCGGCGA
CGTGGTTTACCTTGCCGCCAGCGATTTCACCACGCCGCTGACGCTGTTTGCGCTGGATTT
GAACGTGATGGAACTGACCGTCATGCGCCGCCAGCCGCAGCAGTTTGATTCAGACGGCAT
TAACGTGCAGCAGTTTTGGACGACTTCGGCTGACGGCGAGCGCATTCCTTATTTCCACGT
CGGCAAAAACGCCGCGCCCGACATGCCGACGCTGGTCTATGCCTACGGCGGTTTCGGCAT
TCCCGAATTGCCGCATTATCTGGGCAGCATTGGCAAATATTGGCTGGAAGAGGGCAATGC
CTTTGTATTGGCGAACATCCGCGGCGGCGGCGAGTTCGGCCCGCGCTGGCATCAGGCGGC
GCAGGGAATCAGCAAACATAAAAGCGTTGATGATTTATTGGCAGTCGTGCGCGATTTGTC
CGAACGCGGTATCAGTTCGCCCGAACACATCGGCTTGCAGGGCGGCAGCAACGGCGGACT
GATTACTGCCGCCGCCTTCGTGCGCGAACCGCAAAGCATCGGCGCGCTGGTGTGCGAAGT
GCCGCTGACCGACATGATCCGTTATCCGCTGCTCTCCGCCGGTTCAAGCTGGACAGACGA
ATACGGCAATCCGCAAAAATACGAAGTCTGCAAACGCCGGTTGGGCGAATTGTCGCCGTA
TCACAATCTTTCAGACGGCATCGATTATCCGCCCGCGCTCATTACCACCAGCCTGTCCGA
CGATCGCGTCCATCCCGCCCACGCGCTCAAGTTCTACGCCAAACTGCGCGAAACCTCCGC
GCAATCTTGGCTCTACTCGCCTGACGGCGGCGGCCATACCGGCAACGGCACCCAACGCGA
ATCCGCCGACGAACTCGCCTGCGTCTTGCTGTTTTTGAAAGAGTTTTTGGGCTAAGGGCG
GGGGAGCGGCACTGCCGCCGCGAATGAAAAAAGGTCGTCTGAAACTGCTTTTTCAGACGA
CCTTTTTTAATGGTTGTTTCAAATCAAAATATCTATGCCGCCGGCCCCATCAGCACTTCT
TCACATCCGAAGGCAAAAATCCGTAATGCCGTCTGAACGCTTCGTTGAACCGTCCCGCGT
GGCGGTAGCCGCAAAAGTGCATGGCGGCTTGGACGGTGCTGCCGGATTCGATGAGGGCGA
GCGCGTGTTCCAGCCGCAGGCGGCGCAGGCATCCGGCGACGGTTTCGCCGGTTTGCGCTT
TGAAATAGCGTTTCAGGTAGCATTCGTTCAGTCCGACGCGGCGGGCATTTCGGCGATGG
TCAGCGGACGGGCGAATTCGTGTTGCAGGATGTCGGCGGCTTCGTCTATGCGCCGACGGC
GGTAACCGTTGTCGTGGCGGCGGAAGGTGAAGCGCAATAATCGGGCGGAGAGTTCCAGCG
```

-164-

```
      CGGCGGCTTCGTCGGCAAGCAGGCCGAAGCCGTCCGATTCGAACGGGCGTTGCAGCAGTG
      GGCAGGCCGCCGCCGTCAGTGCCGCTGCGTTTTGCGCCAGCCGTTGCAGGGCGAATCGGC
      CTATTGTTTGCGGCGAAAACAGGCGTTCGTCCAGCAAGCCTTCGTCGTGCCAGCGGCGCA
      GTTTTTCCAGCGAAAAATCCAAATGCAGCGCGCACATGCCGCTGTTGTCGGGCAGCAGGG
  5   TTTCGGATACGTCCGCCAAATCGCCGCGTACCAGTCAGATTTCGCCGGCAGATGGGCGGT
      ATTCCCTGCCGCCCATTTGTAACCGGTTCTGCCCCGACACCATGACGAACAAGGCGCAGT
      TGTGGCTGAAATTGTGGATTTCGGTGGGAAACGCGCCCGTTCCGCCGCCGCGCATCCGCG
      ACAAGGTGATGCCCGAATCGAAGCGGTTGATGCACATTTCCAGATGCAAACCGGGCTGTT
      TTGCCTGCGCAATGAGCGCGCTGTCGGAACAGCCGTCCAACGCCCAGCCGGATTTATCGG
 10   AGCGGACATAGGTTTGGTACTGGCGGTAGATGGCGGCGGTGTTCATGATTGGATAGGAAC
      GAGTTGTCTAACAAATGAATTAAATAGGAATTATTACCAATAATCAAGCGCAGGGATTGG
      TTGAAACGGAAAAGGTCGTCTGAAAGGGTGTTTCAGACGACCTTTTCCGTATCGGGAATT
      TGTTTTGCCGTATCGGGAATTTTGCGTTTTGCGGCGTGGTTTCTGCAGGTTGTTTGCTTA
      ATAATAAACATTCTTATTCGTATGCAAAGGAACCGCACACCGTGAAACCGCGTTTTTATT
 15   GGGCAGCCTGCGCCGTCCTGCTGACCGCCTGTTCGCCCGAACCTGCCGCCGAAAAAACTG
      TATCCGCCGCATCCGCATCTGCCGCCACGCTGACCGTGCCGACCGCGCGGGGCGATGCCG
      TTGTGCCGAAGAATCCCGAACGCGTCGCCGTGTACGACTGGGCGGCGTTGGATACGCTGA
      CCGAATTGGGCGTGAATGTGGGCGCAACCACCGCGCCGGTGCGCGTGGATTATTTGCAGC
      CTGCATTTGACAAGGCGGCAACGGTGGGGACGCTGTTCGAGCCCGATTACGAAGCCCTGC
 20   ACCGCTACAATCCTCAGCTTGTCATTACCGGCGGGCCGGGCGCGGAAGCGTATGAACAGT
      TAGCGAAAAACGCGACCACCATAGATCTGACGGTGGACAACGGCAATATCCGCACCAGCG
      GCGAAAAGCAGATGGAGACCTTGGCGCGGATTTTCGGCAAGGAAGCGCGCGCGGCGGAAT
      TGAAGGCGCAGATTGACGCGCTGTTCGCCCAAACGCGCGAAGCCGCCAAAGGCAAAGGAC
      GCGGGCTGGTGCTGTCGGTTACGGGCAACAAGGTGTCCGCCTTCGGCACGCAGTCGCGGT
 25   TGGCAAGTTGGATACACGGCGACATCGGCCTACCGCCTGTAGACGAATCTTTACGCAACG
      AGGGGCACGGGCAGCCTGTTTCCTTCGAATACATCAAAGAGAAAAACCCCGATTGGATTT
      TCATCATCGACCGTACCGCCGCCATCGGGCAGGAAGGGCCGGCGGCTGTCGAAGTATTGG
      ATAACGCGCTGGTACGCGGCACGAACGCTTGGAAGCGCAAGCAAATCATCGTCATGCCTG
      CCGCGAACTACATTGTCGCGGGCGGCGCGCGGCAGTTGATTCAGGCGGCGGAGCAGTTGA
 30   AGGCGGCGTTTAAAAAGGCAGAACCCGTTGCGGCGGGGAAAAAGTAGGGAGTCGTCTGAA
      AACGGAGCTTCCGAAGGAAGCGGGGGGGTTTCTGCGAAGCTAAAGTGCGGTTTCAACGAAT
      TGAAAAGCAGCCTGTATGTTGAAAATACCGCTCAAGCAAACCTACGGTTTGCCGCCCTCT
      CCCTAGCCCTCTCCCACAGGGAGAGGGGATTGGGTTGCAGGCTGCCTTTAAGGTTTAGGC
      AAATTTTTAACTTCGTTGAAGCTGCGATTTCAGAAGCTCCGTTTTAGCTTCGCAGAAACT
 35   CCGCTTCCTTCGAAAGCTCCGTTTTCAGACGACCTTTTGGAGTACCGCAGGCACACGCAT
      CGAACGGCTGAATCAAAGATTCAGACCGATGGCAGTCCGCACCCGAGTTATGCGGCAAA
      CAGCGAGGCTACGGCAACCCGCCCCCTCTCCCTGTGGGAGAGGGTTAGGGAGAGGGCGGT
      AAGCCGCAGGCTTACATCAAAGCCGATAACGCTTTCACAAAGCCTGTGTGCACTGAAAAC
      TGAAAGGTCGTCTGAAAACGGAGCTTTCGAAGGAAGCAGAGTTTCTGCGAAGCTAAAACC
 40   GAAGCTGCAAAAAATCGAAAAGCAGCCTGCACGTTGAAAATGCCGCCCAAGCAAACCTGC
      GGTTTGCCGCCCTCTCCCACAGGGAGAGGGGATTGGGGTGCAGGCTGCAGGCTGTCTTTAAGGTTCA
      GGCAAATTTTTAACTTCGTTGAAGCTGCGATTTCAGAAGCTCCGTTTTAGCTTCGCAGAA
      ACTCCGCTTCCTTCGAAAGCTCCGTTTTCAGACGACCTTTTGGAGTACCGCAGGCACACG
      CATCGAACGGCTGAATCAAAGATTCAGACCGATGGCAGTCCGCACCCGAGTTATGCGGC
 45   AAACAGCGAGGCTACGGCAACCCGCCCCCTCTCCCTGTGGGAGAGGGTTAGGGAGAGGGC
      GGTAAGCCGCAGGCTTACATCAAAGCCGATAACGCTTCCGTTACAACTCCGCCCACTGAA
      AGCAGCCTGCAACGAAGCCAAAACGACAAACCGCATCGTAAACCACCCAACCCATAGGAG
      AACCCCATGCAAAACGAAACCATCAACCTGAAACAGCACCTTGCCGCCATCAAAGAATAC
      TGGCAGCCCGAAATCATCAACCGCCACGGGTTCCAATTCCACTTGGTCAAACTTTTGGGC
 50   GATTACGGCTGGCATACGCACGGATACAGCGACAAAGTGCTGTTTGCCGTGGAGGGCGAC
      ATGGCGGTGGACTTCGCCGACGGCGGCAGCATGACGATACGCGAGGGCGAGATGGCGGTC
      GTGCCGAAGTCGGTGTCGCACCGCCCGCGTTCGGAAAACGGCTGCTCGTTGGTGCTGATT
      GAGTTGTCCGACCCGTCCGAGGCCGTCTGAAAACGAAGTTTCCGAAGGAAGCTGAGTTTC
      TGCGAAGCTAAAAGCAGCCTGCACCTTCAATCAATATGCCGAAAATACAACCCCACCGCA
 55   CACCAACACACAAAGGAAATCCCATGACACGCTTCAAATATTCCCTGCTGTTTGCCGCCC
      TGTTGCCCGTGTACGCGCAGGCCGATGTTTCTGTTTCAGACGACCCCAAACCGCAGGAAA
      GCACTGAATTGCCGACCATCACCGTTACCGCCGACCGCACCGCGAGTTCCAACGACGGCT
```

```
     ACACTGTTTCCGGCACGCACACCCCGCTCGGGCTGCCCATGACCCTGCGCGAAATCCCGC
     AGAGCGTCAGCGTCATCACATCGCAACAAATGCGCGACCAAAACATCAAAACGCTCGACC
     GCGCCCTGTTGCAGGCGACCGGCACCAGCCGCCAGATTTACGGCTCCGACCGCGCGGGCT
     ACAACTACCTGTTCGCGCGCGGCAGCCGCATCGCCAACTACCAAATCAACGGCATCCCCG
5    TTGCCGACGCGCTGGCCGATACGGGCAATGCCAACACCGCCGCCTATGAGCGCGTAGAAG
     TCGTGCGCGGCGTGGCGGGGCTGCTGGACGGCACGGGCGAGCCTTCCGCCACCGTCAATC
     TGGTGCGCAAACGCCTGACCCGCAAGCCATTGTTTGAAGTCCGCGCCGAAGCGGGCAACC
     GCAAACATTTCGGGCTGGACGCGGACGTATCGGGCAGCCTGAACACCGAAGGCACGCTGC
     GCGGCCGCCTGGTTTCCACCTTCGGACGCGGCGACTCGTGGCGGCGGCGCGAACGCAGCC
10   GCGATGCCGAACTCTACGGCATTTTGGAATACGACATCGCACCGCAAACCCGCGTCCACG
     CAGGCATGGACTACCAGCAGGCGAAAGAAACCGCCGACGCGCCGCTCAGCTACGCCGTGT
     ACGACAGCCAAGGTTATGCCACCGCCTTCGGCCCGAAAGACAACCCCGCCACAAATTGGG
     CGAACAGCCGCCACCGTGCGCTCAACCTGTTCGCCGGCATCGAACACCGCTTCAACCAAG
     ACTGGAAACTCAAAGCCGAATACGACTACACCCGCAGCCGCTTCCGCCAGCCCTACGGCG
15   TAGCAGGCGTGCTTTCCATCGACCACAACACCGCCGCCACCGACCTGATTCCCGGTTATT
     GGCACGCCGACCCGCGCACCCACAGCGCCAGCGTGTCATTGATCGGCAAATACCGCCTGT
     TCGGCCGCGAACACGATTTAATCGCGGGTATCAACGGTTACAAATACGCCAGCAACAAAT
     ACGGCGAACGCAGCATCATCCCCAACGCCATTCCCAACGCCTACGAATTTTCCCGCACGG
     GTGCCTACCCGCAGCCTGCATCGTTTGCCCAAACCATCCCGCAATACGGCACCAGGCGGC
20   AAATCGGCGGCTATCTCGCCACCCGTTTCCGCGCCGCCGACAACCTTTCGCTGATTTTGG
     GCGGACGATACACCCGTTACCGCACCGGCAGCTACGACAGCCGCACACAAGGCATGACCT
     ATGTGTCCGCCAACCGTTTCACCCCCTACACAGGCATCGTGTTCGACCTGACCGGCAACC
     TGTCTCTTTACGGCTCGTACAGCAGCCTGTTCGTCCCGCAATCGCAAAAAGACGAACACG
     GCAGCTACCTGAAACCCGTAACCGGCAACAATCTGGAAGCCGGCATCAAAGGCGAATGGC
25   TTGAAGGCCGTCTGAACGCATCCGCCGCCGTGTACCGCGCCCGTAAAAACAACCTCGCCA
     CCGCAGCAGGACGCGACCCGAGCGGCAACACCTACTACCGCGCCGCCAACCAAGCCAAAA
     CCCACGGCTGGGAAATCGAAGTCGGCGGCCGCATCACGCCCGAATGGCAGATACAGGCAG
     GTTACAGCCAAAGCAAAACCCGCGACCAAGACGGCAGCCGCCTGAACCCCGACAGCGTAC
     CCGAACGCAGCTTCAAACTCTTCACTGCCTACCACTTTGCCCCCGAAGCCCCCAGCGGCT
30   GGACCATCGGCGCAGGCGTGCGCTGGCAGAGCGAAACCCACACCGACCCTGCCACGCTCC
     GCATCCCCAACCCCGCCGCCAAAGCCCGCGCCGGACAACAGCCGCCAAAAAGCCTACG
     CCGTCGCCGACATCATGGCGCGTTACCGCTTCAATCCGCGCGCCGAACTGTCGCTGAACG
     TGGACAATCTGTTCAACAAACACTACCGCACCCAGCCCGACCGCCACAGCTACGGCGCAC
     TGCGGACAGTGAACGCGGCGTTTACCTATCGGTTTAAATAAGGTCGTCTGAAAACGGAGT
35   TTCTGCGAAGCTATAGTGGATTAACAAAAACCAGTACGGTGTTGCCTCGCCTTAGCTCAA
     AGAGAACGATTCTCTAAGGTGCTCAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACT
     GTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATAAAAGCAGCCTGCAC
     ATTGAAAATGCCGCCCAAGCAAACTTTCAGTTTGCCCGCCTCGTCCTAGCCCTCTCCCAC
     GGGAGAGGGGATTGGGGTGCAGGCTGCCTTTAAGGTTCAGGCAAATTTTAACTTCGTTGA
40   TACCGCGCTTTAGCTTCGCAGAAGCTGCACTTTCAGACGACCTTTTGGAACACCACAGGT
     ACACGCATTTAAGGAATGCCGTCTGAAATGCCTGCCTCAATAACGCATCATGTTGCCGTC
     AATCTCGGCCGCCCATGCATCGATGCCGCCCTGAAGGTTGTACAGGTTTTCAAAACCCGC
     GTCCGCCAAATACATCGCCGTATGCAGGCTGCGGATACCGTGGTGGCAATACACCACAAG
     CGGCACATCATCCGGCAGCTCGTTCTGCCGCAGCGGAATCAGATTCATCGGGATATGCAG
45   CGCATTTGGCAGCGAACAAACCGCCGTTTCTTCATCCGTACGCACGTCCAACAAACAAAA
     CATCCGCCCTTCGTCCATCCACGCTTTCAATTCCGCGGGCCCAAGTTGCACAATATCCAT
     CGCACCCCCCAAAAAAAACCAAGCAAAATGCCGTCTGAAGCCCCAAACCCGCTTTCAGAC
     GGCATGACCTGTCAACATCTTAAAAATCGAAACGCCAAACGGATCGGCATCCTTATCAT
     CCAAATGCGCCACCAAGGTATCGAACAGCACCTTCTCTTCAAACACATCGCCCCTGCGCG
50   TAATCAAAAGCGCGCGTTGAACAGGCTTGCGACCTACGATAACCACCATGCGTCCGCCAT
     CTTTCAACTGTTCTTTCAACACTTCAGGCACAAGGTTTACCGCACCGCCGACATAAACCG
     CATCAAACGGCGCACCTGCGGAAAGTTCGGTCAACCCGTTGTTTTGCACATAATCGATAT
     TGTCCAAACCCAAGCCGTCCAACACCGCTTTGGCGCGGTTTTGCTGTTCGACATCGATGT
     CGTCCGACACCACACGACCAGCCAATTTTGCCAACAGCGCGGTCGCATAGCCCGAACCCG
55   TGCCGATTTCCAAAACCGTATCGTTTTTCGTCAGCTTCAAGCCCTGCGCCAGCCGCGCCA
     CGACTTTCGGCTCGAGCATCTTATGACCGTTGGCAAGCGGCAGCGCCATATCCGCATACG
     CCAAACCCTGCAAGTCCTCATCGACAAAAAGCTCGCGCGGAATCTCCGCCAAAGCGTCCA
```

```
     ACACATCAAAATCCAATACATCCCACGGACGGATTTGCTGTTCGACCATATTGAACCGCG
     CTTTTTCAAAATCCATTTAGTGCTCCGTCAAATAATTGTTCCAACAATGGCAGGCATTAT
     AAAACCACACTCCCGCCGCGCCAACTTCGGCACGCGCCGACAGCCCGTTTTGTCAGTCTC
     AAACCGCCTGACGCGAAGCCTCAAACCGCTTCTCCAAAATCTTCGCCAGTTCGCCCAAAT
5    ACAAAGCATCCGTCTCATCAAACTGCGCCAAATGTTCGCTGTCCGCGTCCAACACGCCGA
     TACAGCGGCCGTCTGAAAACAGCGGCACGACAATCTCCGAACGTGACAAAGACGAACAGG
     CAATATGGTCGGGATGCGCGTTGACATCCTTAACAACCACCGTTTCACCCTTCGCCCAAG
     CCTGACCGCACACCCCGCGACCGAACGGAATCCGCGTACACGCCAAAGGCCCCTGAAACG
     GTGCCAAAACCAATTCGTCCGAACGCGTATCGACCAAATAAAAACCCACCCAAAACCAAC
10   CGAACGCCTCCTTCAAAACCGCCGCCGTGTTCGCCAAATTCGCCACCCAATCCGCCTCGT
     CAGCCACCACAGACTCAATCTGCGGCAACACCTCCCGATAAAGCGCGGCCTTGTCCGAAG
     CCGAAAAATGAAGCGCGTGCATCACATCTCCTATAGTTGCATACATATCAGGCGGCCATT
     ATAAAACAGCCTGCCCGAAACAACATTCCAAACCGCCCGGCCGGCCGCTTCAAGTTGCGA
     ACCCGCCGCATATCCACTAAACTTCACGTTGCACCGCGCCACACGCGGCAGACAAAAAAA
15   CACGACACGGAGCAAAAAAGATGTATCGCCAAATCGGAATGTGGGATCAAAAATGGGTCA
     TCGGCAACTGGAAAATGAACGGCCGGCTCCAAAACAACAACGCACTGATGCACCGCTTCC
     GCATCCACCCCACCGCCGAACGCGTCCTCATCGGACTCGCCGCCCCGACCGTTTACCTGC
     TGCAACTGCACAACGCCATGCAAATCGTTTTAAACAACCGCATCCTCACCTGCGCCCAAG
     ACGTGAGCCGCTTCCCCAATAACGGCGCGTACACCGGCGAAGTGTCCGCCGAAATGCTCG
20   CCGACACCGGCACAGACATCGTCCTCATCGGACACTCCGAACGCAGCCTTTATTTCGGCG
     AAAAAAACGAAATCCAACGCCGCAAAATGGAAAACGTCCTCAACGTCGGACTCATCCCGT
     TATTGTGCGTCGGCGAAAGCCTCGAAGAGCGCGAAGCCGGCAAAGAACACGAAGTCATCG
     CCCATCAGCTTTCCATCCTGCAAGGGCTGGATACCAAAAACATCGCCGTCGCCTACGAAC
     CCGTCTGGGCGATCGGCACCGGCAAAGTCGCCACCGTCGAACAGATTGCCGATATGCACG
25   CATTCATCTACAAAGAAATCTTGTCTTTGTGCGGAAGCGATGTTAAAATCCGCGTCCTTT
     ACGGCGGAAGTGTGAAAGCGGACAACGCGGCCGACATCTTCGCAGTACCTTATGTGGACG
     CGCAACTCGTCGGCGGCGCTTCATTGTCGTACGACTCCTTTACCGCCATCATCAGTCCCG
     CACAAAATGCGTAGAAAATTATGGAACCCTTCAAAACCTTAATTTGGATTGTTAATTTAA
     TTTCCGCTTTGGCCGTCTTCGTGTTAGTATTGCTCCAACACGGCAAAGGCGCGGATGCCG
30   GCGCGACTTTCGGAT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 14>:

gnm_14

```
     CATCGCCCGCCACGGCATGATTGACATCGACATCAGCTGCAAAGGCGACCTGCACATCGA
35   CGACCACCACACCGCCGAAGACATCGGCATCACACTCGGACAAGCAATCCGGCAGGCACT
     CGGCGACAAAAAAGGCATCCGCCGTTACGGACATTCCTACGTCCCGCTCGACGAAGCCCT
     CAGCCGCGTCGTCATCGACCTTTCCGGCCGCCCCGGACTCGTGTACAACATCGAATTTAC
     CCGCGCACTAATCGGACGTTTCGATGTCGATTTGTTTGAAGAATTTTTCCACGGCATCGT
     CAACCACAGTATGATGACCCTGCACATCGACAACCTCAGCGGCAAAAACGCCCACCATCA
40   GGCGGAAACCGTATTCAAAGCCTTCGGGCGCGCCCTGCGTATGGCAGTCGAACACGACCC
     GCGCATGGCAGGACAGACCCCCTCGACCAAAGGCACGCTGACCGCATAAAAAACCATACC
     GTCTGAAACACCCGCAGGCTTTTCAGACGGTATCGGAACAGATAAGATTACACTACACTA
     CAAACAGAAAAGGAGTAAACATCATGTCCGCAAACGAATACGCACAAATCGGCTGGATAG
     GCTTAGGGCAAATGGGTCTGCCTATGGTAACGCGGCTCTTGGACGGCGGCATCGAAGTCG
45   GCGTATACAACCGCTCGCCCGACAAAACTGCCCCCATCTCCGCCAAAGGCGCAAAAGTTT
     ACGGCAACACCGCCGAACTCGTCCGCGACTATCCCGTCATTTTCCTGATGGTTTCCGACT
     ATGCCGCCGTGTGCGACATCCTGAACGGAGTCCGCGACGGATTGGCCGGCAAAATCATCG
     TCAACATGAGCACCATCTCCCCGACCGAAAACCTCGCCGTCAAAGCACTTGTCGAAGCCG
     CAGncgGACAGTTTGCCGAAGCACCCGTTTCCGGATCGGTCGGGCCCGCCACCAACGGCA
50   CGCTGCTGATTCTGTTCGGCGGCAGCGAAGCCgTTTTAAACCCGCTGCAAAAAAATATTTT
     CCCTCGTCGGCAAAAAAAACCTTCCATTTCGGCGATGTCGGCAAAGGTTCGGGCGCGAAAC
     TCGTCTTGAACTCGCTCTTGGGCATTTTCGGCGAAGCGTACAGCGAAkCGATGCTGATGG
     CGCGGCAGTTCGGCATCGATACCGACACCATCGTCGAAGCCATCGGsGACTCGGCAATGG
```

```
     ACTCGCCCATGTTCCAAACCAAAAAATCCCTGTGGGCAAACCGCGAATTCCCGCCCGCCT
     TCGCCCTCAAACACGCCTCCAAAGACCTCAACCTCGCCGTCAAAGAGCTTGAACAGGCAG
     GCAACACCCTGCCCGCCGTCGAAACCGTTGCTGCCAGCTACCGCAAAGCAGTCGAAGCCG
     GCTACGGCGAACAGGACGTTTCCGGCGTTTACCTGAAACTGGCAGAACACTGATTGCCTT
 5   TTCCAAACACAATGCCGTCTGAACATATTTCAGACGGCATTTTTATCACCCCACGCTTAA
     AATCAGTCCCGATTATGACTATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGC
     CGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATC
     GTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATAATCC
     GCACAAATTTAGTCAATATCAAGACCAATTATGAACCAACTCGACCAACTTGGCACCCGT
10   ATCAACCTGATTTGCAATGTCTTCGACAAATGGATCGGGCAGCAGGATCTGAATTACAAC
     CTCTTTGCCGTACTTTATACCCTGGCAACCGAAGGCAGCCGCACGCAAAAGCATATCGGC
     GAAAAGTGGAGCCTGCCCAAACAGACCGTTTCAGGCGTATGCAAAACCCTTGCCGGACAA
     GGGTTGATTGAATGGCAGGAAGGCGAACAGGACCGGCGCAAACGGTTGCTGTCGTTGACC
     GAAACAGGCAAAGCCTATGCCGCACCTTTAACAGAAAGCGCGCAGGAATTCAGCGACAAA
15   GTATTTGCCACATTCGGCGACAAGCGCACAACTCGGCTGTTTGCCGATTTGGATGCACTG
     GCTGAAGTGATGGAAAAAACAATCTCGGAAAATAAAAAATAGGGGGGCAAATATGTGGAA
     AATGTTGAAACACATAGCCCAAACCCACCGCAAGCGATTGATTGGCACATTTTCCCTGGT
     CGGACTGGAAAACCTTTTGATGCTGGTGTATCCGGTGTTTGGCGGCCGGGCGATCAATGC
     CGTGATTGCGGGGGAGGTGTGGCAGGCGTTGCTGTACGCTTTGGTTGTGCTTTTGATGTG
20   GCTGGTCGGTGCGGTGCGGCGGATTGCCGATACGCGCACGTTTACGCGGATTTATACCGA
     AATCGCCGTGCCGGTCGTGTTGGAACAGCGGCAGCGACAAGTCCCGCATTCGGCGGTAAC
     TGCGCGGGTTGCCCTGTCGCGTGAGTTTGTCAGCTTTTTTGAAGAACACCTGCCGATTGC
     CGCGACATCCGTCGTATCCATATTCGGCGCGTGCATCATGCTGCTGGTGCTGGAATTTTG
     GGTCGGCGTGTCGGCGGTGGGCATACTTGCGTTGTTTTTATGGCTTTTGCCACGTTTTGC
25   CGCCATCAGCGAAAACCTGTATTTCCGCCTGAACAACAGCTTGGAACGCGACAACCACTT
     TATCCGAAAAGGCGACCGGCGGCAGCTGTACCGCCATTACGGACTGCTTGCGCGCCTGCG
     TGTGCTGATTTCCAACCGCGAAGCCTTCGGCTATCTCTGCGTCGGCACGGCGATGGGTAT
     TTTGTTCGGCTTTGCTTTTGTGATGATGACGCTCAAAGGCTACAGCAGCGCGGGGCATGT
     CTATTCGGTCGGCACTTATCTGTGGATGTTTGCCATGAGTTTGGACGACGTGCCGCGATT
30   GGTCGAACAATATTCCAATTTGAAAGACATCGGACAACGGGATAGAGTGGTCGGAACGGAA
     CATCAAAGCCGGAACTTGAAAAAATGCCGTCTGAACACGCTTCAGACGGCATTTCCATCCG
     TTCGGCAAACTACATCACATCCGCCCGCCGGTTGACAAGTTTGGCAAACAACTTTTCAAC
     AGAAGCTTCCGCCTGCAAACCAATGCGCTGGATCAGGCTTTGCTTCTCCTGATATTTCAC
     TTCGATAACCTGTTTGTTTTCAAACGCTTTCAACAACAAATCATCACTGGTCGAAATCTC
35   GTCAATCAAGTTCAACGCCAACGCCTGCCGACCGAACCAATGCTCGCCCGTTGCCACTTC
     CTCAATATCCAATTGAGGGCGGTTCTCGCTGACAAACTGCTTGAACAACTGATGCGTTTC
     CTCCAGTTCCTGTCGGAATTTCTGTTTGCCCTTTTCCGTATTTTCACCCATAAAAGTAAC
     CGTGCGCTTAAATTCGCCCGCCGTCATCACATCCACATCAATATCATGTTTTTTCAACAG
     GCGGTGGATATTCGGTACTTCCGCCACCACACCCACCGAACCGACAATCGCAAACGGAGC
40   GGAAGCAATTTTATCCGCCACACACGCCATCATATAACCGCCGCTCGCCGCCACCTTATC
     GACGGCGACGGTCAGCGGAATATTGCGTTCGCGCAAACGCyTAAGCTGCGAAGCCGCCAA
     ACCGTAACCGTGAACCACGCCGCCCGGACTTTCCAATCTGAGCAGAACCTCATCTTCAGG
     CTTGGCAATCAAAAGCACCGCCGTAATCTCATGACGCAAGGATTCTACGGCGTGTGCATA
     CAAATCGCCGTCAAAATCCAACACAAAAGGCGGGATTTTTGCGTTTCGGCAGATTTCTC
45   CCCACCCTCCTTCAAACGCTTTTTCTCTGCTTTGGCTTCCGCCTTTTCCTTTTTCTTTTC
     CTCTTTTTCCTGATGTTTTGCCTCTTCCCCGCTTAAAAGAATGCTTCAAACGATTGCCG
     CTGTTTTTTATAATTTTCCGAAAAATCCGTCAGTACGACACTGCCGCTTTCCGACTGTTT
     CTTACTCTGTACGATAGCCAACACAATCAGCGCAATTGCGCCGAACACGGTAAGCAGTTC
     GAGCAGGAAAATACCGTAATTCAGTAAAATTTCTTTCCACATTGATTGGATTTCCTCTTG
50   TTCAGGCATGAACATGTCAATATTGTCCATCACCGTCCGACAGATAAAAAAATAACCGCT
     TGGAGCGGCATTGTCATTTTCAGCTTGGTGCCCGGAGCCGGAATCGAACCGGCACGGGAT
     GTTTAGTCCCGACGGATTTTAAGTCCGTTGTGTCTACCTATTTCACCACCCGGGCATTTG
     TGAAAGGTGGAGGCGGGGGCGCGGATTTTAACCGGCCTGTATGAAGATTGCACTCCTCAT
     AGCATAAACACTCTGCCACCCCGCCATAGTACGATAATGGAGGCGAGAGTCGGAATCGAA
55   CCGGCGTAGACGGATTTGCAATCCGCTGCATAACCACTTTGCTATCTCGCCCTAAAACTG
     GCTTATCTAAAAAACTTGGAGCGGGAAACGAGTCTCGAACTCGCGACCTCAACCTTGGCA
     AGGTTGCGCTCTACCAACTGAGCTATTCCCGCGCGTTCAAACATATCGGTTTTTGGAGCG
```

GGAAACGAGTCTCGAACTCGCGACCTCAACCTTGGCAAGGTTGCGCTCTACCAACTGAGC
TATTCCCGCGTTGATATGTTTGAAATAAAACTTGGAGCGGGAAACGAGTCTCGAACTCGC
GACCTCAACCTTGGCAAGGTTGCGCTCTACCAACTGAGCTATTCCCGCAATGATTGCGGA
AGAATGAAATTTTTGGAGCGGGAAACGAGTCTCGAACTCGCGACCTCAACCTTGGCAAGG
5   TTGCGCTCTACCAACTGAGCTATTCCCGCCCGATTTCATTCTCCGATATCGAAGAGACAC
AATTATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 15>:

gnm_15

10   GTTCTGCCTGTATGATTAGCGTTTATTTGATTTGCTTTCTCATTTGGATATGAAATTCGT
CAGCGACCTTTTGTCCGTCATCCTGTTTTTCGCCACCTATACCGTTACCAAAAACATGAT
TGCCGCAACGGCGGTCGCATTGGTTGCCGGTGTGGTTCAGGCGGCTTTTCTGTATTGGAA
ATATAAAAAGCTGGATACGATGCAGTGGGTCGGATTGGTGCTGATTGTGGTATTCGGCGG
CGCAACCATTGTTTTGGGCGACAGCCGCTTCATTATGTGGAAGCCGAGCGTTTTGTTTTG
15   GCTGGGCGCGCTGTTCCTGTGGGGCAGCCACCTCGCCGGTAAAAACGGCTTGAAGGCGAG
TATCGGCAGGGAGATTCAGCTTCCGGATGCCGTATGGGCGAAATTGACGTATATGTGGGT
CGGTTTCCTGATTTTTATGGGTATCGCCAACTGGTTTGTGTTTACCCGGTTCGAGTCGCA
ATGGGTCAACTATAAAATGTTCGGCTCGACTGCACTGATGCTTGTTTTCTTTATTATTCA
GGGTATTTATCTGAGTACCTGTCTGAAAAAGGAGGATTGACTGTGGAATATTTTATGTTG
20   CTGGCAACAGACGGGGAGGATGTGCACGAGGCGCGTATGGCGGCACGTCCCGAACACCTC
AAACGGCTGGAGACGCTGAAGTCGGAAGGCCGGCTGTTGACGGCAGGCCCGAATCCTTTG
CCGGAGGACTCCAACCGCGTTTCGGGCAGTTTGATTGTGGCGCAGTTCGAGTCTTTGGAT
GCGGCGCAGGCTTGGGCGGAAGACGATCCCTATGTTCATGCAGGCGTGTACAGCGAAGTG
CTGATCAAGCCGTTTAAAGCGGTGTTCAAATAATGCCGGCCGTCGATTTGATCCGCGAAC
25   GCCTGCAGACGCTCGATCCGCTGGTGTTGGAAATCGGCGATGAGAGCCATCTGCACAAAG
GACACGCGGGCAATACCGGCGGCGGACATTATGCCGTTTTGGTCGTTAGCGGCCGTTTTG
AAGGCGTAAGCCGCCTGAACCGCCAGAAAACGGTCAAATCGCTGCTCAAAGATTTGTTTT
CAGGCGGCATGATTCACGCGCTCGGCATCCGGGCGGCTACCCCTGACGAGTATTTCCATA
CGGCGGACTGAATGAAGTCTGCCCGAACATTTCAATTTAAAATTTAAAGAGAGAAGATTA
30   TGAAAGCAAAAATCCTGACTTCCGTTGCACTGCTTGCCTGTTCCGGCAGCCTGTTTGCCC
AAACGCTGGCAACCGTCAACGGTCAGAAAATCGACAGTTCCGTCATCGATGCGCAGGTTG
CCGCATTCCGTGCGGAAAAACAGCCGTGCCGAAGACACGCCGCAACTGCGCCAATCCCTGC
TGGAAAACGAAGTGGTCAATACCGTGGTCGCACAGGAAGTGAAACGCCTGAAACTCGACC
GGTCGGCAGAGTTTAAAAATGCGCTTGCCAAATTGCGTGCCGAAGCGAAAAAGTCGGGCG
35   ACGACAAGAAACCGTCCTTCAAAAACCGTTTGGCAGGCGGTAAAATATGGCTTGAACGGCG
AGGCATACGCATTGCATATCGCCAAAACCCAACCGGTTTCCGAGCAGGAAGTAAAAGCCG
CATATGACAATATCAGCGGTTTTTACAAAGGTACGCAGGAAGTCCAGTTGGGCGAAATCC
TGACCGACAAGGAAGAAAATGCAAAAAAAGCGGTTGCCGACTTGAAGGCGAAAAAAGGTT
TCGATGCCGTCTTGAAACAATATTCCCTCAACGACCGTACCAAACAGACCGGTGCGCCGG
40   TCGGATATGTGCCGCTGAAAGATTTGGAACAGGGTGTTCCGCCGCTTTATCAGGCAATTA
AGGACTTGAAAAAAGGCGAATTTACGGCAACGCCGCTGAAAAACGGCGATTTCTACGGCG
TTTATTATGTCAACGACAGCCGCGAGGTAAAAGTGCCTTCTTTTGATGAAATGAAAGGAC
AGATTGCGGGCAACCTTCAGGCGGAACGGATTGACCGTGCCGTCGGTGCACTGTTGGGCA
AGGCAAACATCAAACCTGCAAAATAATTCTGAAAACGGGATATGGCGGCAAGACGTTCAG
45   ACAGGCGTTTTGCCGCCGCGCAGGACAGGGAATACCATGAAACAGAAAAAAACCGCTGCC
GCAGTTATTGCTGCAATGTTGGCAGGTTTTGCGGCAGCCAAAGCACCCGAAATCGACCCG
GCTTTGGTGGATACGCTGGTGGCGCAGATCATGCAGCAGGCAGACCGGCATGCGGAGCAG
TCCCAAAAACCGGACGGGCAGGCAATCCGAAACGATGCCGTCCGCCGGCTACAAACTTTG
GAAGTTTTGAAAAACAGGGCATTGAAGGAAGGTTTGGATAAGGATAAGGATGTCCAAAAC
50   CGCTTTAAAATCGCCGAAGCGTCTTTTTATGCCGAGGAGTACGTCCGTTTTCTGGAACGT
TCGGAAACGGTTTCCGAAGACGAGCTGCACAAGTTTTACGAACAGCAAATCCGCATGATC
AAATTGCAGCAGGTCAGCTTCGCAACCGAAGAGGAGGCGCGTCAGGCGCAGCAGCTCCTG
CTCAAAGGGCTGTCTTTTGAAGGGCTGATGAAGCGTTATCCGAACGACGAGCAGGCTTTT

```
      GACGGTTTCATTATGGCGCAGCAGCTTCCCGAGCCGCTGGCTTCGCAGTTTGCCGCGATG
      AATCGGGGCGACGTTACCCGCGATCCGGTCAAATTGGGCGAACGCTATTATCTGTTCAAA
      CTCAGCGAGGTCGGGAAAAACCCCGACGCGCAGCCTTTCGAGTTGGTCAGAAACCAGTTG
      GAGCAGGGTTTGAGACAGGAAAAAGCCCGCTTGAAAATCGATGCCCTTTTGGAAGAAAAC
 5    GGTGTCAAACCGTAATGGCATTTCCAATACCGATGCCGTCTGAAGCCTTTCAGACGGCAT
      TGCACGTTCAGGTAAGGAGGACGGCTTATGCGTGCGGTCATACAGAAAACGGTAGGTGCA
      AAGGTGGATGTCGTGTCCGAAGCCGGCACGGAAACCTGTGGCAAAATCGACGGCGGGTTT
      GTCGTGTTACTCGGCGTAACGCATAGCGACACAGAAAAAGATGCACGCTATATCGCCGAC
      AAAATCGCCCATTTGCGCGTGTTTGAAGACGAAGCGGGCAAGCTGAACCTGTCTTTGAAA
 10   GATGTCGGCGGCGCGGTGCTGCTGGTGTCGCAGTTTACGCTTTATGCCGACGCGGCAAGC
      GGGCGGCGGCCTTCGTTTTCCCAAGCCGCACCTGCAGAACAGGCGCAGCAGCTTTACCTG
      CGAACGGCGGAACTGTTGCGCGGACACGGGATTCATGTCGAAACAGGGCGTTTCCGCACG
      CATATGCAGGTGTCGCTCTGCAACGATGGGCCGGTAACCATACTGCTGGACTCTTTCATG
      ACGCGGATTTCCCCAAAAATGAAGGTTGTTCCGGATTGAAATTGAATCCGCAATGATAAA
 15   ATATCGACAATGAACGACAATACACACACCCTTCCCCCGCGCCACCTGTCCGTCGCCCCC
      ATGCTCGACTGGACGGACAGGCACTACCGTTACCTTGCCCGCCAGATTACCCGAAATACT
      TGGCTGTACAGCGAAATGGTCAATGCCGGTGCGATTGTTTACGGCGACAAAGACCGCTTT
      TTGATGTTCAACGAAGGCGAGCAGCCCGTCGCCCTGCAACTGGGCGGCAGCGATCCGTCC
      GATTTGGCGAAAGCCGCCAAAGCCGCCGAGGCATACGGTTACAACGAGGTCAACCTCAAC
 20   TGCGGCTGCCCCAGTCCGCGCGTGCAGAAAGGCTCGTTCGGCGCGTGTCTGATGAACGAA
      GTCGGGCTGGTTGCCGACTGCCTCAACGCCATGCAGGATGCGGTCAAGATTCCCGTTACC
      GTCAAACACCGCATCGGTGTGGACAGGCAGACCGAATACCAAACCGTTGCCGATTTCGTC
      GGCACGCTGCGCGACAAAACCGCCTGCAAAACCTTTATCGTCCACGCCCGCAACGCTTGG
      CTGGACGGTCTTTCCCCCAAAGAAAACCGCGACGTTCCCCGTTGAAATACGATTACGTT
 25   TACCGCCTCAAGCAGGAGTTTCCCGGGCTGGAAATCATCATCAACGGCGGCATCACCACC
      AACGAAGCAATCGCAGGACACCTGCAACACGTTGACGGCGTGATGGTCGGGCGCGAGGCG
      TACCACAACCCGATGGTGATGCGCGAATGGGACAGGCTGTTTTACGGCGATACCCGCAGC
      CCGATTGAATACGCCGATTTGGTGCAGCGTCTCTACACATACAGCCAAGCCCAAATCCAA
      GCCGGACGCGGCACAATCTTGCGTCACATCGTCCGCCACAGCCTTGGGCTGATGCACGGT
 30   CTGAAAGGCGCGCGGACTTGGCGGCGTATGCTTTCCGACGCAACGCTCTTGAAAGACAAC
      GACGGCAGCCTGATTCTCGAAGCGTGGAAAGAGGTCGAACGGGCAAATATGCGCGAATAG
      GGCGGGGCTGTATGTGTGAAATGCCGTCTGAAGGCTTCAGACGGCATTTGTGCGTTTGTC
      GGGCGGTGTTTAGGGGGCGGTAACGGCGTGTTTCGGCACTTTGTCCATATCCCAGTGTGC
      CACCGCCCAGTCGAGCAGTTCGGCAGGGCGGTCGGTTTCCGGTGCTTCGGGCAGCTTGAG
 35   GTAACGGAACACTTGGCGGAGGAGTTGTTCGCGGCGGTTTAAATCCAATGCGGGGGCGAG
      CGTCTGTTTCGACCATTTCTGCCCTTGTGCGTTGGTCAGCAGCGGCAGGTGGGCATATTG
      CGGTGTCGGAACGTCCAAACACTGCTGCAAATAGATTTGGCGCGGCGTGGAAACGAGCAG
      GTCTTGTCCGCGGACGATGTGGGTAACGCCCTGTTCGGCATCGTCGGCAACGACGGCGAG
      CTGGTATGCCCAGTAACCGTCTGCACGAAGCAGGACGAAATCGCCGATGTCGCGGGCGAG
 40   GTTTTGGGCGTAACCGCCGACGATGCCGTCTGAAAAACCGATAATGCGGTCGGGGACGCG
      GATGCGCCACGCCGGCTGTTTGCCTTGCAGTGCAGGGCGTTGGCCGGGGTGGCGGCAACG
      TCCGTTATAGACGAACCCGTCTGCGCCCCGCCTTGCCCCGGCCTGCCAGTCTTTGCGGCT
      GCAATGGCAGGGATAGACCAGTCCGGCGGTTTTCAGGCGGCATAGGGTTTCTTCATACAG
      GGCGTAACGGCGGCTCTGATAGGCGACTTCTCCGTCCCACTCGAATCCGAATGCCTCAAG
 45   CGTGTGCAGGATATGGCTTGCCGCCCCCGGCATTTCGCGCGGCGGATCGAGGTCTTCCAT
      GCGGATCAGCCATTTGCCGCCGTGCGCGCGCGCATCGGCATAGGAAGCGACGGCGGTCAG
      CAGCGAGCCGATGTGGAGCAGCCCGGTCGGGCTGGGGGCAAAACGTCCTGTGTACATATC
      TGGTACAGCCCCTTTATTTAAGACTATTAATCAAAGCCATTATCTCATCTTTATTCAGTT
      CCATCCCGGGCTCTTCAAGCAAGGTTAAATCATATAGGGCATTATATTGCTCTTCGGTAG
 50   CTGAACCATCCATAAGAGCAGGCGAGAAAAAATCAAAGGCTCTATCTGCAATTCTCTCAT
      TACTTGCATTTCTACTAACCAGTTTCGTCAATTCTGTATATTTTGAAAAGTTTATGGAAA
      AATAAAACAGCGAAAAAGTTTTGGTTTCGCTGTTTTTGATTTAATTAGCACTGATAATCT
      TCAAATTCCCACGAAAAAAAACGAAGTAAATAAGTCAATGACTTTTCCCAAGTTTCTTTT
      GAACATTCTTTAAGAATTTTCTCAATTTCCGATTTAATAACAGAATGATTAAATTCATTC
 55   ATAATCATCATACCCGCCCCCCATTTAACCCTTTGATTTTGGAAACAATTATGCAAAATC
      CATTTAGGAGAGCATATGCGAACAGAAAATATATCTGCAGCATCACTATCATCAGTTCCT
      ATGTCTAAATCAATTCCCACACAAAAATTGTCTTTGATTTCGGGAACGAAATCTTCAAAG
```

```
     GCACAATCGTAAAGATTGATGGCTTTCAATTCTAGGTTAATCATTTTATATTCAATAGTA
     TGGGGAGGTACCGGATCCTTAAAAATCAGATCTGAATAAATTTCATTGGGTGAAATGATT
     TCGATTGCTTTTGCCATGATTCTATTTCCTTTTGTGTTAGTGGGTAATGTCGTGCATTAA
     CTTCTTGCCCATTAATATTTTTAGGGTGAATCCTTGATATGCCGCACTGTGTCCGGTCAA
5    ACGGGCGATGCCGTCTGAAAGCCTTTCAGACGGCATCGGGAAAATGCCTAAGCCAAAGGC
     GCGAGCAGTTTTTCAAACGCTTCTTCAAACTGTTTCAAACCGTCTTCCTGCAAACGCGTT
     GCCAAGGTTTCGACATCGATGCCGAGCGCGGCGGTTTCGGCGAGCTGCGCTTGTGCTTCT
     TCTACGCCTTCGGTCAGCGTGGCTTTGGCTGTGCCGTGGTCGATAAAGGCTTTGAGCGTG
     GCATCGGGAACGGTGTTGACGGTGTGCGCGCCGATCAGGCTGTCAACGTAGAGCGTGTCG
10   GGATAGGCCGGGTTTTTCACGCCGGTAGATGCCCATAAAAGCTGCACGCGGTTTGCGCCT
     TTGGTTTCCAGCGCGGCAAATTCGGGGCTGCCGAAGTATTGCGCCCAGTCTTGGTAGGCG
     GCTTTGGCAAGGGCGATGGCGATTTTGCCTTTGAGGTGGTCGGGCAGTGTTGTGTCCAGC
     GCGCCGTCCACACGGGAGATGAAGAAGCTGGCGACAACTTGGATATGGGCAACGCTTTGT
     CCGGCTGCTAAGCGTTTGGCGATGCCGCGCGCGTAGGCGGCGTAGGCTTTGAGGGTTTGG
15   GCGCGTGAGAACAGCAGGGTCAGGTTCACGCTGATGCCGTCTGAAACGAGGGTTTCGAGC
     GCATCGATGCCTGCGTCGGTGGCAGGCACTTTAATCATCGCGTTTTTGCACCCGATGGCG
     GCGTAGAGGCGGCGCGCTTCTTCAACCGTGCCTTGCGCGTCTTTGGACAATTCGGGCGAA
     ACTTCGAGGCTGACGAAGCCGGTTTTGCCGCCGGTGGATTCGTGTTCGGCAAGGCAAACG
     TCGCAGGCGGCACGCACATCGGCAACCGCCATTGTTTCGTAGCGTTGTTTGGGGCTGAGG
20   TTTTGCTGCTTGAGGGCGGCGATTTCATCGGCGTAAAGCGCGTCGCCGGCGAAGGCTTTT
     TGGAAGATGGCGGGATTGGAAGTTACGCCGCACACGCCCTGTTTCAACATTTGCGCCAAT
     TCGCCGCTTTGCACTAGCGAGCGGGAAAGGTTGTCCAGCCAGATTTGTTGTCCTAATGCT
     TTAACGTCCGATAAAATGGTCATCTCTGATTCCTTTGGATGGATAGGCGGGGTTTGAGGG
     CTTATGCTACCCCGATTCGGAAATTTTGGGTAGTTTTATTACAGCAAAGGCGGATGGCAA
25   TGGCAGAAAACGGAAAATATCTCGACTGGGCACGCGAAGTGTTGCACGCCGAAGCGGAAG
     GCTTGCGCGAAATTGCAGCGGAATTGGACAAAAACTTCGTCCTTGCGGCAGACGCGTTGT
     TGCACTGCAAGGGCAGGGTCGTTATCACGGGCATGGGCAAGTCGGGACATATCGGGCGCA
     AAATGGCGGCAACTATGGCCTCGACCGGCACGCCTGCGTTTTTCGTCCACCCTGCGGAAG
     CGGCACACGGCGATTTGGGTATGATTGTGGACAACGACGTGGTCGTCGCGATTTCCAATT
30   CCGGCGAAAGCGACGAAATCGCCGCCATCATCCCCGCACTCAAACGCAAAGACATCACGC
     TTGTCTGCATCACCGCCCGCCCCGATTCAACCATGGCGCGCCATGCCGACATCCACATCA
     CGGCGTCGGTTTCCAAAGAAGCCTGCCCGCTGGGGCTTGCCCCGACCACCAGCACCACCG
     CCGTCATGGCTTTGGGCGATGCGTTGGCGGTCGTCCTGCTGCGCGCACGCGCGTTCACGC
     CCGACGATTTCGCCTTGAGCCATCCTGCCGGCAGCCTCGGCAAACGCCTACTTTTGCGCG
35   TTGCCGACATTATGCACAAAGGCGGCGGCCTGCCTGCCGTCCGACTCGGCACGCCCTTGA
     AAGAAGCCATCGTCAGCATGAGTGAAAAAGGGCTGGGCATGTTGGCGGTAACGGACGGGC
     AAGGCCGTCTGAAAGGCGTATTCACCGACGGCGATTTGCGCCGCCTGTTTCAAGAATGCG
     ACAATTTTACCGGTCTTTCGATAGACGAAGTCATGCATACGCATCCTAAAACCATCTCCG
     CCGAACGTCTCGCCACCGAAGCCCTGAAAGTCATGCAGGCAAACCATGTGAACGGGCTTC
40   TGGTTACCGATGCAGATGGCGTGCTGATCGGCGCGCTGAATATGCACGACCTGCTGGCGG
     CACGGATTGTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAG
     AGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATCTGTACTGT
     CTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATAAGGCGTTGCAGCCG
     TTTCAGACGGCATTTGTGGTAAGATATGCCGTCTGAAAACAAGGAAATCCCATGCAGGCA
45   ATTTCTCCCGAATTACAGGCGCGCGCCGCCAAAATCAAACTGTTGATCCTGGATGTGGAC
     GGCGTTTTGACCGACGGGCGCATCTTTATCCGCGATAACGGCGAAGAAATCAAATCGTTT
     CACACACTGGACGGACACGGTCTGAAAATGCTTCAGGCAAGCGGCGTGCAGACTGCGATT
     ATCACGGGCCGGGACGCGCCCTCCGTCGGCATCCGCGTCAAACAGTTGGGCATAAATTAC
     TATTTCAAAGGTATCAGCGACAAACGTGCCGCCTATGAAGAATTGCGCGCGCAGGCGGGC
50   GTGGAAGAAGCCGAGTGCGCCTTTGTCGGCGACGACGTGGTCGATTGCCGGTAATGGTG
     CGCTGCGGATTGCCGGTTGCCGTCCCCGGCGCGCATTGGTTTACGCGGCAACACGCCGCC
     TATATCACGGAACACGCGGGCGGCGCAGGCGCGGTGCGCGAAGTGTGCGACCTGATTATG
     CAGGCGCAAGGGACTTTGGGCGCGGCTTTGAACGAGTACATCAAATGAAAGTAAGATGGC
     GGTACGGAATTGCGTTCCCATTGATATTGGCGGTTGCCTTGGGCAGCCTGTCGGCATGGT
55   TGGGTCGTATCAGCGAAGTCGAGATTGAAGAAGTCAGGCTCAATCCCGACGAACCGCAAT
     ACACAATGGACGGCTTGGACGGCAGGCGGTTTGACGAACAGGGATACTTGAAAGAACATT
     TGAGCGCGAAGGGCGCGAAACAGTTTCCGGAAAGCAGCGACATCCATTTTGATTCGCCGC
```

```
    ATCTCGTGTTCTTCCAAGAAGGCAGGTTGTTGTACGAAGTCGGCAGCGACGAAGCCGTTT
    ACCATACCGAAAACAAACAGGTTCTTTTTAAAAACAACGTTGTGCTGACCAAAACCGCCG
    ACGGCAAACGGCAGGCGGGTAAAGTTGAAGCCGAAAAGCTGCACGTCGATACCGAATCTC
    AATATGCCCAAACCGATACGCCTGTCAGTTTCCAATATGGTGCATCGCACGGTCAGGCGG
5   GCGGCATGACTTACGACCACAAAACAGGCATGTTGAACTTCTCATCTAAAGTGAAAGCCA
    CGATTTATGATACAAAAGATATGTAAGCTATTTGTTTTAATAGCATTTTTTTCGGCGTCC
    CCCGCTTTTGCCCTTCAAAGCGACAGCAGGCAGCCTATTCAGATTGAGGCCGACCAAGGT
    TCGCTCGATCAAGCCAACCAAAGCACCACATTCAGCGGAAACGTCGTCATCAGACAGGGT
    ACGCTCAATATTTCCGCCGCCCGCGTCAATGTTACACGCGGCGGCAAAGGCGGCGAATCC
10  GTGAGGGCGGAAGGTTCGCCAGTCCGCTTCAGCCAGACATTGGACGGCGGCAAAGGCACG
    GTGCGCGGACAGGCAAACAACGTTGCTTATTCATCTGCAGGCAGCACCGTAGTCTTAACC
    GGTAATGCCAAAGTACAGCGCGGCGGCGATGTCGCCGAAGGTGCGGTGATTACATACAAC
    ACCAAAACCGAAGTCTATACCATCAGCGGCAGCACAAAATCCGGCGCAAAATCCGCTTCC
    AAATCCGGCAGGGTCAGCGTCGTTATCCAGCCTTCGAGTACGCAAAAATCCGAATAATCC
15  CAAAATGCCGTCTGAAATATAAACCCGGTTCGGACGGCATATGCCGACCGAAGATATTGA
    AGAGATATTTATGAGTGCAAACGTCAGCCGCCTTGTTGTTCAAAACCTGCAAAAAAGTTT
    CAAAAAACGCCAAGTCGTTAAAAGCTTCTCCCTCGAAATCGAAAGCGGCGAAGTCATCGG
    ACTGCTCGGGCCCAACGGTGCGGGTAAAACCACCAGCTTCTACATGATTGTCGGACTCAT
    CGCCGCCGACGCAGGCAGCGTAACCCTAGACGGACAAGAATTGCGCCACCTGCCCATACA
20  CGAACGCGCCCGCCTCGGTGTCGGCTACCTGCCGCAGGAAGCCTCGATATTCCGCAAAAT
    GACCGTCGAACAAAACATCCGCGCCATCTTGGAAATCAGAACCAAAGATAAAAATCAAAT
    CGACAGGGAAATCGAAAAACTGCTCGCCGACCTCAATATCGGACACTTACGCCGCAGCCC
    CGCGCCGTCGCTGTCCGGCGGCGAACGGCGGCGCGTCGAAATCGCCCGCGTACTCGCCAT
    GAAACCGCATTTTATTTGTTGGACGAACCTTTTGCCGGCGTCGATCCGATTGCCGTCAT
25  CGACATCCAGAAAATCATCGGTTTCCTCAAATCGCGCGGTATCGGCGTACTGATTACCGA
    CCACAACGTACGCGAAACCCTCAGCATCTGCGATCGGGCCTACATTATTTCAGACGGCAC
    GGTGTTGGCATCGGGAAAACCTGATGATTTGGTCGGAAACGAACAGGTTCGTTCTGTTTA
    TCTGGGTAAGAACTTCAAATATTGAAAATATTTTTCAGACGGGCGACCTAATATCGTCGG
    GCAGGCGGCAAAAATACGGATTTATGTTGTTTTTACATAAATTAATTCAAATTTAAAACA
30  TTGACTTAAACCTGTTTTCAAAGAATATTGCCCGATATGCTTGCATGTCGTCCCGTAATT
    TGGTTTAATACGCATCTCTTAACGAGACAGACAAAGGCCAGATAGCTCAGTTGGTAGAGC
    AACGGATTGAAAATCCGTGTGTCGGCGGTTCGATTCCGCCTCTGGCCACCAAAAAACCGC
    CTTGAAGCGGTTATTTTTTTTGCCTGCCGTTTTTGGGAAGTTGTCCGTGTCGGACACGTT
    TTGTGTCTGACCGTTATGTAGAAGGGCAAAAATGATAATGACCGCCCCGTTGCGTTTTGG
35  AGAAGAGGGTAAAGGCAGAAAGCATATGCCGTCTGAATGATATTTCAGACGGCATTTTAT
    ATTGCGGCGGCACTCAGTCCGTGTCGCTTTCAGGCAACTCTGCCGAACCCATGCGTTTGA
    GCACGATATTGGTTTTGTTGCGGAGCCGTTTGCTTTTCGGATGGTCGGCGTAGTAGAGCG
    GGGCGGGGACGCGCGCCGTCAGTTTTGCCGCCTGCTGTTTGGTCAGCTTGGCGGCGGGTA
    TTTGATAAAAATACCGGGACGCGGCTTCCGCGCCGAAAACGCCGTAGTGCCATTCGATTG
40  AGTTTAAATACAGTTCAAAAATCCTGTCTTTGTCGGTAACGGCTTCCATCATCGCGGTAA
    TCGCCGCTTCTTCGCCTTTGCGGATATAGCTGCGGCTTTCGTTTAAAAACAGGTTTTTGG
    CAAGCTGCTGGCTGATGGTCGAGCCGCCCGCCTTCACTTTGCCGCTGTTCCGGTTGCGCC
    TGATGGCGTTTTGAATGCCGCCCCAATCGAAGCCGCCGTGCCCGGCGAAACGGGCATCTT
    CGGAAGCAATCAGGGCTTTTTTCAGGTTGGTGGAAATGCGTTTGTAGGGCATCCAGCGGT
45  AATCCAGTGCGACATCGCGACCTTCCTGTTCAAACTGCTTCATCCGCATCGACATAAAGG
    CAGTCCGATGGGGCGCGACGGCGCGGTAGGTAATGATGTTGCCGTACACATAGGCATTGA
    AAAAGATAAAGATGCCGACGGGCAGGGCAATCAGCCATTTGATGATGCGGAACATGTTTA
    TAGGGCTTTCATGTATTCGATAACGGGCGGATATCGGGCGTAAATCCGCGCCAGAGGGC
    GTAGGAAGCCGCCGCTTGACCGACTAGCATACCCAGTCCGTCGGCAGTTTTTTTCGCACC
50  CGATTGTCGTGCAAAATCTAAAAACGGTTTTGCCGCGCAGCCGTACACCATATCGTAGGC
    AAGCGCGCAGTTTTGAAAAATATCGGGCGGAATATCGGGAATCTGACCGTTTAGACCGCC
    CGACGTGCCGTTGATGATGATATCAAAACCGCCGTTCACGTCCGCCATCGGGACGGCTTC
    AATGCCGAAAAGCTGCGCCAATTCCTCGGCTTTGGCGCGGGTACGGTTGGCAATGACGAT
    ACGGGCAGGACGGTGTTCTTTCAAAACAGGAATCACGCCGCGCACCGCGCCGCCTGCGCC
55  CAAAAGCAAAATGGTTTTGCCCTCGATGGCAATATTTTTGACCTGCGTGATGTCGTTGGT
    CAAACCGATACCGTCGGTGTTGTCGCCACGCAGCTTGCCGTTTTTCAACGGAATCAGCGT
    ATTGACCGCACCTGCCGCCAATGCGCGTTCGGAATGCTCGTCCGCCAGATGAAACGCTTC
```

```
CTGTTTGAACGGTACGGTAACGTTTGCCCCGCAACCGCCTGTTTCAAAAAATGTCGAAAC
CGCCTGCGCGAAACCGCCGATGTCGGCGCAAATGCGTTCGTATTCAATGTCAACGCCTTC
CTGAAGGGCAAATTGTTGATGAATTTGCGGCGATTTGCTGTGGGCGACGGGGTTGCCGAA
AACGGCGTAGCGGGGGAGGGCGGTCATGGTCGTGTTCCAAAAGACGGGAAGGCTATTTTA
TAACGGCGGCGTACAGATGGAAACGATGCCGTCTGAAACCGCCTTCAGACGGCATCGTTT
CCTGTATCGGTCGGGAAAAATCCGGATGCGGTGCGCCGGCTTGTCCGCATTGTTGACAAT
CTTGCCGTCTGAAACTATATTTTCCGGCTTGAAATTTGACGCAAAACCGGTTTCAGACGG
CATCGGCGTGGTAAAATCGTGCCGACTTTGCGTCAAGCCGCCGCGTTCCGCATATTTTGC
TATTTCCCTTTTCCAGGAGCTGAAAAATGTCTATTAAAAACGCCGTAAAATTGATTGAAG
AAAGCGAAGCCCGCTTTGTCGATTTGCGCTTTACCGATACCAAAGGCAAGCAGCACCACT
TTACCGTGCCTGCGCGCATCGTGTTGGAAGACCCCGAAGAGTGGTTCGAAAACGGTCAGG
CGTTTGACGGTTCGTCTATCGGCGGCTGGAAAGGCATTCAGGCTTCCGATATGCAGTTGC
GCCCCGATGCGTCTACAGCCTTCGTCGATCCTTTTTATGATGATGCGACTGTTGTGTTGA
CTTGCGACGTTATCGATCCCGCCGACGGTCAGGGTTACGACCGCGACCCGCGCTCCATCG
CCCGCCGAGCCGAAGCCTATTTGAAATCTTCCGGCATCGGCGAGACCGCCTATTTCGGTC
CCGAACCCGAGTTTTTCGTATTCGACGGCATAGAATTTGAAACCGATATGCACAAAACCC
GTTACGAAATCACGTCCGAAAGCGGCGCGTGGGCAAGCGGTCTGCATATGGACGGTCAAA
ACACCGGCCACCGCCCGACCGTCAAAGGCGGTTACGCACCTGTTGCACCGATTGACTGCG
GTCAGGATTTGCGTTCGGCGATGGTAAACATTTTGGAAGAACTCGGTATTGAAGTGGAAG
TGCACCACAGCGAAGTCGGCACCGGCAGCCAAATGGAAATCGGCACGCGCTTTGCTACTT
TGGTCAAACGCGCCGACCAAACCCAAGACATGAAATATGTGATTCAAAACGTTGCCCACA
ACTTCGGCAAAACCGCCACTTTCATGCCCAAACCCATTATGGGCGACAACGGCAGCGGTA
TGCACGTTCACCAATCCATTTGGAAAGACGGTCAAAACCTGTTCGCAGGCGACGGCTATG
CCGGCTTGAGCGACACCGCGCTCTACTACATCGGCGGCATCATCAAACACGCCAAAGCCT
TGAACGCGATTACCAATCCGTCCACCAACTCCTACAAACGCCTCGTGCCGCACTTTGAAG
CGCCGACCAAACTGGCATACTCCGCCAAAAACCGTTCCGCTTCCATCCGCATTCCGTCCG
TGAACAGCAGCAAGGCGCGCCGCATCGAAGCGCGTTTCCCCGATCCGACCGCCAACCCGT
ATTTGGCATTTGCCGCCCTGTTGATGGCGGGTTTGGACGGCATTCAAAACAAAATCCATC
CGGGCGACCCTGCCGATAAAAACCTGTACGATCTGCCGCCGGAAGAAGATGCATTGGTGC
CGACCGTTTGCGCTTCTTTGGAAGAAGCACTGGCCGCCCTCAAAGCCGACCACGAATTCC
TCCTGCGCGGCGGCGTGTTCAGCAAAGACTGGATCGACAGCTACATCGCTTTCAAAGAAG
AAGACGTACGCCGCATCCGCATGGCGCCGCACCCGCTGGAATTTGAAATGTATTACAGCC
TGTAAGCACGTCTGGTTTTCAGAAAAGCAATGCCGTCTGAACACAGTTTCAGACGGCATT
TTGCATTTGAACGGCAAACCGGCGGCGCGGGGCGGCATTTTTCAGCAGGCGGGCGATATT
TGCTACAATAGGCTTTTGTTTTTTTGGGCTGCACGAACGATGACTGCATCGAAATCAGG
TTTTATCGGGCAAATCTTTTCCCGCAATATGCTTGTCTGTATTTTTACGGGGTTTACCTC
GGGGCTGCCGCTGTACTTTCTGATTAACCTGATTCCGGCGTGGTTGCGCAGCGAGCAGGT
GGATTTGAAGAGCATCGGGCTGATGGCGTTAATCGGTCTGCCGTTTACTTGGAAATTTTT
GTGGTCGCCGCTGATGGACGCGGTCAGGCTGCCCGTTTTGGGACGGCGGCGCGGGTGGAT
GCTGCTGACGCAGGCAGGGTTGCTGGCGGCTTTGGCGGTCTATGCCTTTTTAAACCCCCG
TAATCATCTGCCGCTGATTGCCGGCTTGTCGGTGCTTGTCGCTTTTTTTTCCGCCAGTCA
GGATATTGTATTGGATGCGTTCAGGCGCGAGATTTTGTCAGACGAAGAATTGGGTTTGGG
CAACTCGGTTCATGTGAACGCCTACCGGATTGCCGCCCTGATTCCCGGTTCATTGAGTTT
GGTGTTGGCAGACAGGATGCCGTGGTTAGAAGTATTTGTTATCACTTCATTATTTATGCT
GCCCGGCCTTCTGATGACGCTGTTTCTTGCGCGCGAACCCGTGTTGCCTCCTGCCGTTCC
TAAAACGTTGAAGCAGACCGTGGTAGAGCCGTTTAAAGAATTTTTTACGCGCAAGGGCAT
CGCTTCGGCGGTGTGCGTGCTGCTGTTTATCTTCCTTTACAAACTCGGCGACAGTATGGC
AACCGCGTTGGCAACGCCGTTTTATCTGGATATGGGTTTCAGCAAGACCGACATCGGTTT
GATTGCGAAAAATGCAGGACTGTGGCCGGCAGTGGCGGCAGGTATCTTGGGCGGTGTGTG
GATGCTGAAAATCGGCGTAAACAAAGCCTTGTGGCTATTCGGCGCGGTGCAGGCTGTAAC
CGTTTTGGGGTTTGTATGGCTGGCAGGGTTCGGACCTTTCGACACGGTCGGCACAGGCGA
GAGGCTGATGCTGGCGGCAGTTATCGGCGCGGAAGCGGTCGGCGTGGGGTTGGGGACGGC
GGCGTTCGTATCGTATATGGCGCGTGAAACCAATCCCGCATTTACCGCAACGCAGCTTGC
GCTGTTTACCAGCCTGTCCGCCGTCCCGCGCACGGTCATCAATTCCTTTGCCGGTTATCT
GATTGAATGGCTCGGTTATGTACCGTTTTTCCAACTGTGTTTCGCACTCGCCCTACCGGG
TATGCTGCTGCTGCTGAAAGTTGCGCCTTGGAACGGGGAGAAAACTCAGGATGCAGGCAG
ATGAACGCGTCAAACTGGAGCGTTTACCTGATATTGTGTGAAAACAGCGCGTTCTATTGC
```

```
GGCATCAGCCCGAATCCGCAACAGCGGCTTGCCGCCCACACAACCGGTAAAGGCGCGAAA
TATACCCGCGTATTCAAACCGGTGGCGATGCGTATCGTTGCAGGCGGGATGGATAAAGGA
ACGGCACTCAGGCAGGAAATCGCCGTCAAAAAACTGACCGCCGCACAAAAACGGCAATTG
TGGGAGCAGGCAGAAAAAATGCCGTCTGAAACCTGACGGTTCAGGTTCGGACGGCAGTTG
GCAGCAATCAGGGAAAAGCGGGGCAGGCGGTAAGGAAAACCGACGTTTCAACACACAGGA
CGGTACATAAAGCGTCGCCCTATGAAAGTGAAGGCATATATCAGTATTTTTTATACGCCA
ACAGAAAAGAATACGATGAACTGTTTGTTGGATTTGTATTGATTAATCAGTATATTTTTT
ATGCCGGGGTATTTTTCCTTATCGGTATCCCTTCTTTTATGAGGATGCCTGCCGCTCATA
TAAAGAACGGGAAAATACGATGGGAAAATACGGTACAGCCCTCGACATCGCACAATATGT
CAACTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAGAT
AGTACGGCAAGGCGAGACAACGCCGTACTGGTTTTTGTTAATCCACTATATTTGTTTGTT
TTATATTGTAAGTATACGTATAGGCTTTGTAAAGGTAAATTGTGAAAAAAGCAGTTTTTT
AAACGAATGAAACGGCTTCGGGCTGAAATATATGCTGATGCCCTGTCCTTCCCGTATATC
TTGTGTGTTGTCAAAGTGCAGGCTGCTTTGAAATCGGTATTGCCATCTATGAACCACCAC
TTTGTTTTATTTCAGCGGGCTTGAGATGTGTATAAGAATATTGTTTTGAATAAATTTAAA
AAAATGATAATCGTTATTGAAGATTTTTAAAGGAAAGCGTAGAGTGCCAATTCTATGAAG
CAATACGGTAAGTAACAATGAAAATATCTACTGCTTGGGTATAGAGCATATTTCACAACC
CGTAACTATTCTTGCGGAAACAGAGAAAAAAGTTTCTCTTCTATCTTGGATAAATATATT
TACCCTCAGTTTAGTTAAGTATTGGAATTTATACCTAAGTAGCAAAAGTTAGTAAATTAT
TTTTAACTAAAGAGTTAGTATCTACCATGAATATATTCTTTAACTAATTTCTAAGCTTGA
AATTATGAGACCATATGCTACTACCATTTATCAACTTTTTATTTTGTTTATTGGGAGTGT
TTTTACTATGACCTCATGTGAACCTGTTAATGAACAAACCAGTTTCAACAATCCCGAGCC
AATGACAGGATTTGAACATACGGTTACATTTGATTTTCAGGGCACCAAAATGGTTATCCC
CTATGGCTATCTTGCACGGTATACGCAAAACAATGCCACAAAATGGCTTTCCGACACGCC
AGGGCAGGATGCTTACTCCATTAATTTGATAGAGATTAGCGTCTATTACAAAAAAACCGA
CCAAGGCTGGGTGCTCGAACCATACAACCAGCAGAACAAAGCACACTTTATTCAATTTCT
ACGCGATGGTTTGGATAGCGTGGACGATATTGTTATCCGAAAAGATGCGTGTAGTTTAAG
CACGACTATGGGAGAAAGATTGCTTACTTACGGGGTTAAAAAAATGCCATCTGCCTATCC
TGAATATGAAGCTTATGAAGATAAAAGACATATTCCTGAAAATCCATATTTTCATGAATT
TTACTATATTAAAAAAAGGAGAAATCCGGCGATTATTACTCATCGGAATAATCGAATAAA
CCAAACTGAAGAAGATAGTTTATAGCACTAGCGTAGGTTCCTGTATTAACGGTTTCACGGT
ACGGTATTACCCGTTTATTCGGGAAAAGCAGCAGCTCACACAGCAGGAGTTGGTAGGTTA
TCACCAACAAGTAGAGCAATTGGTACAGAGTTTTGTAAACAATTCAAGTAAAAAATAATT
TAAAGGATCTTATTATGAATGAGGGTGAAGTTGTTTTAACACCAGAACAAATCCAAACCT
TGCGTGGTTATGCTTCCCGTGGCGATACCTATGGCGGTTGGCGTTATTTGGCTAATTTGG
GTGACCGTTATGCGGATGATGCTGCTGCAATTGTCGGTAAGGATGCAAACTTAAATGGTT
TGAATTTATGGATGAAAAAAGGGGTGGAAAACCTATGGGATGATACGGTCGGTAAAAAGA
CCCGTTTAATGTGTATTTCCGTTTTTTGGATTGTGGTTTTCAATTTGTAGCGAATCGGAT
TCGGCATATACGGCATTGCAAAAAGCGTTTGACTCTCCAATGCCGTCTGAAAACCGGTTT
CAGACGGCATTTGCGTTCAGTGAGAAAGGTCGCGCCTGCCGCCCGAACGTCTCGCCGCAG
CCTCTGCATAACGGCGCACCTCTTTTTCCAAATTTTCCAAGTTCAAAGGAAAATCAGGCA
GTCTGTCTCCCTGTTTCTCTTCGCGGACAATCCGCCCGCCATCCAAATACCACGTCTGTT
GCGCATGATAGGTCTGCATATCCGCCGTTACGCCATCCGCTTTCAATGCTACCGTCGAAG
ATTGTGCAATAAAAGATTTCCGTTTTTCAAATAATATTCGAAACTCTGGCGTTTTTTTC
CATTGTCGAAACTCCAATAGACTTTTTGCGGCAGACCGTCCGCATCATAGCCGACCACAA
GACTGTTCGCCTTCATCCCTCGGGGCATCAATTCCCGCATATTCTGATAAAACACAGAAT
TGCGCGAGTCCGACGCAATTCGGTTGCTCTCTTTGCGGAAGTCCCAAACCTTCTGCTCGT
CATTCGCGACATCCCGGTATTTCGCCAAATATACCTGGGCCATCTGATAACACCCGAGGC
AATGCTCATAAACATCTTCCCCGATTTTCCCGCGCCCCGCCGCATCAAATACCGAACCGT
CTGGTTGCCAAACAACCCGATATTCTCCTGTCGTTTCATAATTTTCCCCGTGAACCGTTC
CGCCGTACACATTTACAGAAAACGGACGATCGTTCCGATACAGATATTCGGCATTAACAA
ATGCTTCCGGCGAGCGTTGCGAAAGCGAAACCGCAACCAAACCGCCCTCGCCGATATGGT
AATCCAGCCAAACCTCTTTCCCATGTTCCTGCTCCGTTACGTGAAACCATTTCGCCTTTT
CTTTCAAACGACTGAGCCGGATAGCGAGCGCGAGATAATCCTTCTCCGACTGCAACGGAC
CGTCATCCACAGTTCCGGCAAGATTTTCCTCCGTCCTTATCGATTCCTTCACGATGACAA
CCGCCCTGTCGGCATTTCGGAACAGGCGGGCAAGTTTCGCCACAAAAGCATTCGGATTTT
TAGGTACTTCAGTTGCCGTATCGCTCAAAAACCAACGCGGATTAATCTCATAGGCAATAC
```

```
CCGTTCCCAGCCAAAAGGCAAATACAAGTGCAAAAAATGACAACAGTACCGGTTTGAATT
TTTTAAACATATTTATTTTTCGTTTAACAGAATATATCGATTATATCAGACGAGCTTTGA
TTGCCGGGTTTTGCTATTTTTTGTTGTAATAATCAAATTGCACGTTGACTATGTCTTTCT
CGGTAAAAATATAACGGAGCATTGTTTTAAGCCTTTCATAACGTTCATTAATTCCTACGC
TATCAGGTAGCCAAGGGGAAGCTTTAATTTCAAAAAGTTTCCAATTTGGAACCATTAAGA
AATCAATAATGGTACCGATTCCAATGACAACATATCTTGGTATGTCCATCGGATAAGGAT
ATTTTTTTCTAACCTCGATTAAATCATTCTCCAACTTCCAATATTCTTCATCATCCCACA
CCCCGTCATCATACCATTTGCCAATAAATGAATTTTCGTCATACCCCTCAAAACAAGTAA
TATTTCTTCTGAAGTTTTTTAACTCACACATAATACACATAATAATTAATCTCCAATACG
ATTTAGGTTTTTATCAAATGTACCGTTTCTTGTTTCTTTTCTGTAATGTTATTCATCGTA
GTAAGGTTCTGTTGAATAATTGTCTTTGCCCCCGGCAATGATAGTAACAATTTTCCCTTT
TGCTTCCCAAGCTTGTACTCCTATTTCATCAAACTCATAGACATATGTCGGATAAGATTC
ATTTGATAAATAATATTTATCAACACCGTATGATTTAGGGTAATGGAAAAGCTGTTTAAA
ATCTTCAAAATTCAGACCTATTATATTAACGCCCATAAAATATAGCTCCTGATAACAAAA
TATCGAAATAATTTTGTTTTTTTTTTTGACGGAAATGAGTAAATTTGAGTCGGGAGATTC
ATAATATTCTGTTCTAAACTCATCAGGAGGTTCATACATAAAAGTTTCCAGTATGTTTTT
GTACTGTGTTATATCCGCACCAAAACGGAATATTCCTACAGAAGTAAAAGGTAAAAATTC
GGGAGTTTTAACGACCGCGTCGACCATGCTCTTCTCCTTTGTTTTTCGATTGGCATTTT
TGGCAATATTTCTGATTTTTTGCTTAATCTTTAAGCGTTCATTTTTGGACATTCCGGGAA
TAATTTTATTTGTTAATTCAGCAATTTTTGATTCCGCTGATATTTGACTTCGACCGCCAT
CTCCATGTTTTTCATTCTTGGAGCTTCCTGTTCTTTTAGGCGGACAAGAATTATGAACCC
AAACCCCTTCCGTTTCCGCCTGATTACCCTTGACGAAGTAAGTATGCCAATCGGCAACGG
TCAGATTGTAGGCTTTGAGCGGTTTTGGTTTGACAACGGTTTTGCGGACGGTTTGGGTTC
TGCCGCTTTCGGATAACAGCCTGCTTCCCGCTTTCAAATCTTCCGCTTTAATCCATTTGC
CGTCCGAATAAAACGGATGGATGCGGTTGGAAATCAGGATTTGGCTGTTGCCGATGCCGT
CTGAAAGCCGGATATCGCTTCAGACGGCATTTTGATTGCCGGGTTTTGCTATTTTTTGTT
GTAATAATCAAATCGCACGTTGACTATGTCTTTCTCGGTAAAAATATAACGGAGCATCGT
TGTGAATCTTTCATAACGTTCATGAATTCCCACACTATCAGGCAACCAAGGGGAAGCTTT
AATTTCAAAAAGTTTCCAATTTGGAACCATTAAGAAATCAATAATGGTACCGATTCCAAT
GACAACATATCTTGGTATGTCCATCGGATAAGGATATTTTTTTCTAACCTCGATTAAATC
ATTCTCCAACTTCCAATATTCTTCATCATCCCACACCCCGTCATCATACCATTTGCCAAT
AAATGAATTTTCGTCATACCCCTCAAAATAAGGAACGTTTCTTATAATATCCTTGAACTC
ACACATAATAATGTATCTCCAATATAATTAAACTTTTCGTCTCAATCTACCTTTACTATG
TTGTATTGGAAAGTAAAAAAATTTCCAGTCCTCTACATCTAGATCAGTAAAAATATAACG
GAGCATTACCCTGAACCTTTCATAACGCTCATTAATTTTGACACTTTTAGGCAACCAAGT
AGAAGCTTTAATTTCAAAAAGTTTCCAATTTTGAACCATTAAAAAATCAATAATGGTACC
GATTCCAATCACGATGTCCCTTGGTATATCCATCGGATAAGGATATTTTTTTCTAACCTC
AATTAAATCATTCTCCAATTTCCAATATTCTTCATCATCCCACACCCCGTCATCATACCA
TTTGCCAATAAATGAATTTTCGTCATACTCCTTAAAACAAGGGATGTTTCTTCTAAAATC
CTTGAACTCGCACATAATAATTAATCTCCAATACGATTTAGGTTTTTATCAAATGTACCG
TTTCTTGTTTCTTTTCTGTTCAGTTTTTCGGGTGAAGATGCCTCTTTCCAAGCACCTCCA
TTATGTGAATCTACATCGCGTGATATATAACTCTTTCCTTTTTTAAAAATAGCAGCATCA
TTTCTCGTTCTTTCTTTTATTTTTCTATATCCCAATTCCTTTGCTGCTGCATATGCTTCT
GAATCATTCCCATATATGGGGGTAGATGGTGTTTTTCTTGGCGGACAATCATTATGAACC
CAAACCCCTTCCGTTTCCGCCCGATTGCCCTTGACGAAGTAAGTATGCCAGTCGGCAACG
GTCAGATTGTAGGCTTTGAGCGGCTGCTGTTTGAGGGTAATGTTTTGAACCGTCTGTTTT
GCACCGCTTTCGGAAAGCAGGGTGTCGCCTTTTTTCAGACGACCTGCCTGTATCCATTTT
CCTTGACTGTAAAACGGGTGGATTTATTGGAAATCAGGGTTTGGTTGTTGCCGATGCCG
TCTGAAATTTCAATGTAAACGGTTTCTTGATACGGATTGCCGTATCGGGCGGTAACGGGT
TTGTATCCCGTTTTTCCGCTTGCCTCGTCCTTGGCGAAGACGCGGTCGCCGGTTCGGATA
CGGGCAATGGCTTTGTAGCCGTCTGCCGTTTTGACCAAGGTGCTGCCGTGGAAGGAGCAG
GTGTAGGATTTTTAAAGAACTTAGTTCTCAATATCCTGTTTCATTCATCAAAATGCCGTC
TGAAAGCTGAATACCGCTTCAGACGGCATTTTGGTGGTTGGGTTTTTAAGCCAACCTACG
CTTACTGAAAACCAAATTGAGTTTCAGACAGTTTTTAGGTTTGGGTGTCCAATCTAACTT
ATATTTGTCCATTTAATTAGTCGTTGTATCAAATTTCCATTATTTATTTTCCAATTTAC
TTTATAATTATCTTCATAATAATCTAATTCAAAAAAACCTGATATTTCAATATCCAATTC
CATTATTGTTTTAATACATTTTTCAAAATAAATAATGAAATAAGATTTTACGCATGCACC
```

```
   AAAAAAAATATAGCTGCTCCAATTAAAACTATTTGTCGGGAAAACCCACCCGCTTTTATA
   TATTTTTGCAGATTCTTTCTCTTCGATATTAAAGGGACAATTATTCCAAAAATTATTAAT
   GTTTTCTTGGATGATTTTTATATCATCGTCAGAGCATTCAATCCATCCTTTATGGAAAC
   ATATGATGCCATGTTTAATCTCCTAAACCTGTTTTAACAATGCCGCCTTTTGATTCAATA
 5 TATGACTTAACTTGTGAATGAACACCGTATTTAAACCAAAATTCTGCACGTTTTCCCTGT
   TGGTTTGCTGCTTCGATGGTTGCTTTAATTTGCTTTCTATTTTTTTGATTTAAGAAATTT
   TTAGGTTTATCTATTGCTGAAATTGTTCTTTTGGCTTGTATTAAAGCATCATTCGTAACA
   GCGTCAATTTCTCTGCCGTTAATAAATTTTGATGAACCATCAGTTTTTCTTCTAATTAAA
   TCTTCATAATGTATATCTAGAGCTTCTCTATACTTTGCATTTTGATATAACTGTCTCGCA
10 CTATCAGACAAAGCCAATTTCTTTTTATAAGAATCAGCAAAATCCCCGCTAACCGCAGCC
   TTCCCTGGTTTTGCCGCCTTTGCCAACTTCGCGACTTTGGCTGCTGCGGCAACGTTGAAG
   ACGGCTTCGACGGTTTCGGCGGCATTGGGATTTTCCTGTATCCACCGGTCAACGGCTTCG
   CGCGTATTCTTTTCAAAGCCCGCCACGCTGCCCAAGCCGCCGATGACGGCGAATTTGCCC
   TCGGCGGGCAAGGGGGCGATGTTGCGCATTGCGGCTTTGTCTATGGCATAGCGCGTTCCG
15 TACAGTATGTCGCCTATGCCCAAGGCTTCGCCCGCGCTGATAAAGGGGTTGAGCGCGCCG
   GCGGCGACGCCGTTGATAAACTCCATGCTGTTGCCCCAGCGGTCGAGCTTGGCATTGTGC
   TCGAACATTTTTCTGTTGGCTTCATCGGCGCGGTCGGAGAAATTGCTGCCGAGGTTGCTG
   TAATTGTCGGATATGCGTTGCCGGATGCTGCGGGTGTCGGTCGGATTGAGTTTGATACTG
   CGGGCTGTGCCGTTGACGTGATAGGTGTATTCGTCTCGTGCGCCCGTAGGTTTGGGGTAA
20 TTGCCGCCCTTCGGGCCGTCGTAGGCATCGGCGGGATGATGTTCGTGTCCTTCCCAGTTG
   AGCCGGTATACGGTAAAGCCTTCGTCAACGTTGCCTTTTTCTTCGCTCGCGCTGTCGGCG
   GCGTGGTTGTCGAAGGGGGCGTGTTCTTCGTGTCCGTGTCCGGAAAAGCGGGTGTGGTAG
   CCGATTGTGCCGTTGATGTTTGCCTGTTGGATGAGCAGGTTGCCCATCTGGTGGGTATAG
   TCTTGGATGACGTTGATTTTGCCGGTGCGGTCGGAAACGCTGCCGCGCGGGTCGCCGAAG
25 AGGTGGTATTTGCCGCCGGGTTCGTAGTGCTGCCGTTGGGCGTTATCGGTAATGAACGGG
   TCTTGCGCCAAGTCCGCCGCGAGGGCGGGCTGTATGAGTGCGGCCGCCGCTACGGCGCAG
   GCGGCAAGGAGGTTTGTCAGTCTGCGCAGCGGTTTCACGGTTTATCCTCCTTTGCGGCGG
   CGGATGACTTCGTTGCCGACATCGGGTTTTTTACCGTTGTTTGTTTGAAGTCGGGACGG
   TTTTGGGCGGTTGTGTCGCCGTAGGGGGTAATGTCGGAGAAATCGACCATCAGGCGGTCT
30 GAGGCTTTGACGGTTTTGCTGACTTTGTAAGGGCCGGTCCAAAGGGCGTATTGTTCTTGG
   TATTGGGATTCGTAGGCGGCGGTTTTAGGGGTAATCAGCAGTTTCCGGCTGTCGCGGTCA
   ACGGCGAAATATTCGAGCTTGGTTTGGGCTTTAAGGGTTTCGGCGTTGTAGAGGTGCAGT
   TCGGTACGGCTGCGGACGGTGCCGAATACGTCGACGGTTACGAATACGTCGGTGTCGGCG
   TATTCGGGCGGTACGACTTCGATGCCGCGCAGGTAGAAGACGGTTTGGATGAGGTTGGTC
35 AGGAAGGAAACGTCGCGGGGGTTGGCGAGCAGGGTTTCGTTGCGGTAGTCGCCCGTGCCG
   TTGACGGACAGTCCGGCGGAGCGTTCGCCTTTGCGTCCGCTGTTTTTCGTCAGGGCGGCG
   GCGGGGGCGTTCAAAAGCGATGTGGAAGTGGTTACGCTGGAGAGCGCGTCGGATTTGGTG
   GTGGCGGTAGTGTCGTAGGCGGGGTAGCTGTATTGGGTGGCACTTTCGGGGTTGTTGTGG
   TAGCCGCCGCGTATCAGTGCGTCGATAGAGTAGCGTCCGCCGCTTATGTTGCCCGAACCT
40 TGGTCACCG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 16>:

gnm_16

```
   CGGCGGTATCGGCAGCATGTTGCAGAGATTGACGGGTCATTTCTTTTCATCAAAAACATT
45 CAACAAAATACACTTTAGGCAGTCCGATTCAGGCTTTACGCTTGAAAAACAGCCTGTCCA
   GCGACCATGCTCCGCCGCCCGCCGCCGCGATATAGAGGAATACGAAGCAGAACAGCACTG
   CGGACTCGCCGCCGTTGGCAATCGGGAACAAAGCATTTCCGGAAGCGTGCGCCATAAAAT
   AGGCAACCGCCATCTGGCCGGACAAAACAAACGGCAGGGCGCGCAAACAGGCCCAACA
   CCAGCAAAATGCCGCCGACAATTTCTAAAATACCGGCAAGCAGCAACGAGCCCGCCGGGC
50 GAACCGCTGCCCATTTCAATGGGGAAGGCGAAGATTTTCGACGTACCGTGCAACAAAAAC
   AGGTAGGCGGTTACGATACGCAAAACAGAAAGCAAAACCGGTTGGATACGGTTGCAGCAA
   TCGGACATAAAAGCTCCTTTGATATTTGTCTTCATTTCAGGCGGTAGAGTATAGATGTTT
   CCCCTTTTCAAATATATACTGCTTTTATTGATACAACTTTTCCACACAAGAAAATATGGA
```

```
CACCCTGTTCAGCCTCAAGGTTTTCCGCCAAGTCGTCCAAAGCGGCGGCTTCACCCGCGC
CGCCGACGCGCTCGGCATCTCCACCGCAATGGCAAGCAAACACGTCAGCCACTTGGAAAA
CACCGTCCAAGCCAAACTCCTGCACCGCAACAGCCGCAACCTCAGCCTGACCGAAGCCGG
GGAAGAATACTACCGGCAATGCAGTTACGCGCTCGACACGCTCGACGATGCCGCGCAAAA
AGCCGCCGGGGGGACGGAAAAAACCGCAGGGGCTGCTGCGCGTAACGATGCCGCTGTGGTT
TGCCGGCAGCCAGATATGCAACTGGCTGGCGGAATACCGCGAACGTTATCCCGAAGTGGC
ATTAGAACTGATTTTGGACAACCGCCACGTCGATTTGATTGCCGAAGGCGTGGATTTGGC
GTTGCGCGTTTCCCAAACCCTGTCCCCGTCGCTGATTGCGCGCCCACTGGCGGAAATCGA
ATTTGCCCTGCTCGCCTCGCCCGATTTCCTGAGGCGCAACGGCGTGCCGGAAACGCCGGA
AGAAGTGGCGGGGCTGCCCGCCGTCCTGCCGACCTACACCAACCAGCAGAAACTCGACCT
CACCCGCAAATCGGACGGCAAAAAATACCGGCTTGAACTGACCCCCGTCATCCGTACCGA
CAACACGCTGATGATGCGCGAAATGATTAAGGCGGGCGCGTGCATCGGTTATCAGCCGCT
TTGGGCGGCGGAACACGATTTGCGCTGCGGCACGCTGGTGAGGCTGCTGCCCGGATACGC
CGTCCCGACCGACCGGCTGAATGCCGTTTATGCAGACAGGGCATTCTTAAGCGCGAAAGT
CCGCAGCTTCATCGATTTTCTGAACGAAAAAATCGCCAGCAGGAAAGGCTGCCGAAATGC
CGTCTGAAACCGCCCGCCCCCTTTATGCGGACACGTGCGCCGCACACACGCTCGTCTGGT
TCCGCCAAAACCTCCGCATCCGCGACAACGCCGCCTTATGCGCCGCCGTTGCCGAAGTTT
GCCCATTATCGGCATTTGGATTGACGATGCCGAAACAGACAACCCTCGCCGCGCCGCGTT
CTACCGCCAATCCGCCGCCGAACTCGCCCAAGGGCTTGCAGGGCGCGGCATCCCGCTCTA
CACGGCGGCATCTCCTGCCGAGCTCGTCCGGCTCGCCGTCCGCCTCAATATCCGCACCGT
CATCGCCGACGAATCCCATACTTTTGCCGACAAACTCGCCGACAACGCCCTTTGGCACGA
ATTGGACAAACACGGCATCGCGTTAACCTTCGTCAACGACCGCGCCGTTTTCGGCAAAAC
CGACCTGATACCCGACGGCGGCACGGCATATGCCGATTTCGACCGCTACCGCGAAGTATG
GCTCGACCGCTTTTCCAAGCAGCCCCCGCCGGTCCGGACCTATTCGCGGCATACCGCCA
ACCCTTCCCCGAAAACCTTTCCGCCCCGCAGCCTGCCGCGCTTTCAGACGGCATCTTCCT
GCCGCAAAACAGCGGCGAAACGGCGGCTTGGCGGCAGTGGCGGCGGTTTCTCGAACAGGC
GGATTCCTACTCCGTTTTAAAGGATTTCCCCTCGCGCAAACACACTTCGCTGATGGGCGC
GTATTGAGTGCCGGCTGCATCTCGCCGCGCCTGCTCGCGCGGGAAAGCCTCGAACGCCG
TCTGAACGCGTGGGCGGACAACATCATCCGCCGCGATTTTTTCCTTCAACTTGCCTTGCA
GCACACGGATGACGACCCTTCAGACGGCAATCCTGAACACACCTGCGCCTGACGCTTTG
GCAGCAGGGCCGGACCGGCATTCCGATTATCGATGCCGCGATGCCGTGTTTGCACAAAAC
CGGCAGCCTCCACCCCGCCCTGAGACGCTTGAGCGCGGATTTTTTCTGCCACGTTTTAAA
CCTCCCCCGCCGCGAAGGCGAGATATGGTTTGCCCGACAGCTGACCGATTTCGATGCAGC
AATCAACCAAGGCAACTGGCGGCTTGCCGCCTCACGGCACACCTGCCCCGACATTGCCGC
CGCCGCACACAAAACCGACCCCGACGGCACCTTTGTCAGACGGCACATTCCCGAGCTTGC
CCACCTGTCCGCCGACACCGTCCACACGCCTTGGCGGTTTGCCTGTTCGGTCGATACCCA
CGGCTATCCCGCCCATCCTGTCGCCGGTATTCCCTAAGCGGTACGGCAACCTAAAACAAA
TGCCGTCTGAACTTCCGTTTCAGACGGCATTGCGTCCGAATGACTCAATATCTTCCGTTT
TTTTCACTTTCAATCATCAGGTATGCCCAAATCACCGCCACCCAAGCCGACACCGTTCCC
ATCGCCGGCAAAAAATGCTGCCAATCCGTCATCGGCGGCACAGGGCAACGGCCGCATTCG
ATTTCCGCGCCGCCCAACAACCGGTACAGCAACATATCCGCAATCCAAAGCAACAACGGG
TATTTCAAACGCTGCAACCAAAAAACCAACCACGTCCGCACGATTCACCTCACCCCCCAT
TCCGACAACGATATTGTACCGCTTCCGTGCAATGTTAAAATAAGCCCACTTCTACCGCCG
TACAAAACGCCATGCTCACCGATTTAGAAAAAAAACGCCATCCGCGACCATTACCAAAACA
TCGGCAAAAACCTGCCCGGTTTCCGTCCGCGTGCTTCGCAGCGGGAAATGATTGCGGCGG
TTGCCAACGCTTTTTCGCGGACGTTGGCGCGCGAAGAAGGCGGCGAGCCGCCCAAGCGCG
AAGGCGAGAGCATTGCCGTGATCGAAGGGCCGACCGGCGTGGGCAAATCGTTGGCCTACC
TTTTGGCCGGCGGCATCATGGCGCAAACACGCGGCAAGCGGCTGATTGTGAGCAGCGCGA
CGGTTGCCTTGCAGGAGCAGTTGGTAGACCGCGACCTGCCGTTTCTGGTCGAAAAAAGCG
GTTTGGAACTGACCTTCGCACTTGCCAAAGGGCGCGGCCGCTATCTCTGCCCCTACAAAC
TCTATCGACTGACGCAAAGCAATGCCCAGCAAAACCTGCTCGGCTTTGAAGCCCCGCCG
TCTTGTGGGACAGCAAACCCAAGCCCGAAGAATTGAAGCTGCTGCGCGACATCGCCGACG
AATTTTCCGCCCGACGGTTCAACGGCGACCGCGACACTTGGCCGGAAAAAATCGATGACG
CGATTTGGCTCAAAGTGACCAACGACCGCCACGGCTGCCTGAAAACCGCCTGTCCCAACC
GTCCGGAATGTCCGTTTTACCTAGCACGCGATGTCTTGGAAACCGTCGATGTCGTCGTTG
CCAACCACGATCTTCTGCTTGCCGACATCAGTATGGGCGGCGGCGTGATTCTGCCTGCGC
CCGAAAACAGTTTCTATTGCATCGACGAAGCGCACCACCTGCCCAAAAAAAGCCCTCAGCC
```

```
GTTTTGCCGCCGAACATTCATGGAATATTGCCGTTTGGACGCTGGAAAAACTGCCGCAGC
TGACCGGCAAAATTGCCGCGCTGACCGATAAAGCCGAACTTGCCAACCTAGCCGACGAAG
CCGCCGCATCCTTGCTCGACAGCCTGCATGAATGGCAATTCCATTTGGCGGAAGAGCCGT
CTTTAAGTCTGGGGGTGTCTGAAAACGACAGACGAACCAACAGCGAACCGACTTGGCTGT
GGGAAGACGGCAAAATCCCCGAAGGCCTCGAAACCACCGTTTCCAATACGGCCATTGCTG
CGCGCAGCCTGCTCAAACACGTTATCGGGCTGAACGATGCGCTTTCTGCCGCACGCCGCG
AAAAAGAACAGGACGGCGCGCTCCTCGACCGCCTGACCAGCGAGTTCGGTCTTTTTATCG
CCCGTATCGAACAAATCAGCGCGGTTTGGGATTTGCTCTCCACTGTCCCCCTCGAGGGTG
AAGAACCGTTGGCGAAATGGATAACCCGCCGCGCCGACGACAAAAACGACTACATTTTCA
ACGCCAGCCCCATCAGCAGCGCATCCCACCTTGCCAACAGCCTGTGGCGGCGTGCGGCAG
GCGCGGTATTGACTTCCGCCACCCTGCAATCCTTGGGCAACTTCAACCTGATGCTGCGCC
AAACCGGGCTGCAATGGCTGCCCGAAACCACCACCCTCGCCCTCAAAAGCCCCTTTGACT
TTGAAAAACAGGGCGAACTCTACATCCCCCCCATATACGCCAGCCCCAAAGACCCCGAAG
CCCACACCGCCGCCGTCATCGAATGGCTGCCCAAGCTTATTTCGCCCACCGAAGCCATCG
GCACGCTCGTCTTGTTTTCCTCGCGCAAACAAATGCAGGATGTCGCCCTGCGCCTGCCCG
GAGACTACCTGCCGCTCTTGCTCGTACAAGGCGAATTACCCAAAGCCGTCCTCCTGCAAA
AACACCACCGGGCCATAGAAGAAGGCAAAGCCAGCATCATCTTCGGACTCGACAGCTTTG
CCGAAGGACTCGACCTGCCCGGCACCGCCTGCGTGCAAGTCATCATCGCCAAACTTCCCT
TCGCCATGCCCGACAACCCCATCGAAAAAACCCAAAACCGCTGGATAGAACAGCGCGGCG
GCAACCCCTTCATCGAAATCACCGTCCCCGAAGCCGGCATCAAACTCATCCAGGCCGTCG
GCCGCCTCATCCGCACCGAACAAGACTACGGCCGCGTAACCATCCTCGACAACCGCATCA
AAACACAGCGGTACGGCCAACAATTATTGGCCGGCCTGCCGCCGTTTAAAAGGATAGGGT
AAACATACCGCCCTTCCCGCAACAGAAAGGAAAAATTCATGAACTTTACCCGACTGCTCA
ACCAAGTCTTAAGCACGGTTCAAAAAAAAGGCAACACATTCTCCGACAGCCCGCTCAATT
CATTCGGCGGAGGCGCGCTGGTTGCCGGTGTCGCCTCCATGCTGCTGAACGGTAAAAACC
GCAAAACCATCACCAAAATCGGTTCGACCGCCGCTTTGGGCTACCTCGCCTACCGGGGCT
ATCAGATGTGGCAGCAAAACAAAGGGCGGGCAACCGTAACACAAAGCGATTTCCAACCTG
CCGGAGAAACTGAAGAAACATACAGCCGTACCGTATTGCGCACCATGATAGCCGCCGCCG
CTTCAGACGGCATGATAGACGAAGCCGAACGCCGGACTATCGAACAGGAAAGCGGCACAG
ACCCCGAAACTGCCGCATGGCTCGCCGCCGAATACCGCCTTCCCGCCAAGCATCGAAGACA
TCGCCGCCGCCGTCGGCAACGATGAGGCGTTGGCCGGCGGAGGCCTATCTGGCGGCAAGGT
TGGTCTGTGCCGATTTGTCGCGGAAAGAAACCGTCTTCCTCGCCCGCCTGTCGCAGGCTT
TGAAACTGGATGACAATCTGGTGGAGAGTTTGGAAAGGCAATTGGGGTTTTGATGACACA
GCCGGGGAGGGAAAATCATCAAAAAACGGTTATTCCGACCCCGGCCTCAAAACGGCAAAA
TATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATT
CTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTT
CGTCGCCTTGTCCTGATTTTTGTTAATCCACTATAAAGCCGCCGCCCCGAACGGCAAAC
AGCGGCATAGGCTGCCAAAGGCAATATCCGACAAGAAGGCAGGCTACTGCAATGCGCCGC
CGTGGGAAGATTTAAGCAGGCGTTCGTGTTTGTGGAATTCCCGCCCCATATAATAAGAAC
CGAAATAGGTCAGGTGGTCTTGGTCGCCGTAAAGATAGCGGCCGTATATTTCGACCGTGT
TTTTGGGCAGGTATTTTTGTGCGTCCACCCAATGCACATTGGGAATATCTTTAATCAAAT
CAAAGACCGCCTGATTGCTCTTGCCGATGTCGCCCATAGCCTGAATGGGGCGGAGATATT
GGTTTGCGGCAAATCTTTTCAATTTTTCCTCCCTCAGGGGCGAACGGCTGATTGATGTGT
TGTTTGCAAAAACATAGACGGGTTTGACGGCGGCTATCCTTTTGACGGTTTCCCTGAATC
GGGCTGGGAACCCGGGTATTAGGAAGGATTGCGCTTCAAATCTCGGCACAGGCTGGCCGC
CCATCCTCAAATCATAGAATTGGGCAATGAAAACGGCTTCGGCTTTTTCAACTTCATCCC
GGTATTTTCGACATAACGGGTTGTCTGCCAGCTTCTCATCTACCCAAACCAAACACTCCG
AATCGAGGGACAGGATTTTGGCTTTCCACCCTTCCCGGCTGCCGACATAATCCAGAAACC
CCCTCAGGTGTCCGGCGTGCGAGTCGCCGAGGGTCAGGACGGTTTCCGGAAAATGATTTT
CCGCAGCAAGGGGCGCGCCGGGCAACGGGCGGAGGTGTTCCTGTTTCAATATCCCCCCTT
GCGTACAGGTTGTAACCGACAAGTATCAGGGACGGGGCGAGATAGAGGCAGAAAAATGCC
TTTTTGAAGGTCATCTTCCGTTTTCTAAGCGGCTGTTCAATCAAATAATAACTCAACAGG
GAAAATCCGGCCGTCAACGCGGCAACCGCCGATACGGCAGGCAGTCCGAGCTGTTTGTCG
CCTGTAATGTAATGGGCGAAAGCAATAAAAATCCAATGGTACAGGTATAGGGAATAAGAG
ATTTTGCCGACAAATACGATGGGGCTTGCCGACAGGATGCGGGTCGGAAGTGTCCCGTAT
TGCATACTCCGGATAAGCAGTGCCGTCAGCAGGCAGGGAAGGAGCAGGGTCATTCCCGGG
ATAAACGGATTGTGTTTGTCAATCACGAACAGGCAGGCAAGCAATGCGCCGAAGCAGAGT
```

```
GATGAAAGCAACTGCCGTTTTCCATTTGCTGTTTGCCGTCTGCCGTTTTGCGTTTGCCCG
TAAACCGCCAGCAGCGAACCTGCCAACAGCTCGGGAAACCTCAGTGTCGAAAGGTAATAA
GTATTGGGTTGGTTGAGGATGTCGGTATAAAACCCGCTTGGCAAAAACGATGAGGCAGTC
AAAATCAAAAACAGGATGATGCTGATGTTACGCAGCACCCGTAGCGATTGGTTTTTTTG
```
5
```
CAGCAAAATATCAGCAAAAGGGGATACAGGAGGTAATACTGTTCCTCTACTGCCAAAGAC
CAGATATGCAGTACGGGGTTCTCGTCGGCACTCAAATCGAAATACCCCTGCTGAAACCCC
AGATAAATATTGGACAAGAAAACCGCAGAAAGCTCCACGGTTTTCCGCATTTGGTTGAAA
TCTTCGTAAAGGAAGATTTGAGAGGCAATCACCGAAGCCAGCGACACGGCCGCAATAAAG
GCAGGATAAATCCGCTTAATCCTGCGGGTATAAAAATCCCGGAAAGAAAAAGAACCGTTC
```
10
```
TGTATTTCAGAAAGAATGATGCCGGTAATGAGGAATCCTGAGATGACAAAGAAAATGTCC
ACCCCCAGGAATCCTCCGGGCAGCCAGCGGTTATTCAGGTGGAAAATCATGACGGATAGC
ACGGCGACGGCCCGCAATCCGTCAATTTCCGGTCTGTATCGGACAGCTTGCATAAATATC
GCCCCCGTATGTCCCGTTATCTTAAAAATGCCGTCTGAACGCGCGTTCAGACGGCATCGG
TTTCAGTAAACGCTCAAATCCGTTTCGCCAACGCTTCAGCCTTGCCCACATACAGCGCGG
```
15
```
GGGTCAGCTCAAGCAATTTGGCTTTGGCTTCGGCGGGGATTTCCAGCAATCCGATAAAGC
CTTTCAGCACTTCGGGCGTGATGCCGCCTTTGCCGCGCGTCAGGTCTTTCAGTTTTTCGT
AAGGATTGGCGACACCGTAACGGCGCATTACGGTTTGAATCGGCTCGGCGAGCAGCTCCC
AAGTGGCATCCAAATCGGCGGCAAGCGCGGCGGGGTTGGGTTCGAGCTTGTTCAGACCGC
GCAGGTGGGCGGCGAAACCCAATACGGCATAGCCCACGCCTACGCCCATATTGCGCAATA
```
20
```
CGGTGCTGTCGGTCAGGTCGCGCTGCCAGCGGGAAATCGGCAGTTTTTCGGACAAAAAGC
CCAATACGGCGTTTGCCATACCGAGGTTGCCCTCGGAGTTTTCAAAGTCGATGGGGTTGA
CTTTGTGCGGCATGGTGGAAGAACCGACTTCGCCTGCTTTGACTTTTTGTTTGAAGTAAC
CCAATGAAATATAACCCCAAACGTCGCGGTTAAAGTCGATGAGAATCGTGTTGATGCGGC
TGAGGGTTTGGAAGAATTCCGCCATATAGTCGTGCGGTTCGATTTGGATGGTGTAGGGGT
```
25
```
TGAAGGTCAGACCGAGGCTGATTTCGACGAAGTTGCGGCAGTGGGTTTCCCAATCTACAT
CAGGATAGGCGACCATATGGGCGTTGTAGTTGCCGACCGCGCCGTTGATTTTGCCGAGGA
ACTCTTGCGCTTGCAGGTTTTTAAACTGGCGTTGCAGGCGGTACACGACATTGGCGGTTT
CTTTGCCCAAAGTGGTCGGCGTGGCGGGCTGGCCGTGGGTGCGGCTCATCATCGGGACGG
CGGCAAGGTCGTGCGCCATAGCGGTCAGTTTTTCGATGATTTCGGCCAGCTTCGGCAGCA
```
30
```
AAACAGCCTCACGCGCTTCTTGCAGCATTAAAGCGTGGGACAGGTTGTTGATGTCTTCGC
TGGTGCAGGCGAAGTGGATGAACTCACTCACGGCGGCGACTTCCGGCACTTCGGCAAAAC
GTTTTTTCAGCCAATATTCGATGGCTTTGACATCGTGATTGGTGGTGGCTTCGATGGCTT
TGACGGCGGCCGCGTCTTCCAATGAAAAGTTTTCAATCACCGTGTCGATTTCGGCAAGCG
TTTCGGCACTGAAGGGCGGCACTTCGGCAATCTTCGGCTCGGCGGCGAGGGCTTTGAGCC
```
35
```
AGTTTAATTCGACTTTGACGCGCGCCTTCATCAGGCCGTATTCGGAAAAAATCGGGCGCA
ATGCTTCAACGGATTGGGCATAACGGCCATCTAAAGGGGAAAGCGAGGCGATGGGGTTGA
TCATTTCGGCATCCTGTTCGGGAAAGACATCAAAAATTGTTAAATTGTTTGCAATTATAC
ATCACTCTCAGGACGCTATGCCGTCTGAAGCCCGTGTTCCGACAGATACGCAACGATTTC
GTCTTCATCGTCCGATATGGCAAACAAAGAGACCGCCCCTTCGGAAATCAGACCGCGCGC
```
40
```
CAAAAGCTGCGCGTTTATCCACTCCGCCAAGCCCGACCAAAACGCCTTTCCGACCAAAAC
AATCGGACGCGGCGGCACTTTGCCCGTCTGCACCAAGGTCAGGATTTCAAACAATTCGTC
CAGCGTCCCGAAGCCGCCCGGCATCACGACATATGCTTGGGAATAGCGGAAAAACACCGC
CTTGCGTTCGGCAAAACGGGAAAACCGCAAGGCGATGTCCTGATACGGATTCGGTTTCTG
CTCGTGCGGCAAAACGATGTTCAGCCCCACCGAAACCGACTTCCCTGCAAACGCGCCTT
```
45
```
GTTTGCCGCCTCCATAATCCCCGGCCCGCCGCCCGAAATGACGGCAATGCCCGAATCCGA
CAGCCGCCGCGCCAGACGGCAGGCGAACGCATAATCCGCATGATTCTGCGGCGTGCGCGC
GCTGCCGAAGATACTGACTGCCGGAAACACGCCCGCCAATGCTTCGTCTGCCTGCCTGCG
TTCGGCATCATAACGTGCCTGCTCCGGCACACGGTTTGTATTCTCCATTCCATCCTCCGT
TCAAAAACAGCGATTGTACACCGTCAAAAACGTATAGTGGATTAACAAAAATCAGGACAA
```
50
```
GGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCAC
CTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGTAACGCCCGTACTGGTTTTTGTTAATC
CACTATAACGCAAGCACCGCAAAGCCGCGCCAACCCTCTCCCAACCTTTTTTCAGACGGC
ATTTTCGGTAATCTGCTAAAATCGCCCGCTTGAGTTTCCACAGAAAAAATCCGAAAAATGA
ATATTTTTTACGAAGAGTCCGGCCAATTCAAAATCGCCGCCATCATCCAAAAAAACGATG
```
55
```
CCACCTACCAAGTCGATACCCCACACGGCAAACGCACCAAAGTGAAGGCGAACAACGTCT
TTGCCGAGTTTGACGGCGATATGGCGGCGTTTTTGGAAAACGCGCAGGCACAGGCGGCGG
ACATCGACACCGATTTATTGTGGGAAGTATGCGGCGAAGAGGAATTTACCGCCGAAGCCA
```

```
     TCGCCGAAGAATATTACGGCCATGCGCCGACCAAAACCGAGCTGGCGGCAACTTTGATTG
     CGCTTTACGCCGCGCCGATGTATTTCTACAAAAAAGCCAAAGGCGTGTTCAAAGCCGCGC
     CCGAAGAAACTTTAAAACAAGCACTTGCCGCCATCGAACGCAAAAAACAGCAAGACGCGC
     AAATCGACGCTTGGGCAGAAGCCTTGAAACGCGGCGAGATGCCGTCTGAAATCGCGGCGG
  5  ATTTGAAAACCATCCTGCACGCGCCCGACAAGCAGTCGCTGACCTACAAAGCCTTTACCA
     AAGCCGCCGACGCGCTGAAAACCTCTGCCTACGAATTGGCGAAAAAAACGGGCGGCATTA
     CGTCCATTCCCCAATACCTGCAAGACGGGTTTGAAATCAAATACTTCCCTAAAGGAACAG
     GCTTCCCCGACCTTGCCCTTCCCGAAATGCCCGACCTGCCCAAGGCCGACGTTACCGCCT
     TTTCCATTGACGACGAATCAACCACCGAAGTGGACGACGCTTTAAGCCTGACCGACTTGG
 10  ACAACGGCACGAAGCGTGTCGGCATCCACATCGCCGCGCCGTCACTTGCCGTTAAACCGG
     GCGACAAAATGGAAAAAAACATCATGGAACGCTTGAGCACGGTTTATTTCCCCGGCGGCA
     AAATCACGATGCTGCCCGAAAACTGGATTGCCGCGTTCAGCCTTGATGCAGGCGCACACC
     GCCCTGCCGTCAGCATTTATTTCGATGTGGACGGCGAGTTCAACGTCGGCGCGCCGACCT
     GCAAAATCGAAGCGGTCAACATCGCCACAAACCTGCGTATCCAAGCCATCGAGCCGCATT
 15  TCAACGCCGAAACCGGCTTGGACGAAGCGGCGAAATGATGTTCGCCCACCATCAAGACC
     TGATTTGGTTCTATCAATTCGCCACCGCCCTGCAAAAAGCGCGCGGCAAATACGAACCCG
     ACCGCGCGCCGCAATACGATTACAGCATCGAATTGGATGAGGAAGGCAAGGTATCCGTCG
     TCCGCCGCGAACGCGGCTCACCCATCGATACGCTGGTCAGCGAGATGATGATTCTTGCCA
     ACAGCACTTGGGCACAAATGCTCCATGACAACGACCTGCCCGGCCTCTTCCGCGTCCAAC
 20  CCACCGGAAAAGTACGCATGAGCACCAAATCCGAGCCGCATATCGGCATGGGCGTGCAGC
     ATTACGGCTGGTTTACCTCGCCGCTGCGCCGCGCCGCCGACTACATCAACCAAAAGCAGC
     TGATCAGCCTGATAGACGACACTGCCGAGCCGCTGTATCAAAACAGCGATGCCGAGCTTT
     TCGCCGCACTGCGCGACTTTGATGCCGCCTATACCGCCTACGCCGATTTCCAACGGCAGA
     TGGAAGCCTACTGGAGCCTTGTGTACCTGCAACAGCAAGGTACAAGCGAGCTGACCGCGA
 25  CCATCCTCAAAGAAGACCTCGTCCGCATCGAAGGCCTGCCGCTGGTCACGCGCGCGACCG
     GTATTCCGTTTGACGCACTGCCCAAATCACAGGCATTGTTCAAAATCACCGAATTGGATG
     CCGAGAAGCAGTTTGTCTCGCTCAACTACATCAAGGCAGTCGCACCCGCGGGTACAACGG
     CAGGCAATGCCGTCTGAAGCCCGATACGGCAAACTCCGGCAAAAACAGAAACCTGAATCT
     CATCATTCCCACAGTCGGGAATCCGGTTTTTTGGGTTTCCGTTGTTTTTCCGTTTCAATG
 30  AACTTCCAAGCCGCCGTTCCCGATAAATACCCGCAATCTAAAATCCCGTCATTCCCGCGA
     AAGCGGAAATCCGGCTCGTTCGGTTTCAGTTTTTTAGGTTTCAGGCAACTTCTGAATCGT
     CATTCCCACGCAGGTGGGAATCTAGGTCTGTCCGCACGGGAACTTATGCGCCGTCATTCC
     CGCGAAAGCGGAAATCCAGATTCTTCGGTACAGAAACTTATCGGATAAAACGGTTTCTTT
     AGATTCTACGTCCTAGATTCCCGCCTGCGCGGGAATGACGGCATAGGGGTTTCCGTTTTC
 35  CCGATAAATTACCACAACCCAAAATCCCGTCATTCCCGTAAAAGCGGGAATCCGGCTCGT
     TCGGTTTCAGTTTTTTAGGTTTCAGGCAACTTCTGAATCGTCATTCCCACACAGGTGGGA
     ATCTAGGCCTGTCCGCACGGGAACTTATGCGCCGTCATTCCCGCGAAAGCGGGAATCCAG
     ACCGTTCGGCTTCAGTTTTTTGGTTTCGGGCAACTTCTGAATCGTCATTCCCACGCAGGT
     GGGAATCTAGGTCTGTCCGCACGGGAACTTATGCGCCGTCATTCCCGCGAAAGCGGGAAT
 40  CCAGACCGTTCGGCTTCAGTTTTTTGGTTTCGGGCAACTTCTGAATCGTCATTCCCGCGC
     AGGTGGGAATATAGGTCTGTCCGCACGGGAACTTATACGCCGTCATTCCCGCGAAAGCGG
     GAATCCAGATTCTTCGGTACAGAAACTTATCGGATAAAACGGTTTCTTTAGATTCTACGT
     CCTAGATTCCCGCCTGCGCGGGAATGACGGCATAGGGGTTTCCGTTTTCCCGATAAATTA
     CCACAACCCAAAATCCCGTCATTCCCGCGAAAGCGGAAATCCGGCTCGTTCGGTTTCAGT
 45  TTTTTAGGTTTCAGGCAACTTCTGAATCGTCATTCCCACGCAGGTGGGAATCTAGGTCTG
     TCCGCACGGGAACTTATGCGCCGTCATTCCCGCGAAAGCGGGAATCCAGATTCTTCGGTA
     CAGAAACTTATCGGATAAAACGGTTTCTTTAGATTCTACGTCCTAGATTCCCGCCTACGC
     GGGAATGACGATGGAAAGATTGTTGTTGCTTCGGATAAATTTCTGCAGTTTTAAATAACC
     GGATTCCCGCCTGCTCGGGAATGACGGCATAGGTTTTTTTGTTTTTCCGATAAATTACCA
 50  CAACCCAAAATCCCGTCATTCCCGCGACGGCGGGAATCCAGTCCTTTAAACTCCAGCCAT
     TCCCGATAAATTCCTGTTACTTTTCGTTTCTAGATTCCCGCTTTCGCGGGAATGATGAAT
     GACGGTGTAAAAGTAACTCGAAATCCAAAAGCCATACCGCCCGGATTTTTGCCGATCGG
     TATGGCTTTTTGCTTCAAACCGCCTTAGCGGATGTCGACATACGCGCCGGAATGCAGGTC
     ACGCAACAGGTTGACGGTTGCCTGTTCGGCTTTTTGTTGGAAGATGTATTGCCGCACGGA
 55  ATTGCGGATACGTTCCTGAGGTGTGCCGGCATCGCGCACTTCGTTCAATTTGATGATATG
     CCAGCCGAATTGGGTGCGGACGGGCGCGCCGACCTGTCCGGGTTTGAGCGCGTGGACGGC
     TTCTTCAAAGGCGGGAACCATCACGCCGTCGGCAAACCAGCCCAAATCTCCGCCGTTGCC
```

-180-

```
CGCGCTCGCGTCTTGCGAATATTGGCGCGCCAGGCTGGAAAAGTCTGTGCCGCTGCGGGC
CTCTCCGTAGATTTTGCGGATGGTGCTTTCCGCGCCGACGGCGGCGTTTTCGCTGTCGGC
TTTAATCAGGATGTGTTGGGCGCGGTATTGGCGCAACGGTGCGCCTTCGGGCAGGGTGAT
GCCTTGTTTTTGCGCCTGCTCGAGGAAGGCATCGATTTCAGCTTCGCTCACGCGGCTGTT
CTGCATCACTGCCTGCTGGCGGACTTTTTCGGCAATGATGTTGTCGGCAAAATCGCGGCG
TTGGGCGGGGCTGAGGTTTTTGAGGGCGGGATTTTTTGCGACGACGGCATCGATTTCCGC
TTCGCTTGCTTGAATGTTGCGGCGTTTGCCCGCCTGTACAATCAGGGATTGGTTGACAAG
CTGCATCAGCACCTGTCGGGACAGCTCGGATTCGCTTATCTGCGCGTCTTTGGGCAGGTT
GGCTTTGGCTTCGGCAACGGCTTCGGCAAGCCGGCGGCGCGTGATGACTTCGTTGTCGGC
AACGGCGGCAATGCCGTCTGAAAAGCGGATACCGCCCTGCTGTTGTGCGGGTGCGGCTTC
TTTTTGCGCCGTGGCGGCAACTTTGGCAACTTTGGCAACTTTGGCAACTTTGGCAGCTTT
GGCAGCTTTGGCAGCTTTGGCGGATGCGGTTTTTGCCTTTTGCGGTGCGGCGTGGACATC
GGCTGCTGCCAGCAATGCGGCGGCAATCATCAGGGCTTTGATTTTCATCATTCTTTCCTT
ATCGTTTGAATCCTGCCTTTGATGGCGGGTTTGGGGTTGTCGGTGGAATGCCGTCTTGTG
CGGGAACGGTGCTCCTGCCAGGTTTCCGACGGTCAGGGTCGTTTGTTGCGTCCGGCGGAA
AGAGAGTGGGCGGTGATATAGCCGGGAACGGCGACATCCATCCTGTCTGCGGGGTTTCTG
CCGACACTGCTGAGGTCTTTCAACTGAAGTGAGAAAAAGACAGCGTTTTTGTAGGTGTTT
TCGCCGGTAACGTAGCGTTGGGCGTACACGCCCGCGCCCCAGCAGCCGCAACTGCTTTTG
TATTCCGCACCCGCCAGCACCTCTATCGGTTTTTTGGCTTCAAAACCGTAGTTGTAACGG
ACGACGGCCGACAGGTTGCGCGTCAGCGGCCATTGTGCGGACAGGTCGAGCTGGCTGAGT
TTGTCGTAAAAATAGGAACCGTCGGACTTCAGGTAGATTTTTTCGTTGCGCCCGTATTTG
TAGCGGGCGTTCAGCACTTTGCCCTGTGCGGGACGGTAGCTTGCACCGACGGCGTAGTTC
TCGGCGCGTTTGTCGTTTTGGTTGTAGTGGATGCTGCTGTCGAGGATGAAGCGGCTGCCG
ATGCTGCCGGAGGCAAATGCCACCCAGTCGGAACGGTTGCGCGGTTTTTTGCCGACGCTG
CCGTCAAGCATCACCGCATCATCCTTGAAATAGAATTTCTGACCGATGCCGGCGCGGAAA
CGCTCTTCCCCCGTCGCGCCGTCCAAAATACGGCTTTGCACGGCGGCGGAAAGGCTGTTT
GCGGTGTTAATCCTGTCGTTGCCGTAATAGAGGTTTTCGCGAAAGAGCTGCCCGTAGCCG
AAGCTGCTTTCCGACGAATCGAAATTGGGCAGGTCGTTTTGGGATTTGGCAGGAATATAG
TTGTAGAACAGGCGCGGCTCGAGGGTTTGCAGGACTTCTCCGCCGAACATCCGCGTATTC
CGCTCAAAAGTTGCGCCGCTGTCGATGTTGACAATGGGCAGAGTGCGGCTGACGCGTCGG
GCTTCTTGGCTGCCGAAGCGGTTGAGGCTGTAATAGGTGGCGTGCAGTCCGAGTTTGGGA
CGGACATAGCCCCAGCTGTTGCTGAAATCCCATTTGATGTCGGGATAGACGACCAGGCGG
CTGCCGTCTTGGCGGCTGTCGTGGCTGAATCGGGTAAATTGTGCGGACACGCCGATTTGC
GCCCTGCCGGTGTTTTTACGCCACTCGACCGAAAGGCGCGGCATGAGGGCATACGGTTTG
TCTTTGTAGCCGCTTTGGTTTGCCAGCGTCTGGTATTTCAGAACCGAAAGGCCGGCATTC
AGGCTGCCGCCCGCCGCCCTGCCGCCATAATCCAGCCATACACGGCGGTTGAGGTTGACG
TTGCCGGCGATTTCTTTGTTGCCGTAAAAGTCGCGGTAGTAGCCGCTGTCGGAGACTTGG
TTGAAATCGACACCCGCCTGAAGCGTGTCGGAAATGTCGTGCCGATGCTGCCATTTCGCC
TGATAGCGGTTATTCCTGCCGCTTTTCTTGTCGTGCGGCAGCCAGGTCAGGTCGGACTGG
CCGGCATAATCCGGCCGCAGGTAGCGTACCTGCCCGTCAAAGACCGCGCCGCGTTCGCCG
ATCACGCTGGGCGCGAACGTGGCATCGAGATTGGGGGCAAGGTTGAAATAATAGGGAACG
GAAAGGGAAACGCCGTCCGAACCGGCGGACAGTGAGGGAACAAGCAGGCCGCTTTTGCGG
TTGCCGTCAAGCGGGAAGTCCGCCCAAGGGGTGTAGAAAATGGGAACGCCGCCGAACACG
AAGGCGGCGTGTTTGGCAACGCCTATGCCTTTTTCCCGATCGGCTTCGACAGAGGCTGCC
TTGACATACCAGCCGGCATCGCCGGCGGAACAGGTGTTGAATTGGGTTTCCGTCAGTTTG
TAATGCCCTTCGCCCAACATTTCGGCGGTGCGGCTGACGCTTTGCAGCCGCCGTCCGCCT
TGTTCGATTTCCATGCGGACGTTGTGCGCTTCCCCGGTCTGCTGCTCGAGATTGTAGGTC
AGGGTTTCGCCCCGAATCAGCGTACCGTCCTGTTGGAGGGCGAACCGGTCGCCTGCGGTA
ACGGTGTCGCCCGACTGGTCGTAATCCGCCCAATCGGTATTGAGGGTCGTCCGGTTGCGT
TCGACGACGACGTTGCCTTCGGCACGCACCTGCACCTGCGACTGTCCTTCCATCCTGTCG
GCAACAATGCGCGTATAGTCTTCGGGGATGGATGCTTCGCCGCTGCCTTGGACGGCGGCT
TCGGTTCTCTCGGGGCTGCCGCTTTCGTTACTGCAAAACAGGCAGGTCGAACCGAGGCTC
AGGCTGGTAGGCTGTATGGGTTCGGACACGCTCCGAACGCTTTCTCCGGCGGTCGGATTG
TCCGTTCCTCCGCCGCAACGGCATCGGCGGCGGCGCAATGCGTGCCGAAGCAGAGGCCC
AATGCCAGCACCAGTGGTTTGAGTGAAAATAAACGAGCCAAAATCGCCCCTCAAGTCGGT
TTGCCAGTTAGAATAGCGTTTATTGTAACCTGAAATGCTTTAGTACTGTTATGCAACGAC
AAATCAAACTGAAAAATTGGCTTCAGACCGTTTATCCCGAACGGGACTTCGATCTGACTT
```

```
TTGCGGCGGCGGATGCTGATTTCCGCCGCTATTTCCGTGCAACGTTTTCAGACGGCAGCA
GTGTCGTCTGCATGGATGCACCGCCCGACAAGATGAGTGTCGCACCTTATTTGAAAGTGC
AGAAACTGTTTGACATGGTCAATGTGCCGCAGGTATTGCACGCGGACACGGATCTGGGGT
TTGTGGTATTGAACGACTTGGGCAATACGACGTTTTTGACCGCAATGCTTCAGGAACAGG
GCGAAACGGCGCACAAAGCCCTGCTTTTGGAGGCAATCGGCGAGTTGGTCGAATTGCAGA
AGGCGAGCCGTGAAGGGGTTTTGCCCGAATATGACCGTGAAACGATGTTGCGCGAAATCA
ACCTGTTCCCGGAATGGTTTGTCGCAAAAGAATTGGGGCGCGAATTAACATTCAAACAAC
GCCAACTTTGGCAGCAAACCGTCGATACGCTGCTGCCGCCCCTGTTGGCGCAGCCCAAAG
TCTATGTGCACCGCGACTTTATCGTCCGCAACCTGATGCTGACGCGCGGCAGGCCGGGCG
TTTTAGACTTCCAAGACGCGCTTTACGGCCCGATTTCCTACGATTTGGTGTCGCTGTTGC
GCGATGCCTTTATCGAATGGGAAGAAGAATTTGTCTTGGACTTGGTTATCCGCTACTGGG
AAAAGGCGCGGGCTGCCGGCTTGCCCGTCCCCGAAGCGTTTGACGAGTTTTACCGCTGGT
TCGAATGGATGGGCGTGCAGCGGCACTTGAAGGTTGCAGGCATCTTCGCACGCCTGTACT
ACCGCGACGGCAAAGACAAATACCGTCCGGAAATCCCGCGTTTCTTAAACTATCTGCGCC
GCGTATCGCGCCGTTATGCCGAACTCGCCCCGCTCTACGCGCTCTTGGTCGAACTGGTCG
GCGATGAAGAACTGGAAACGGGCTTTACGTTTTAAACCCAATCAAAATGCCGTCTGAAAA
CCAAGTTTCAGACGGCATTTTTCAAACGGGCTTACTGCGCGGCTTTTTGTTCTTCGCGTA
CTTTGTCCGCCAAAAGGTCGATGGTGTTCATACCGGACTCCCAGTCGGCAAATTCAACTT
TATATTTACCGCCGACGATAACCGTGGGCGTACCGTCGATTTGGAAGGTTTCGGTCAGCT
CCTGCATTTTGTCGGCGCGCGCCTGGCTTTCGGGGGACTCGTAGGCGGCAAGGACTTTTT
TGCCGTCAAAGGCGGTTTGTTCGCCCAGCCATTTTTTGAGGACTTCCGGATTTTGCAGCT
TGATTTTTTGGTTGACCATCGCATCGAAAATATGGCTGTTCGCCACATCTTTGCTGTCGG
CGGCAGCCATATCGACGGCGGCGGCGAGGCGTGCCAGCGTCAGCATTTCTTTCTGCCAGA
CGACGTGTTCGGTACGCAGGTACATATCGTCTTTAAAAGACTTGGCGTGTTTGCTTAAAA
CAGGTTCGAGGTGGGCGCAGTGCGGACAGAAATAGCCGAAAAACTCAAGGACTTCGACTT
TGCCTGCCTGCTGTTGGGGAATCGGGTTGGCAAGGACGGTATAGTTTTGCCCTTCGACCA
GCCCTGCCGGGGCGGCGGCTGCCGAAGCGGCAGGCCGCGCTGTCGGCGGGGACGCTGGTTT
GGACTTTGCTGTCGCACGCGCGGCAAGGGCGAACAGGGCGGCAACGCCGAGGGCAAGGTGTC
TGGATTTCATACGGTTCTCCGTGATGTTGGAAACAGATGTTGGAAATCAATCGGAATCCG
GCTATTTTATTGCATTTCCGCGTATTGATACAGTTTGCCGCCGGAAAAAGGACGTTTTCGT
TTCAGGAAACCGCTTCAGACGGCATCAAACCCGATGCCGTCTGAAGCGGTTTCTGTCGTA
CAATACGCGCCGTTGCCCCAGACGGGTACGACTGTTGAGGAACAATGATGAATATGCTGG
GAGCTTTGGCAAAAGTCGGCAGCCTGACGATGGTGTCGCGCGTTTTGGGATTTGTGCGCG
ATACGGTCATTGCGCGGGCATTCGGCGCGGGTATGGCGACGGATGCGTTTTTTGTCGCGT
TCAAACTGCCCAACCTGCTTCGCCGCGTGTTTGCGGAGGGGGCGTTTGCCCAAGCGTTTG
TGCCGATTTTGGCGGAATACAAGGAAACGCGTTCAAAAGAGGCGGCGGAGGCTTTTATCC
GCCATGTGGCGGGGATGCTGTCGTTTGTACTGGTTATCGTTACCGCGCTGGGCATACTTG
CCGCGCCTTGGGTGATTTATGTTTCCGCACCCGGTTTTGCCCAAGATGCCGACAAATTTC
AGCTCTCCATCGATTTGCTGCGGATTACGTTTCCTTATATATTATTGATTTCCCTGTCTT
CATTTGTCGGCTCGGTACTCAATTCTTATCATAAGTTCGGCATTCCGGCGTTTACGCCCA
CGTTTCTGAACGTGTCGTTTATCGTATTCGCGCTGTTTTTCGTGCCGTATTTCGATCCGC
CCGTTACCGCGCTGGCGTGGGCGGTCTTTGTCGGCGGCATTTTGCAACTCGGCTTCCAAC
TGCCCTGGCTGGCGAAACTGGGCTTTTTGAAACTGCCCAAACTGAGTTTCAAAGATGCGG
CGGTCAACCGCGTGATGAAACAGATGGCGCCTGCGATTTTGGGCGTGAGCGTGGCGCAGG
TTTCTTTGGTGATCAACACGATTTTCGCGTCTTATCTGCAATCGGGCAGCGTTTCATGGA
TGTATTACGCCGACCGCATGATGGAGCTGCCCAGCGGCGTGCTGGGGGCGGCACTCGGTA
CGATTTTGCTGCCGACTTTGTCCAAACACTCGGCAAACCAAGATACGGAACAGTTTTCCG
CCCTGCTCGACTGGGGGTTTGCGCCTGTGCATGCTGCTGACGCTGCCGGCGGCGGTCGGAC
TGGCGGTGTTGTCGTTCCCGCTGGTGGCGACGCTGTTTATGTACCGCGAATTTACGCTGT
TTGACGCGCAGATGACGCAACACGCGCTGATTGCCTATTCTTTCGGTTTAATCGGCTTAA
TCATGATTAAAGTGTTGGCACCCGGCTTCTATGCGCGGCAAAACATCAAAACGCCCGTCA
AAATCGCCATCTTCACGCTCATCTGCACGCAGTTGATGAACCTTGCCTTTATCGGCCCAC
TGAAACACGTCGGACTTTCGCTTGCCATCGGTCTGGGCGCGTGTATCAATGCCGGATTGT
TGTTTTACCTGTTGCGCAGACACGGTATTTACCAACCTGGCAAGGGTTGGGCAGCGTTCT
TAGCAAAAATGCTGCTCTCGCTCGCCGTGATGTGCGGCGGACTGTGGGCAGCGCAGGCTT
ACCTGCCGTTTGAATGGGCGCACGCCGGCGGAATGCGGAAAGCGGGGCAGCTCTGCATCC
TGATTGCCGTCGGCGGCGGACTGTATTTCGCATCACTGGCGGCTTTGGGCTTCCGTCCGC
```

```
GCCATTTCAAACGCGTGGAAAACTGACCGATGCCGATATCCTTTTTCGGCAAACGCTTTT
CCACGCCTATATTCGGGCGCGCATCCCCCACGTCCGCACCAGCCGGACGGGCTGCCGCAT
CATCAATGCCGTCTGAAAACAAGAAAACCGATACCTTATGATTTTAACACCGCCGGACAC
GCCCTTTTTCCTCCGCAACGGCAATGCCGACACGATTGCCGCCAAATTCCTGCAACGCCC
CGCGCCCGCATACCGCCGAGAGCTGCTTCCCGACAGCACGGGTAAAACCAAAGTCGCCTA
CGACTTTTCAGACGGCATTTCGCCCGATGCGCCGCTGGTCGTGCTGTTTCACGGTTTGGA
AGGAAGCAGCCGCAGCCATTACGCGGTCGAACTGATGCTTGCGGTACGCGATCGGGGTTG
GCACGGCGTAGTCGTCCATTTCCGCAGCTGCGGCGGCATTGCCAACACCGCTCCGGTGTT
CTACCACTTGGGCGATACCGCCGAAATCGCCTTTACTTTGGACACGTTCGCCGCGCGTTA
CCGTGAAATATACGCCGTCGGCGTATCGCTGGGCGGCAACGCGCTGGCAAAATATTTGGG
CGAACAGGGCAAAAAGGCATTGCCGCAAGCCGCTGCCGTCATCTCCGCCCCCGTCGATGC
AGAGGCGGCAGGCAGACGCTTCGACAGCGGCATCACGCGGCTGCTCTACACGCGCTACTT
CCTCCGCACCCTGATACCCAAAGCAAAATCGCTCCAAGGTTTTCAGACGGCATTTGCCGC
AGGGTGCAAAACACTGGGCGAGTTTGACGACCGCTTCACCGCACCGCTGCACGGCTTTGC
CGACCGGCACGACTACTACCGCCAAACTTCCTGCAAACCGCTGCTCAAACACGTTGCCAA
ACCGCTGCTCCTGCTCAATGCCGTCAACGACCCCTTCCTGCCGCCCGAAGCCCTGCCCCG
CGCAGACGAAGTATCCGAAGCCGTTACCCTGTTCCAGCCGGCATATGGTGGTCATGTCGG
CTTTGTCAGCAGCACCGGCGGCAGGCTGCACCTGCAATGGCTGCCGCAGACCGTCCTGTC
CTATTTCGACAGCTTCCGCACAAACAGGCGTTAACGGTTTGATGCTAATATTCCCCCTTT
CCCCAGACGAATACGGAACCCGACATGACCGACATCCTCAATAAAATCCTTGCCACCAAA
GCACAGGAAGTTGCCGCTCAAAAAGCCGCCGTCAACGCCGAACACATCCGCACACTTGCC
GCAGAAGCCGCGCCCGTCCGCAGCTTCATCGATTCGATACGCGGCAAACACCGCCTAAAC
CTGCCCGCCGTCATAGCCGAAATCAAAAAGGCAAGCCCGAGCAAAGGGTTAATCCGTCCG
GACTTCCGCCCTGCCGAGATTGCACGCGCCTATGAAAACGCCGGGAGCGGCGTGTTTGTCC
GTACTGACCGACGAACCCTATTTCCAAGGTTCGCCCGAATACCTCAAACAGGCGCGCGAA
GCCGTATCGCTGCCCGTGCTGCGCAAAGACTTCATCATCGACGAATACCAGGTTTATCAG
GCGCGCGCATGGGGGGCGGATGCCGTCCTGCTGATTGCCGCAGCACTGGAACAGGAACAA
TTGGAACGCTTTGAAGCGGTGGCGCACGAATTGGGCATGACCGTCCTACTCGAGCTGCAC
GACGAAACCGAATTGGAAAAATGCCGCAACCTGACCACGCCGCTGTGGGGCGTAAACAAC
CGCAACCTGAGGACTTTTGAAGTCTCCCTCGACCAAACCCTGTCGCTGCTGCCCGCGCTG
GAAGGCAAAACCGTCGTTACCGAAAGCGGCATTACAGGCAAGGCGGATGTGGAATTTATG
CAATCGCGCGGCGTGCATACCTTCCTGATCGGCGAAACGTTTATGCGTGCCGACGATATT
GAAGCAGAAGTGGGCAAACTATTCTAAATCCCGATTTCAGACGGCATATTGCCGCCGACC
GATCAACACCCTTACCGAGCACGGAACCATCATGCACCGACCGACCGCCAAACAGATTCT
GCACGAAGTATTTGGTTATCCCGAATTTCGCGGCAGGCAGGAGGCTGTCATCAATACTTT
GGCAGGCGGCGGGAGTTTGACGGTGCTGATGCCGACGGGCGGTGGCAAGTCTTTGTGTTA
CCAGATTCCCGCGCTGATGCGCGAAGGCGTGGCGGTTGTCGTATCGCCGCTGATTGCGCT
GATGAACGACCAAGTGGCAAACCTGCACGCCGCCGGCATCGAAGCGGCGGCAGTCAACAG
CGGCACATCGGCAGACGAGGCGCGCGAGATTGCCGACCGGCTTGCCCAAGGCCGTCTGAA
GCTGCTTTATGTCGCGCCGGAACGCTTGGTTACCGACCGCTTTTTGCGTTTTCTCGACCA
ACAAACCGTCAGTCTGTTTGCCATTGATGAGGCGCATTGCGTCAGCCAATGGGGACACGA
TTTCCGCCCTGAATATCAACAGCTCGGCATGCTTGCCGAACGCTATCCGAACGTCCCGCG
CATCGCTCTGACCGCTACCGCCGATGCCGCCACGCGCGCCGACATCAAGCATTATCTGCA
CTTGGACGATGCGCCCGAATTTGTCTCCAGCTTTGACCGTCCGAATATTTATTATCAGGT
TATCGAAAAAAACAACGGCAAAAAACAATTGCTGGATTTCATCCGCAAAGAAATGACGGG
GCAAAGCGGCATTGTGTATTGCCCTAAGCCGCAAAAAGGTGGAAGATGTGGCGCAGTTTTT
GCGTGAAAACGGATTAAACGCGATTCCGTATCATGCTGGTTTGAGCATGGACGTACGCGA
GGAAAACCAACGCCGCTTTACGCATGAAGACAATATTATCGTGGTGGCGACCGTGGCGTT
CGGCATGGGCATAGACAAACCCGACGTGCGCTTTGTCGCCCATCTCGATATGCCCCAGAG
TGTCGAACATTTCTATCAAGAATCGGGGCGCGCCGGACGGGACGGGCTGCCGGCCGCAAG
CTGGCTGTGTTACGGTTTGAACGATTGGGTGTTGCTGCGCGAACGGATTGCCGAAGGCAA
CAGCGACGAGGTGCAAAAGCAAATCGAAATGCAAAAACTCGATGCCATGCTTGCCGTCTG
CGAAACCGCCGCCTGCCGCCGCGTACTGCTGCTCAAACATTTCGGCGAAGCATCCGAACC
CTGCCGGCCATTGCGACAACTGCCTGCATCCGCCCGTACGGTTTGACGGCACGGTGTTGGT
GCAAAAATTACTCAGCTGCGTGTACCGCGCCGGACAACGTTTTGCCGCCGGTTACATCAC
CAACATTTTACGAGGTAAAAGCGACGATTGGATACGCGGCAACCGGCACGAACAACTGTC
CACATTCGGCATCGGTACGGAGTTGTCCGACAAAGAATGGCGCAGCGTCATCCGCCAGTG
```

```
      TATCAGCCTCGGCTACCTCACCGTCAACATTACCCGATATCAGGCATTGCAACTGACCGA
      AGCCGCCAAAAAAGTCCTCAAAGGCGAAACCGAAGTGATGCTGCGTCCGCTCAAGCGCGA
      CAAGCCCGCCGCCCGCACCCTCAAAGACAACTGGCTGCGTACCGAACGCGAAGAACGCCT
      GTGGCAGGCATTGCGCGTTTGGCGTATGAAACAGGCAGAAGCCGAAGGCATCCCCGCCTA
5     TATGATTTTCGGCGACAAAACCCTGCGCGACCTTGTCGAAAAAATGCCGCAAGACCTCAA
      CGGTCTGCACGACATCTACGGTTTGGGCGAAGCCAAAATCGACCGTTTCGGACACGGCAT
      CCTCGAAGTCTGCCGCAACGCCGCCGGCTTCAGCCGCGACGCGGTCATCCGTCCGCAAAC
      CGAACGCGAACAACAACTGCGTCAAAAACTCGAAGCCTGGCGGTATGAACAGGCAAGGGC
      GGAAAACTGCGCCCTGCATGCCGTCCTCTCCGACGAAAGCCTTGCCGATATGCTTGCCGA
10    TACGCCCGAAACCGAAACCGACCTCGAAGGCGTGTACGGCTTGGGCAGCGTACGCGCCGC
      CAAATACGGACGGGACATCCTCGCCGTCTGCCGTCCGTTTTCAGACGGCATCGATGAAAC
      CGCCAAACGCAAACGCCGCCTGATGCGCGCCCTGATCCAATGGTGCGGCGAAACGGCAAA
      ACACGAACAGTCCGAACCCTACCGCATTCTCAGCAAAGCCGCACTGCGCGCCATTGCCGC
      CAAACAGCCGGAAGGCTTGGCGGAGCTTGCCGCCGTATACGGCGTAGGCGAAGAAAAAGC
15    CGCACGTTACGGTGCGGCGGTGTTGGCGGTATTGGAACGAAATGCCGTCTGAAGCCCGTT
      ACCAAGTTTCAGACGGCATTGCCTCTATTTAAAAATTCCTGTTTTTATAGTGGATTAACA
      AAAATCAGGACAAGGCGGCGAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTG
      GTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGG
      TTTTTGTTAATCCACTATCATATAGATTTTTATGCCATTTGGTCAGAAACAGCGAAGACA
20    GGCAGGGAAACGCCTTCAGTTCCATCGCGTCTTCAAAATCATCCCAAACATCGCTCAAAT
      TCTGTTTGGATATGCCGTATTCCCGTCCGGCAAACATCACGGTCTTTTTGCTTTTGGCGG
      CTTTTTTGAATGCCTTTCTCTGTTTTTCGGGTATCTGCTGCCATCTCAACTGACGGTACA
      CGTCGTAGCCGTCGCCCCAAAAAGAGGCATACCGTTGCGTGTCTTCGCCGACCAGCGGCG
      CGGTATTCCCAACCCGTACATATCCCGTCGGCACGACGGCACTTGCCTTATACATGTGCA
25    GACCGCGTTCCCAATACATATTCAATTGAATCGCTCATAAATTTTTGCTCCAAAATTTAA
      AGTTTTACTATAGTAGAAATAAATATCAAAACTGAAAATATTACTGAAAAAATTTtATAT
      TGTTTAACTTTTCTTTTATACGAATTCGCCTTTGTTGAAATTAATTGATAATCAAACCAG
      CAAGAAATAATTCCATAATAAAACATTCCAATCCAATAATAAAATTCAGGTCTCTTAGAA
      TTAGTAAAAATTTTAAATCCATAATCTCTTTCAAAAGTAGCTATTATACAAGTAAACAAT
30    ATCACCAACCCTAAACAGTCCAACATAAAAATATAGTTTAATTTTTTGTTCATACAATAT
      TTCCAATATTATTCTTTAAGTCTTTGTAAAGCGATTTCAAATCCGCCAGCTCCTCCGCCC
      CAAGCGGTTTGTTGCCCTGCCAGTCCAAAGCCAGCAGGGTCGCATGTGTTTTTTTTGCCA
      CCGTGTTCTTCAACTCGGGTAACCTGGCAGGCAGTGTACTGCTTCAGTCTGATGTTATAG
      ACGCAATATACGTCTCCGGCATCAGCATATAGTGGATTAACAAAAATCAGGACAAGGCGG
35    CGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAG
      AGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCTGTACTGGTTTAAATTTAATTCACT
      ATACATCGGCATTTCCTTTATTTCTGTCGGTTTTCACAGACAAATGCCGTCTGAAACCTG
      GAAACGGCTTCAGACGGCATCTGCACATCATCTCTTCGGAAAAAACTGCACCACGTTCTC
      CCCTTGCGGCAGCATCAGTTTTTTCACGGCGTGTCCGTACACCGTTTCCAGCGTAATGCC
40    CAAACCGCCTTCCCGCTCAAATATTGTCCCGACACACGAACGCGCGGCGTTTTCATCGTT
      CCACGCCATCGCCCGCCAAACGCCCAGCGTGTCCATATCCGCCCAAAACGTTTCCGCCTT
      TTTGTAATCCAACACCAGCTTCGCCGTATCGGTAACGGGGTCGTAAAAGCCGTTTTCAGC
      AAGCATATCGCCCAAGTCGTGCATATCAGGGAAAAGCGCGCTGCGGCTTTCAATGCCGTT
      TTCTTTCAGACGGCATTTCAGTTCCGCCAAGGTATCTCGCCCGAAGCAGGTAAAAAACAG
45    CAGCCCGTCCGTCTTCAAGGCGCGCGCCCAGTTGTGCAGCACAGGAAGGATTTGTTCCGC
      CGCCAACAGTCCGAGATTCGACCACAACATATCGGCACACGCTTCGGGCAGCGGCGCGAT
      CGGGGATTGGCAGTGTTGCACCACGCCCTTACCCGTAAACCTTTGCCAAAAACCGCCTTT
      GCGGGCGGCAGCGGCAGCCGCCAAAAAATCCGCACGGGAATCGTATTCTTCAAATACCGC
      CTGCGGATAGCGTTTCGCCAGCAGGCTGCGGCTGATGTCCGCATCCGCACCGGCAAGCAG
50    GATATGCTTGGGCGCGTTGCGGACGAGTGTCAGCCGTTGGTCGGTATGTTCGGCAAGATG
      GCGGTGAACCTGCCAGCGTGCGTCCTGATGGTTCATCTCAAACCCCCTTCAACAAAGTCG
      CGGTACAGCGCGGCAAACGCTTCCGCATGGCTCAAAAACGGCGCATGCGCCGCCTTTTCC
      ATCACAACCAACCTGCTGCCCTTCAAACGGCGGTGCAGATATTCACCCATACGCGGCGGC
      GTAATCGCGTCTTTGCCGCCGAACACCAGCAGTACCGGAACATCTATCTTGTCCAACAAA
55    TGCCGCGCATCCGCCCTTTCCGCCGCGTCCAACGCCTCCTGCAAGGCTTGAGGCGTGCCG
      CAGCGCGCCAAATCGGGCAGGATTCTGCCTATGATTCCGTCCGCATCAGGCGTGTGCAGA
      AGCTGTAATTGTAGAAACTGTTTGATATGTTTGGCATAATCCGAACGGAACGCACCGACC
```

```
ATTTTGCCCAATGCAGGCGCGGCAAGCCCTTCGGGATAGTCTTCGTCAGCCGTCAGCCGT
GCGAAACTCGCCGTCAGGCAGAGCGAACGGACTTTGTCGGGATGGCGCGCCGCCAGATAC
AGCGCGACCAATCCGCCGAGCGACCAGCCGAGAATGTCGGCCGGAGCGTCAATTTGAGCG
GCAATGCCGTCGGCCGCAGCCGCAATGTCGAAAGGTCGGACAAACGGAGCGTCCCCGTGT
CCGGGCAAATCGACGGCGGACACCGGCCACGTTGCAGGCAGGCGCGGCATCAAATCGTCG
AACATGTGGCGGTTCGCCCCCCAACCGTGTATCAGGTAAACTTTTTTGACGGCATCAGGC
ATGGATTTTCTCTCTCGTTGGCGGCGCATCGCAGACGCGCCCACTATCAGGCGTTGCGTA
TTATGCCACGGTTCGTCTGGCGTTTCAGACGGCATCTGCGCCGGCTGCCGCGACGATTTG
GCGGCATACCGCACCGACGCGGCAAACAGCTGCCCCCTGTGTTTCAGACACATCCAAGGC
GGATCGGTGTGCGGCGGCTGTCAGAAAAAACCGCCCGCATTCGACCGGATGTGGGCTTCG
CTGCATTACGAACCGCCCGTCAGCAATATGATACACGCGCTGAAGCACTTGGCTGATTTG
AGCATGGTGCAGCCGCTGGCAGACCTGATGATGCAGAATCCGCCCGACCGGCTTGCAGAC
GAATGTTTCGATTTCGTCCTGCCCGTACCGCTAAGCAGGGAGCGGCTGCTGCAACGCGGG
TTCAACCAAAGTGAAAGCATCGTCGGGCTGCTGGCACAACGCTACGGCTGGCAGATACTG
CCCCGACACACCGTTTTCCGACACCACCGCCCGCCGCAAAGCACGCTCAAAGGCGGCGAA
CGGCGGCGAAACATCAAAAACGCCTTTGAAATCCGCACACCGATACCGGAAAACTGTAAT
ATTCTGTTAATCGACGATGTCTTTACCACCGGCGCGACGCTGGACGAATTGGCAAAGACG
CTGAAAAAATCGGGCGCAAACCGAATCTGCTGCTGGACGCTGGCACGCACGCCAATGAAA
AAATAACTAAATTTTTTGACACCCCATCCGCCTTGTGGCAAGGTTACGCGCCTATAAGTG
ATTGATATTTATGTTTACCATCGTTTTATACCAGCCGGAAATCCCGCCGAACACGGGCAA
CATCATCCGCCTGTGCGCCAATACCGGCGCGGATTTGCACCTTGTCAAACCGCTCGGCTT
CCCATTGGATTCCGCCAAAATGAAACGCGCCGGGCTCGACTACCACGAGTTCGCCAGCCT
GACGGTGCACGAAAACTTCGACGACTGCCTCAAGGCACTCGCAGGCAGGCGCATTTTCGC
CCTGACCACCAAAGGCACGGCGCGCCCCGATGAAACCGCGTTTCAAAAAGGCGACGTTTT
ACTGTTCGGGCCGGAAACGCGCGGACTGCCTGCCGACATCCTCGACAGCCTGCCCGCCGC
GCAAAAAATCCGCCTGCCGATGCAGCCCGGCAGCCGGAGTATGAACCTTTCCAACACCGT
CGCCGTGATTCTCTTTGAAGCGTGGCGGCAACACGGTTACGCAGGCGGCGTTTGAACGCA
GGTTCATGCCGTCTGAAAACCTATCCGGACACATTCCGAACCGCCGTCCGCACTGTACGG
CGGTTCGGAACGTATCCGGCGGGCATGATGCCCATTCGTCTTCAACTCAAGAACGGAACA
CGTTTTGACTTTAACCCGAAAAACCCTTTTCCTTCTCACCGCCGCATTCGGCACACACTC
CCTTCAGACGGCATCCGCCGACGCAGTGGTCAAGGCAGAAAAACTGCACGCCTCCGCCAA
CCGCAGCTACAAAGTCGCCGGAAAACGCTACACGCCGAAAAACCAAGTCGCCGAATTCAC
GCAAACCGGCAACGCCTCGTGGTACGGCGGCAGGTTTCACGGGCGCAAAACTTCCGGCGG
AGAACGATACGATATGAACGCCTTTACCGCCGCCCACAAAACCCTGCCCATCCCCAGCTA
TGTGCGCGTAACCAATACCAAAAACGGCAAAAGCGTCATCGTCCGCGTCAACGACCGCGG
CCCCTTCCACGGCAACCGCATCATCGACGTATCCAAAGCCGCCGCGCAAAAATTGGGCTT
TGTCAACCAAGGGACGGCACACGTCAAAATCGAACAAATCGTCCCGGGCCAATCCGCACC
GGTTGCCGAAAACAAAGACATCTTTATCGACTTGAAATCTTTCGGTACGGAACACGAAGC
ACAAGCCTATCTGAACCAAGCCGCCCAAAACTTCGCCGTTTCGTCATCGGGTACGAACCT
CTCGGTTGAAAAACGCCGTTACGAATACGTCGTCAAAATGGGACCGTTTACCTCGCAGGA
ACGCGCCGCCGAAGCCGAAGCTCAGGCGCGCGGTATGGTTCGGGCGGTATTGACCGCCGG
CTGACGGTTATTTGATACCTTATTAATATCCACATTTTCCAACCCACGATTTACAAAGGC
AAAATATGAACATCAAACACCTTCTCTTGACCTCCGCCGCAACCGCACTGCTGAGCATTT
CCGCCCCCGCGCTCGCCCACCACGACGGACACGGCGATGACGACCACGGACACGCCGCAC
ACCAACACAACAAACAAGACAAAATCATCAGCCGCGCCCAAGCCGAAAAAGCAGCGTTGG
CGCGTGTCGGCGGCAAAATCACCGACATCGATCTCGAACACGACAACGGCCGTCCGCACT
ATGATGTCGAAATCGTCAAAAACGGACAGGAATACAAAGTCGTTGTCGATGCCCGTACCG
GCCGCGTGATTTCCTCCCGCCGCGACGACTGAATTTGATACAATCCGTGCCGTCTGAAGC
CCAAACCGGTTTCAGACGGCATTTTGCACCCGACACTTCAGGATTCGGCACACATGATCA
GCAGACTGACCGGCAAACTGGTTGAAAAAAACCCTCCGCAAATCGTCATCGATGTCAACG
GTGTCGGCTATGAGGCCGACGTATCGATGCAGACCTTCTACAACCTGCCGCCCGTGGGTG
AAAGCGTACAACTGTTTACCCAGCTTATCATTCGGGAAGACGCACATCTTTTATTTGGTT
TTGCCACTGCGGAAGAACGCAAGACCTTCCGCCAACTGATCAAGGTCGGCGGCATCGGCG
CGAAAACGGCTTTGGGCATTTTGTCGGCAATGACTGCCGACGAACTGGCGCGGGCGGTTG
CAGAAGAAGATGTCAAACGCCTCTCCTCCGCCCCGGGAATCGGCAAAAAAACCGCCGAAC
GTATGGTTTTGGAACTGCGCGGCAAGCTGGTCGCGCATACGGTAACGGACGGGCTGTTTG
CCGCCGCACCCGCCGCCGACGAAACGGAAGACATCGTCAGCACGCTGCTTGCGCTGGGTT
```

-185-

```
       ACAGCGAACGCGAAGCAAAAGCGGCGGTCAAAGGCGTTCCGGAGGGGACGGACGTGGGCG
       AAGGCGTGCGCCTTGCTTTGAAAAACCTGCTGAAATAATGCCGCCTGAAGGCGGCGCGGC
       GTTTGCCCTGACGAAACCCTGCGTTTCCGCCTCGCGCTGTCTTCCCGACGGCTTTTCCCG
       TAAAATGGCGTTATTGTCCTTCCTTTCAGACGGCATTGTGTTTGATGCCGTCTGAAACTG
  5    TTTTACCGAAATCGAAACAATGTTGAACAAAATATTTTCCTGGTTCGAGTCCCGAATCG
       ACCCTTATCCCGAAGCCGCCCCGAAAACGCCAGAAAAAGGCTTGTGGCGGTTTGTCTGGA
       GCAGCATGGCCGGCGTGCGGAAATGGATAGCCGCCCTGGCTGCGCTGACCGCCGGCATCG
       GCATTATGGAAGCCCTGGTTTTTCAATTTATGGGCAAAATCGTGGAGTGGCTCGGCAAAT
       ACGCGCCCGCCGAACTGTTTGCCGAAAAAGTTGGGAACTGGCGGCAATGGCGGCGATGA
  10   TGGTATTTTCGGTTGCGTGGGCGTTTGCCGCGTCCAACGTGCGCCTGCAAACCCTTCAGG
       GCGTGTTCCCCATGCGCCTGCGCTGGAACTTCCACCGCCTGATGCTGAACCAAAGCCTCG
       GTTTTTATCAGGACGAATTTGCCGGACGCGTGTCCGCCAAAGTCATGCAGACCGCGCTGG
       CGTTGCGCGACGCGGTGATGACGGTTGCCGATATGGTCGTTTATGTGTCGGTGTATTTCA
       TTACCTCCGGCGTGATTCTCGCCTCGCTCGACTCATGGCTGCTGCTGCCCTTTATCGGCT
  15   GGATTGTCGGTTTCGCTTCGGTGATGCGCCTGCTGATTCCCAAATTGGGGCAAACCGCCG
       CATGGCAGGCGGATGCCCGCTCGCTGATGACCGGCCGCATTACCGATGCCTATTCCAATA
       TCGCCACCGTCAAACTCTTCTCCCACGGCGCGCGTGAAGCCGCCTATGCCAAGCAGTCGA
       TGGAAGAATTTATGGTTACGGTGCGCGCCCAAATGCGGCTGGCGACGCTGCTGCATTCGT
       GCAGCTTCATCGTCAACACCTCCCTGACCCTCTCCACCGCCGCACTGGGCATCTGGCTCT
  20   GGCACAACGGGCAGGTCGGCGTGGGCGCGGTTGCTACAGCCACCGCCATGGCGTTGCGCG
       TCAACGGTTTGTCGCAATACATTATGTGGGAATCCGCGCGGCTGTTTGAAAACATCGGCA
       CCGTCGGCGACGGCATGGCAACCCTGTCCAAACCGCACACCATCCTCGACAAGCCCCGGG
       CACTGCCGCTGAACGTGCCGCAAGGCGCAATCAAATTTGAACACGTCGATTTCTCCTACG
       AAGCGGGCAAACCGCTGCTCAACGGCTTCAACCTCACCATCCGCCCGGGCGAAAAAGTCG
  25   GCTTGATCGGACGCAGCGGCGCGGGCAAATCCACCATCGTCAACCTGCTTTTGCGCTTCT
       ACGAACCGCAAAGCGGCACGGTTTCGATCGACGGGCAGGACATAAGCGGCGTTACCCAAG
       AATCTTTACGCGCCCAAATCGGTTTGGTCACGCAAGATACCTCGCTGCTGCACCGTTCCG
       TGCGCGACAACATTATTTACGGCCGCCCCGACGCGACCGATGCCGAAATGGTTTCTGCCG
       CCGAACGCGCCGAAGCCGCCGGCTTCATCCCCGACCTTTCCGATGCCAAAGGGCGGCGCG
  30   GCTACGACGCACACGTCGGCGAACGCGGCGTGAAACTCTCCGGCGGGCAACGCCAGCGCA
       TCGCCATCGCCCGCGTGATGCTCAAAGACGCACCGATTCTTCTTTTGGACGAAGCCACCA
       GCGCGCTCGATTCCGAAGTCGAAGCCGCCATCCAAGAAAGCCTCGACAAAATGATGGACG
       GCAAAACCGTCATCGCCATCGCCCACCGCCTCTCCACCATCGCCGCAATGGACAGGCTCG
       TCGTCCTCGACAAAGGCCGCATCATCGAAGAAGGCACACACGCCGAACTCCTCGAAAAAC
  35   GCGGGCTTTACGCCAAACTCTGGGCGCACCAGAGCGGCGGCTTCCTCAACGAACACGTCG
       AGTGGCAGCACGACTGAACCGATGCCGTCCGAACACCCGTTTTCAGACGGCATTCCCACA
       CCCAACCCCAAAGAAACCATGAACGACACCGCCCAAATTACCGCCAGCTACGGCCGCCGC
       TACATTGTCCGCACGCCCGACGGCACAACCTACGAAGCCAGCACCCGCAAAAAACGCGTC
       GATTTCGCCTGCGGCGACCGCGTCCGCATCAGCCCCGTCAACGCCGAACAAGTTGTGATT
  40   GAAGATTTTTTACCGCGCCAAAGCCTGCTCTACCGCCAAGACGCGTGGAAAACCAAACTC
       ATCGCCGCCAACGTTACCCAACTCCTCATCGTAACCGCCGCCGTCCCGAGTCCGAGCGTG
       CGGCTGCTGCAACGCGCCCTGCTTGCCGCCGAAGCCGCCGGTATTGAAGCCGTCATCGTC
       CTGAACAAAGCCGACCTGCCCGAAACCGCCCTTTGGCGCGAAAAACTCAAATTCTACGAA
       ACGCTGGGTTATCCCGTCATCGAAACCCGCGCACTGGAAAACGCCGGCAGCCTGCGCCCC
  45   GCCCTGCAAGGGCACAGCAACATCCTGCTCGGGCAGAGCGGTATGGGCAAATCCACCCTG
       ACCAACGCCCTTTTGGGCAGCCAAACCGCCCGCACCGGCGACATTTCCGCCGCACTCGAC
       TCGGGAAAACACACCACCACCCACGCCCGGCTTTATGATTTGAACGGCGAAACCCAACTC
       ATCGACTCCCCGGGTTTGCAAGAATTGGTTTACACCACCTCCAAGCCGCCGATTTGCCG
       CGCTATTTCCCCGATTTCCGCCACCTTGTCGGGCAATGCCGCTTCCACAACTGCACCCAC
  50   CGCGCCGAACCCGGCTGCGCCTTCAAAGCCGCCGCGCAAACCGGGGCGGCAAGCCCCGAA
       CGCCTCGCCTTTTTGCAGGGCATCACCGACGAACTGCCCGGGTAACGCCTTGCCGCCTGG
       GCGGAAAAAATGCCGTCTGAAGCCGGATTCGGGTTTCAGACGGCATCCGTTTTTCAAAAA
       TGCTACAATCCGCTTTTTACCGGAACATCCGAAACTATGTTCCAACACACAGGACGGCAC
       ATAAAGCACCGCCCTATGTATTGCCCTGATTTGGAAAGGGTTACACCCCTCCCAAATAAA
  55   GTCTGATCCTGCCGCCCTAAAGGGCGGGGTTTCAACCGAAAGGAAATACGATGAAGAAA
       AACGCCCCGAAATCGTTTGAAGAAGCCTTGTCGCGCCTCGAATCGCTGACGCAGTCTATG
       CAGGGCGAAATGCCCTTGGAAGACGCGCTTGCCGCCTATCAGGAAGGCAACGAACTGGTC
```

```
AGGTACTGCCAAACCAAACTGGCACAAGTCGAACAAAAGCTACAGGTTTTAGACACAGAC
GGGCTGAAGGAGTTAAACCTTGAATCCGACGAATGATTTGAAAACGTGGCAACAGAGGGC
GCAGGCGCAAACAGAGCTGCTGCTTGAACGGTTTTTACCGTCTGAGGGGGAAATACCGCA
CACACTGCACGAAGCGATGCGTTATGCGGCTTTGGACGGCGGTAAGCGTCTGCGGCCGAT
GCTGGTTCTGGCAGCTTCGGAATTAGGCGAAGCCGTGCATGAAGCAGTAGAACAGGCAAT
GGCGGCAATCGAAATGATCCACGTCTATTCTTTGGTTCACGACGATATGCCGGCGATGGA
CAACGACAGCCTGCGGCGCGGCAAACCGACTTGCCACATCAAATATGGCGAAGCGACCGC
CCTTCTGACCGGCGACGCTTTGCAGACACAGGCATTTGACGTGTTGAGCCGTCCGACAGA
ACTGCCCGCCGCACGCCAGTTGGCAATGTTGTCGGTGTTGGCGAAAGCGGGCGGCAGCAG
GGGTATGGCGGGCGGTCAGGCAATCGATTTGGCGAATGTCGGCAAACAAATGGTTCAAGC
CGATTTGGAACAGATGCACAGCCTGAAAACGGGTGCGCTAATCCGTGCGGCGGTTTTATT
GGGGGCGACGGCGTGTCCTGATCTGTCAGATGCGGAACTTTCCGTATTGGACGCTTACGC
GGCAAAACTGGGGCTGGCGTTCCAAGTCATTGACGATGTGTTGGATTGTGAAGCGGACAC
GGCGACTTTGGGCAAAACGGCGGGCAAAGACGCAGACAACGACAAGCCGACTTATGTGAA
ACTGATGGGCTTGGAAGCGGCGCGCTCATACGCACACAAACTGGTTGCCGAAGCGGTCGC
GCTGCTCGAACCCTTCGGCGACAAAGCCCTGCGCCTGCGGCAGTTGGCAGAATTTGCAGT
CGCCCGCAAATATTAAAACCGGCGTATATCGCCGGCTGAAACGTGCCGGCACAGCGATGC
CGGCCTGCACTTGAATGAAACAAATGCCGTCTGAAAGGGTTTCAGACGGCATTCCTATGC
TTGTCTATTCCCTGTTGCGCGTGTGCCAAAAATACCGCCACACAAAACATGGAAACGCAA
AAATCAGGTACAGGCAGACGACTGTGGCATAAAACTCCCAACCCTGATCGTGTACCGATC
CTGCACGGGATTCGAGGATGTAGGCAAGAACGGCGGTCAGCGCGAAACCTGCCGCCAGCT
CGATCATGTGGTGTCCGAAATGTTTGCGCTTGAGTGCGGCCACGCCGAACAGTCTGGTCG
TGAGGAAGGGGGCGTTGGCAAAGATGAGTGCCAAGACCAAAAGGATGTACATGGATGCGG
TCATGGTGGGCTTTCTGTTTAGGCGTTGTCGGCGGCGATGCCGTCTGAACCGCGTTGCGG
AACGGCATATCTTAACAAAAACGGCAGCCTCTGACACGGCTGCCGTTGCGGCGGCTTACA
GCGTGTTCTCCAACGCCTTGGCGCACCAGTCGATAACGGTTTGCGGCATGATGCCCCACA
GGAGCAGCAAGAAGGCATTGACCGTCAGAACAAATTTGGCGGCATAGTTGCTGCCGACCG
GCTGGTCATGATCAGGCACATCGAAGTAGATGACTTTGACCACGCGCAGGTAGTAGAACG
CACCAATCAGCGACATGATGACGGCAAATACAGACAACCAAACATGGCCTTGTTTCAAGA
GTGCCATAATCACGCCGAATTTGGCGTAAAAACCCATCAGCGGCGGAATGCCCGCCATAG
AGAACATAACCAGCAGCATCAAAAAGGCAAGCCATACGCGGTGTTGGTTCAACCCTGCCA
AATCGCTGATGTTTTCGCACTCGTTGTCCCCGTCCGACAACACCATCAACACTCCGAACC
CTGCCGCCGCCATCAGCGCGTAGGTAATGGCGTAATAGAGGCCCGCCGCAAAGCCGACCG
CGCCCGCCATAAACGCCAACAGGATGAAACCCATATGCGATACGGTGGAATAGGCGAACA
TACGTTTGATATTGGTCTGCATGATGGCGGCAAGGTTGCCGACCAGCAGCGAGGCGGCGG
CAAGCAGGGCAAACATCAGAGACCAGTCATGATGCACGGTTCCCAGCCCGGTAACGAGGA
TGCGGAAAGTGAAAACGACGGCGGCGATTTTCGGGGCAGTGCCGACCAAGGCGGTAACAG
AAGTGGGCGCGCCGTGATACACGTCGGGCACCCACATATGGAACGGCACCGCACCGAGTT
TGAACGCGACGGCGACGACGATAAACACCAAACCCAGTTTCAACAGCCATTCGTTGGCTT
CTTCATTGAAGGAAGAGGCGAGCACGCCGGCAAATTCCAGCGAACCGGTTGCGCCGTAAA
CCATAGAAATACCGTAGAGCAGCAGGCCGGATGCCAGCGCGCCCAAAACAAAATATTTCA
AGGCGGCTTCGGCGGCAAAGCCGGAATCGCGGCGCAGGGCAATCAGGGCGTAAAGGGCAA
GCGACAAGAGTTCCAAACCGATATAGGCAGTTAAAAAATGCCCCGCGCTCACCATCACAC
TCATACCCAACAGGGCAAACAATGACAGGGTGTAAAACTCGCCTTTAAAAATACCGCGCA
CTTGGTTGTAGGGCTTGGCATAGACAAACAGGGCAAAGGTCAAGGCATATAAAACCATTT
TTGCCAAACGCGACATACCGTCTGCAATATACATCCCGTTGAACGAAGACGTGCTGCCCT
GTTCCCACACCGCCAACTGCACCACAGCCGTAACCGCCACCGTTGCCAACGCGCCGTAAT
GCGTCCACGGGCGTTTGTCATCACTGACCCACAAGTCCGCCAGCAACAATAACACCAGCA
GCGACAGCAGCACGATTTCGGGCATGGCGGGCATTAAATTCAAATCAGACCAGTTCATTT
ACACACCTCAAATCTTGCTTTGTGCCACATGGGCAATCAAATCGTTTGCCGCCTGATGCA
CCACTTCGATAAATGCGTTCGGATACAGGCCCATACCCAAAACAGCCACCGCCAAAATTG
CCAAAATCGCAAATTCGCGGCAATTGATGTCTTGCATTTCGGCAACGTGCGGATTGTGGA
TCGCACCAAAAATAACGCGTTTGTACATCCACAGGGTATAAGATGCACCGTAAATCAGGG
TCATGGCGGCCAACGCGCCGACCCAGAAATTCACTTTGACCGCGCCCATAATCACCATAA
ACTCGCCCACGAAGCCGGAAGTCGCAGGCAAACCCGCGTTCGCCATACCGAACAGCATCA
TAAACGCCGCAAACTTGGGCATCACATTGACCACGCCGCCATAATCAGCAATATTGCGCG
TGTGCAGGCGGTCGTACATCACGCCGATACACATAAACATCGCGGCAGACACGAAACCGT
```

```
GCGAAATCATTTGAATGATTGCACCTTTCAATGCCCAGTCGTCCAACTGCCCGTCAACAA
ACAAAAACATCCCAAGCGTTACAAAACCCATATGGCTGATGGACGAATACGCCACCAGTT
TTTTCATATCGGTTTGCACCAAAGCCACCATACCGATATAAATCACGGCAATCAGACTTA
ATACGATGATCACGGGGGCAAAATAGCGTGCCGCATCCGGCATAATCGGCAGGATAAAGC
GCAAGAAACCATACGCACCCAGTTTCAGCGTAATGGCCGCCAACACCATCGAACCGCCGG
TCGGCGCTTCAACGTGGGCATCCGGCAACCAAGTGTGCACAGGGAACATCGGCACTTTTA
CGGCAAATGACAGGAAGAACGCCACAAACAAAAGCTGTTGTACGCCCAACGGAATCTGTT
CGATGTTTTGGAAATCGACAATAGAGAAGCTGCCTGTTTGATAATAAAGGTAAACCATCG
CAACCAGCATCAGGAGCGAACCCATCAGCGTGTAGAGGAAGAGCTTGACCGACGCATAGA
CGCGGCGCGGACCGCCCCATACACCGATAATCAGGTACAGCGGAATCAGCATACCCTCGA
AGAACACATAAAACAGAATCGCATCCTGCGCGGCAAACGCGCCGTTAATCAAACCCGACA
TGATCAGGAATGCCGCCATATACTGCGCCGGACGTTTCTGAATGACTTCCCAACCTGCCA
ATACCACCAACAGCGTAATAAACGCATTCAAGATGATAAAGAGCACTGAAATACCGTCCA
CGCCCAATGCGTAGTTGATTTTCAGAAGCGGAATCCACTCGTGGAACTCGGTAAATTGAT
AGCCGCCGCTCAAACGGTCGAAACCGGTAAACAGGGGCAGTGTTACCAAGAAACCGGCAA
GCGCACCCATGAAGGCGAGCACGCGGGCAAACGGCGCACGGCTGTCCGACCCCGTTGCCA
AAACCAGCACGCCTGCGGCGATGGGTATCCATATTGCCAAGCTGAGTAGGTAGTTGGAAA
ACATAGTGGTTAACCTGTGGTTAAAATAAAAATGTGTTTATGTGGATATTTCTTCGTTTC
AGACGGCCTGAAGGTTTAAGGCCGTCTGAAACCTTATTCTTATCGGAACAATCCCCAGAA
GGTCATGCCGAGCAAGACCAATACGCCGAACACCATAGCGGCGGCGTAGGTGTAGATAAA
GCCGGTTTGGGCTTTACGCACTTGCGCGGCAATCGCGCCGACCAGTTTGGCAGAGCCGTT
GACAATACCGTTGTCAATAATGGCGGTATCGCCGACTTTCCAGAAGAAAGTGCCCAATGC
GCGTGTGCCTTTGGCGAAAACGTTGAAATACAGGGCGTCGAGGTAGTATTTGTTTTCAAA
CAAAACGTAAATCGGACGGAACGTCTGTGCAATTTTCGCTGGCAGGTGCGGCAGTTTGAC
GTACAAAAGCCATGCGCTCAACACGCCTGCGATAGCAAGGTAGAGTACGGGCGAATGCAG
GCTGTGGGACACCATTGCCAATGCGCCGTGGAACTCTTCCTTCATGATGTGTATAGTCGG
ATGCGCGTCGGCGTTGACGAAAATCACGTCTTTGAAGAAATCGCCGTAGAGCATGGGTTC
GATGGCGATGTAGCCGATGATGACGGACGGAACGGCAAGCAAATCAAAGGCAGGGTAAC
CACCAACGGGCTTTCGTGCGGATTGTCGTTTTTACCCAAACCGTGATGTTCTTCGCCGTG
GCCGTCTGAATGGTGTTCGGGCAGGCTGCGCCATTTCTTCGCCGTGGAACACCATAAA
GTATTGGCGGAACGCGTAAAACGCGGTAACAAACACGCTGGCGAGGACGGCAAAATAGGC
AAAGCCGCTGCCCGGCAGTGTGCTGTATTTCGCCGCTTCGATAATCGAATCTTTGGAGTA
GAAGCCGGAGAAGAACGGCGTACCAATCAGCGACAAGTTACCGATCAGCATGGTCAGCCA
AGTAACCGGCATATATTTTTTCAGATTGCCCATATGGCGCATGTCTTGGTCGTGGTGCAT
ACCGATAATCGCGCTGCCTGCCGCCAAGAACAACAGGGCTTTAAAGAAGGCGTGGGTCAT
CACATGGAACATCGCCACGGAATAGGCAGACGCGCCCAGAGCCACGGTCATGTAGCCCAA
TTGCGACAGGGTGGAATACGCAACTACACGTTTGATGTCGTTTTGAATCACGCCCAAAAA
GCCCATAAACAGGGCGGTAATCGCGCCGATCACCATAATGACCGACAGCGCGGTGCTGCT
CATTTCATAAATCGGCGACATACGCGACACCATAAACAAACCGGCGGTAACCATGGTTGC
GGCGTGAATCAATGCAGAAATCGGGGTCGGGCCTTCCATCGAATCAGGCAGCCAGACGTG
CAGCGGGAATTGTGCCGATTTACCCATCGCACCGACAAACAGGAGCAAACAGGTTACAGT
AATCAAAGACCATTCCACACCGGGGAACAGTTGGATAGTGGCATTTTGCACGTTGGGCAG
ATAAGCGAATACATCTTGATAGCGCAAGCTGCCGCCGAAATAGGCAAGCACCAAGCCGAT
ACCGAGCAAAAGCCGAAGTCGCCGACACGGTTGATCAAAAAGGCTTTCAGGTTGGCAAA
TGTCGCGCTCGGGCGTTTGAAATAGAAACCGATCAAGAGATACGACACCAAGCCCACCGC
TTCCCAACCGAAGAAGAGCTGAATGAAGTTGTTGCTCATAATCAGCATCAACATACTGAA
TGTAAACAAAGAAATATAGCTGAAGAAGCGTTGGTAGCCGACTTTTTCATCGTGCATATA
GCCGATGGTATAGATATGCACCATCAACGACACGCCCGTTACCACGACCATCATCATCGC
CGTCATCGTATCGACCAAGAAGCCGACGGAGAAATCCAAGCCGCCCATTGTCAGCCAGGT
ATAGACATTCTCGTCAAACTTGGCGCGGCTGCCGTCAATAAAGCCCCACAGCACATAAGC
CGACAGCACGGCGGACACCGCCACGCCGAGTATCGTAACCGTATGCGCACCGGCACGTCC
GATTTGTTGCCGAACAAACCCGCAATCAGCGAGCCTGCCAACGGAACAAGGGCAATTAT
CAAATATAAAGTCATATCGTTCATTTGATTGAATCCGATTGATTTAAAAATCTATGTTTG
TTTCGTACAAAATTACTTCGGAAAAACAAATCCAACACGCTCCAATCGTTTGCGTGCCAC
AGCTAATTGCTCTTCAGTAAATAAATCACACCACGGCTTTTGTAACACCAGATATTCCAT
ACTGTATTTCAAGGCGTGGACTCCGCCACCACTCAAAATCAGCTCTGTAAAACCGGTCTG
AGTCTTCTTTTCCCCCGTACTCAATAATTTATCCGCCGCCTCTTTACCACCAAATTCATT
```

-188-

```
TACAATTTGTAAAAATCGTGTCGCCTTGTAAGGTTGCGGCAAATTCAAAGCCTCCTGATA
AATATTTAACATGGCTTTATGAAATTCTTGTTCTAACTGATTTTTATCCATCATTCTTCT
TCCAATATTTCAGACCGGATTATTCTTACCCAGAATTTCTTTTCTCATCCGCTCCCGTCT
GATCACCTACCGAATCAGGTCGTCTGAAACAGTCTGAAATCGCTTTTCAGACGACCCTCA
GCCTTTTTCATACCCTTCGTAATAATACGACTGCTCGATACCTTTAAAGATGATTTCACG
GTTGTCCACATCGTCAGTCAGGTTGTCCTTTAACAGAAAGCGCAGTTCTAAATCGTTGAC
GGGGCTGCGTTCCATCGCCTGCAAATACAGGGTTTTACTTACATTTTGCCAGTTCACGAC
TTTTTTCAGGTTTTTTTTCAGCACCAAATCCAGCCAGATGCGGGTACTTCTGCCATTACC
CTCCAAAAACGGATGGGCAATGTTCATTTCAACATATTTGGCGATGATTTCTTCAAAAGT
CCGCTCGGGCATCTGCTCGATTTTAACCAAAGCCTCTTTTAAATACATGGCGTTGGCAAA
ACGAAAACCGCCTTTGGAAATGTTGTCTTCCCTGATTTGACCCGCAAAATCATATAAGCC
GCCGAACAGGTAACGGTGAATCTGTTGCAGGCCCGCGGTGGTACCGACTTCGATACGGTC
GATGTCGCCGCTTTCAAACAGGCGGCGGGCATTATGCAGGCTTTGTTCGTCTATGGATTT
CATCGTTTTTCCTATCGGGTTTTCAGACGGCATCGGTGTCTTGTCAGGTCTCGACCCAAC
CTACCTTTACCCTTTCAACTCGTCCAAATCGGCAACGTTGATTGTTTGTCGGTTGCGGTA
CACCAGCACCATAATCGCCAAACCGATGGCAGATTCGGCAGCGGCAACGGTCAATACGAA
GAATACGAAAATTTGTCCGGCAGTATCGCCCAAATGTTGCGAGAAGGCGATAAAGTTGAA
GTTCACCGCCAAAAGCATCAGCTCGATCGACATCAGCAATACCAGCACGTTTTTGCGGTT
CATAAAGATACCCATTGCGCTGATACCGAACAGGAGCGCACCCAATACCAAATAATGCGT
CAAGGTAATCATGCTTTGCCCTCCTCTTTCGGCTTGAGGTCGTCTGAAACTTCGCTTTCT
TCGGCAGATTCGACTTGCGGTTTGACCGCTTCCATTTTCACCAGACGCATACGGCCCTGG
TCGGCGCGTACTTTGACTTGGTCGGCAGGATCCATGCGTTTCGGATTAACCGTTTTACGG
TGAACCAGCGCAATCGCCGCCACCATACCCAACAACAGCAATACCGCCGCCAATTCAAAC
GGCAACAGATAGTCGGTATAAATACGGCTGCCCAAATCGCGGATATTGTTGTAATCGGCA
GGAATGTCTTTCATCAGACCAAATGCGGCAAGGTCGGTTTTCGGGTTGACCAGAATCAGG
ATCAGCGCAACCGCCAACAATGTGCCGACCACACCGGCAACAGGCGCGTGCCGCCAGAAA
CCGGCACGCATTTCTTCAATGTCGATGTTCAACATCATCACGACGAACAGGAACAACACC
ATCACGGCGCCGACGTAAACCACCACCAGCGTCACGCCCAAAAACTCAGCCTGCATCAGC
ATCCAAAGCATCGCGCTCACGCAGAAGGTCAGCACCAGATGCAAAGCGGCGTGAACAGGG
TTTTTAGCGGTGACGGTTTTGAGCGCGCCATAAAGAATTATCACTGCAAAAATATAAAAT
AAAATCAGTTGGAAAGTCATAGTCTATGCTTTCTTTATTAATCAAAAATATGGTTTCAAG
CAGTCTGAAAATCCTGGTTACGCAAACAATCAAACTTAATCAGTTGATCCATATCCGCAC
AAATCCACGTTGTCGCAATTTTGAATAACAACATTTCTATGTGATACGGTTTTGCTTGTT
TACCATAAACTTGTTTCGCCAAATCTTGTAACAACCCACAATATTGATGAAACGAAACGT
CTGGTTTCCGATAATTCGGTTTGATATCAGAAAATGAAACAATACGTTCATATTTCGGA
TTTCTAGTTCCCTATTTCTACCTTGTGGCTGAAAAAACAAATCTGCATTTGTAAATTTAA
ACAACAACCAATTCAACGAAAAAATAGCGCGTGAATCATAAATGGCGAATCGCTCACAAT
CTATAAAAGAAGCCAATTTAGATAATGATGAAATTTTCAACAAACCACTACTCAATTTTC
CCGAATTAAGTTCCGATAAAAATTGACGAATAAGCTGGCTATTTTCAGCAGATTGTTTAA
AACTTTTAATCCCACCCCATTCACGGATAATCCAATAATGCGTCTTCAAGCTATCATCAT
TTTGTAATTTTGGGGATAAATTTTCTTTTAAAAAAATATTTTGTTCAAAATTACTTAATC
CACTTGGCAACTCAATCGGACTATTTCTAGTTCTAATTTCTTCAAAATTATCTATTGGCT
CATGTTCGGCTAAATATTTCAATGCATTAATCAGTCCTTCCATATTTAAAACCTTCCAAG
AAGCCCCAAAGCATTAACGATACGGCGCGTCAGCGGCTTTGCGTTTGGCGATTTCAGCTT
CGTATTTGTCGCCAATGGCCAAAAGAATCGGCTTGGTCATGTGCAAGTCGCCTTTTTTCT
CGCCGTGGTATTCAAAAATATGGGTTTCCACAATCGCATCAGTCGGGCATGCCTCTTCGC
AGAAACCGCAGAAGATGCACTTGGTCAGGTCGATGTCGTAACGCTTGGTGCGGCGCGTAC
CGTCTTCACGTTCTTCCGATTCGATGTTAATCGCCATTGCCGGACACACTGCCTCACACA
ACTTACACGCGATACACCGCTCTTCGCCGTTCGGATACCGCCGCTGCGCGTGCAGACCGC
GGAAACGCACGGATTGCGGCGTTTTCTCTTCGGGGAAATAAATTGTGTCTTTGCGGGCGA
AAAAGTTTTTGAGCGTTACGCCCATACCTTTTACCAATTCGCCAAGCAGAAAGGTTTTTA
CTAAGTTAGCCATATTATGTTCCCTCAAAACAGGGATTTCGTTAGGTATTCAAAATCGCT
TTGTTCAGACGGCCTCAAGATGCCGTCTGAAACTTATTTCCACAAATTCAGCGGTGAAAT
CATCCACACGCCCAAAATCACGATGTAGGCGAAGCCGATCGGAATCAGCACTTTCCAGCC
CAAGCGCATGATTTGGTCGTAACGGTAGCGTGGGAAGGTGGCGCGTATCCACAGATACCA
GTACAGAACCGCCGCCATTTTCGCGAACATCCAAAATGCGGAAGGCGTACCGACAATGCC
CCAGCTTTGCGGGAAGGGAGACAGCCAGCCGCCGAGGAACATCAACGATGTCAGCGCGGC
```

```
AATCAGAATCATGAAAATGTATTCGGCAAGGAAGAACAGCGCGAATGCGAAGCCGGAATA
TTCGACGTGGTGACCGGCAACGATTTCAGACTCGCCCTCTGCCACGTCAAACGGTGCGCG
GTTGGTTTCGGCAACGGCGGAAATCAGATAGACGATGAAGATGGGGAAGAGCGGCAGCCA
GTTCCAAGAGAATACCGAACCGCCTGCGATGCCTTTTGCCTGCGCGGCAACGATGTCGGA
GAAGTTCATGCTGCCCGACACCATCACGACGCACACCAGCGCGGCACTCATGGCGATTTC
GTAGGAAATGCTTTGCGCGGAAGCACGCATTGCGCCCAAGAACGAATATTTGGAGTTGGA
AGCCCAGCCCGCGATGATCACGCCGTAAACCGACAGCGAGGTAATCATCAGGATGTACAA
AAGACCGATATTGATGTTGGTCAGCACCCATTCTTCATTGAACGGAATCACTGCCCACGC
CGCGAAAGACGGGGCAAGCGACATAATCGGGCCGATATAGAACAGGGCTTTGTTTGACAG
CTTCGGACGGGTTACTTCTTTAAACAAGAGTTTGAACACGTCGGCAAACGGCTGAATCAG
ACCCCACGGGCCGGTTACGTTCGGACCGACGCGAAGCTGCATGAAGCCGATGACTTTACG
TTCGAAATAAGTCAGGTAGGCGACGGTCAGAATCAGCGGAATCAGGATAATCACAATTTT
GACGATGACGGATACCACCAAGCCTACAGTAATACCCAAATCGCCCAGACCGAGCGTTGC
GGCAAAGAGGTTTTGGAACCATTCCTGCATAATCAAGCTCCCGCCAGTTCAATAGTGTCC
ATCAACGCACCCAGCGCGGCATTTTCGGTATGCAGCGGCAGATGCACCACGTTTTCAGGC
AGTCCGGCATCGGCTTTGACGGCAACCGATACGCTTGCGCCGTTTTGTTTGGCGACAGCG
GTTTGTCCGTCTTGCAGGCCCAAGCGTGCCAATGTATTTGGATTTACACGCGCAGCAGGC
ACGGCGGCATGGCTGGTTTCTTGCAACGGTGCGGAACGGCGCACGATAGAATCGGTGTGA
TAAATACCGACGCCGCCGACACGGACGAGGCGGTCTGAGGTCGTCTGAACGCCCTCCCCT
GTCCATGCGTTGCGGTTGTCCAGTTTGGACGGCAGGCTTTCCACATCCAGCGCGTCTTTC
AAAATCGCAGCGGTATCGTGGTATTCAAAACCTTTCAGGTCAAACAGGTTGCCCAATACG
CGCAACACTTTCCACAGCGGACGCGAATCGCCGAAGCCTTGTACCACGCCGTGGAAGGAT
TGCAGACGGCCTTCCATATTGATGAAGCTGCCTGAGGTTTCGGTAAACGGTGCAATCGGC
AACAACACGTCGCACACGTCCAGCAGCGTTTCGCTGACAAACGGCGTAAACGCCATCACG
CTTTTTGCCTGTTTCAACGCGGCTACGGCTTTTGCACCGTCCGCCGTATCGATTTCAGGC
TCAACGTTGAGCAGCAAGACTGCCTGTTTCGGCGCGTTTACCATTTCGACAACGCTCTTG
CCGGAGTTTACATTCAAGACATCCGCACCAACGCTGTTGGCGGCTTGCGGCAAAATGCCC
AGCACTGCGCCGGTCGCGTCAGCCAGCTCTTGCGCGGCGGCGTAAACCGCGGCGTAATCA
GGATGGTTTTGCACTTCCGCGCCCAAAATCACCGCTGCTTTTTCAGCATTTTTCAGGCTG
GCGGTAACGGCGTGTTCCGCATTGACAGACAGGTTTTTCAGACGGCCTGCCCACTCGTCG
GGATGTGCGGCTTCTTGAGACAGAAGCGGCATAAACAATTCTTCTTTACTGCTGGCCAAT
ACGCTCAATGCCATACGGTCTTTGGCGGCGCGGCGCAGGCGGGCAGTCAGGAGCGGCTGT
TCTTTGCGCAAGTTCGCACCGACTACCAATACGGCATCGTTGTCAGCCAAAGATTCAATG
CTTTGTCCCAACCATTGCGCACCTTTAAGGCCGTCTGAAAGACGTTTGTCTTGTTGGCGC
AAACGGGTTGCAAAGTTTTTAACACCCAAGCCGTCGGCGAGTTTCTTCGCCAGATACAGT
TCTTCAACCGTATTCATCGGGTTCGCCCAAACGCCGACTTGGTTTTGCTTGCCGTCTTTG
GCGATACATTCAATCGCGCTGCGGACATATTCCAACGCGGTTTTCCAATCCACGTCCATC
CACTCGCCGCCCTGTTTGATTTTCGGGTTTTTTCAGACGGCTTTCGTGATACAGGCCTTCG
TAGGCGAAACGGTCGCGGTCAGACAGCCAGCATTCGTTAATCGCTTCGTTTTCCAACGGC
AACACGCGGCGGACGGTATGGTCTTTGGTCTGCACAATCAGGTTGCTGCCCAAAGCATCG
TGGGCGGAAACGGATTTGCGGCGGTTCAATTCCCAAGTACGCGCGTTGAAGCGGAACGGT
TTGCTGGTCAGCGCGCCGACGGGACACAAATCAATGACGTTGCCCGACAATTCGGTTTCC
ACCGTTTTGCCGATAAAGGGCATGATTTCGGAGTGTTCGCCGCGATTCACCATCGCAATT
TCCTGCAAACCGGCGATTTCTTCAGTGAAACGAACGCAGCGGGTGCAGTGGATACAGCGG
CTCATTTCCTCGGCGGAAACCAAGGACCCCATATCTTTGCCGACGACGGAACGTTTTTCT
TCGGTGTAGCGGCTGGTGGTTTTGCCGTAGCCCACCGCCAAATCCTGCAACTGGCATTCG
CCGCCTTGGTCGCAGGTCGGACAATCAAGCGGATGGTTGATGAGCAGGAACTCCATCACG
CCTTCCTGCGCCTCTCGGGCTTTTGCCGAATGCGTACGCACAATCATGCCGTCTGTAACC
GGCGTGGCACAGGCAGGCAGGGGTTTTGGGGCTTTTTCTACGTTCACCAGACACATACGG
CAGTTGGCGGCGATGGAAAGTTTTTTGTGGTAACAGAAATGCGGAATATAAGTACCGAGC
TTGTGCGCGGCTTCAATCACCGTCGCGCCCTGCTCCACAGATACTTGTTTGCCGTCGATT
TCGATTTGTAACATGGTTCGTTCCTAGTTACGGGTATTTGATAAATAATCTTTTATGGAG
GTCGTCTGAAAAATGGGTTTCAGACGGCCTTTTGAGTTTCATTGACAATCAATACTGTTT
AAAACGTTTACTGCCACCTTGCCGTCATTCCCGCACAGGCGTGAATCCATTCTTGGGTTT
TCGGTAACTGTTTTCAAACATTGGTTTCTTAACTTTTGCGGTGATTCCCGCCGTAGCCTG
TCTGCGCGTAGGTGGGGCTGGAATAACGACAGTTTTTAAAGTTCCAGAAATAAAACTAAA
CAAACAACACGCCCGACAAGTCCAATCATTCAGTATTTTGTTCTTCAATCAGTTTAATCT
```

-190-

```
TCCATTCACGTCGCCATTTTTTCATCGTTTTTTCTTTGGCAACTGCTTCAGGCATATTCT
CAAAAAACTGATACCAAACTAAATCATGCACATCATATCGGGCAGTAAAGCCATCAATAT
TGACATGGTTTTTGTGCTGCCAAACCCTTTCCGGCAAATTCATGGTAACACCGATATAGA
GTGTTCCATTTTTACCGTTTGCCAAAATATATACGGCAGGTTGTCTAGTAAGCGGATGGT
TTCGTATTCATTTTTCCTGCAATATAAACAACAACTTTTTTAATATCATTTACAACCGTT
TTCATCTGAAAACATCTGCCTACTCCCGCCGTCATTCCCGCGTAGGCGGGAATCCATTTT
TTGAATTTCGGCAACTGCTTTTCAAATATCGGGTTCTGTAAATTCCACTATGGATTCCCG
CCTACGCGGGAATGACGGCAAAGTTAAATTTTTAGCATTTGCTTTTAACCAATATAAAA
CCAACTAAAACTATAACTCATTTATTATATTTTTAAATGACTTAAATAACTCTTTAACAG
CACGCTCATTGTCTTCATCTGTAGGCTCAAACTTTTCACACCAATTAATTATATTTACAT
CGCCATGCAATAACTCTGCATAACATCCTACTGCATCGCAACTACCACCCCGTGTCCTTG
ACGTGCCAAAAATAAAATCACAATTATGCGAATAAAGTTTGTATAAATTTCCCCTAACCT
CGTATTCATTATCACCAGATGAATAAAAACCAATTCTCTGACCTTCATGATCAAATACTG
CAACAAATCTAAGCCGTTTCCATGTCTTTCAAAAAAGACTAGAAATTTAGAAAATTTCC
GACAAATCTGATTAAAAAGCGTATTGAGTGTCGTACTCTTACCTTTGTTGGCTGCACCGT
ATAGAATAAAAATTTTAGCTTCCACCATTACCACCCTCCCCACTTATGCTCTTTCATCGG
CCCGCCGTGTTCGATGTAATGCACAAACTCATCACGGAAATGCTTGGTAAAGCTGCGGAC
GGGGAAGACGGCAGCATCGGCGAGGGCGCAGATGGTGCGGCCTGCCATTTGGTTGCCGAC
GGAATCCAGCAAATCCAAATCTTCCATTTTACCTTTGCCTTCTACGATGCGGTGGACGAT
GCGGTAAAGCCAGCCCGTACCTTCTCGGCAGGGGGTACATTGGCCGCAAGACTCGTCGTA
GTAGAAGTAGCTCAAACGCTCAAGGGCTTTGACCATGCACACGTCTTCGTCCATGACGAT
AATCGCGCCGGAACCGAGCATGGAGCCTGCTTTGGAGATCGAGTCGTAGTCCATATTGGT
CTGCATCATGATGTCGGCAGGCAATACGGGCGCGGACGAACCGCCGGGAATGACGGCTTT
GAGTTTTTACCGCCGCGCATACCGCCCGCCATTTTCAAGACTTCGGCAAACGGCGTACC
CAATGGCACTTCATAGTTGCCCGGACGCTCGACATGGCCGGAAATACAGAATAATTTGGT
ACCGCCTGCATTCGGAATACCTTTATCGGCAAATGCCTGTCCACCGTCACGGATAATGAA
TGGAACGGAGGAGAACGTTTCAGTATTGTTGATGGTAGTCGGTTTGCCGTACAGGCCGAA
CGAAGCAGGGAATGGCGGCTTAAAGCGCGGCCTTTTTTGCCTTCCAGCGATTCGAG
CAATGCGGTTTCCTCGCCGCAAATATATGCGCCGTAGCCGTGGTGGGCGAAGAGTTCAAA
TTCAAAATCCGAACCCAAAATATTTTTACCCAAAAAGCCTGCGGCACGCGCCTGCTCCAA
AGCGGCCTCAAAGCGTTGGTAGCCTTCAAAAATTTCGCCGTGGATATAGTTGTAACCGGC
TTTCGCGCCCATCGCGTAACCGGCGATAATCATGCCTTCGATCAGGGCATGCGGATTGAA
CATGATGATGTCGCGGTCTTTAAACGTACCTGGTTCGCCTTCGTCGGTGTTGCAAACCAC
ATATTTTCGCCCGGGAAAGAACGGGGCATAAAGCTCCATTTCAAACCGGTCGGGAAGCC
CGCACCGCCGCGCCCGCGCAAACCGGAGGTTTTGACTTCGTCAATCACATCGGTTTGCGA
GATGTTTTCGGACAGAATTTTACGCAGGGCGGTATAGCCGCCGCGTTTGACGTATTCGTC
CAATGTCCAGCAATCGGGATTGGCGGTATCCACTTGGTCAAAAATCACGCCTGATTGGTA
AATAGCCATTTTTGGTGTGCCTGTTTGTTTTCGTATCGGTTGCGGCCGCTGTTTCAGACG
ACCTTAAGATGTCTTTGTGTACCGGCTTGTAACGTCGTCTGAAATAAAATCTAGTTTATC
AAATCGATATTTTCAGACGACCTTTAATCGTTTTTGTTGGATCTCGACCACTTGCTTGTC
TGTCGTCATTCCCGCGCAGGCGGGAATCCATCCTCAATGGTAAGCAATGTCTTATTAAAT
TCAGAAACCGAATCTTACCGGTGGATTCCCGCCTGCGCGGGAATGACGGCATTTCGGTAT
TTCAGTAGGGCGGATTCTTAAATCCGACATTTTGCCTTTTTACCCACTCTGTCGGCTACA
AGTATCCGACCTACGTTTAAATCGTCGTTTCAGACGACCTACTCCAACTCCGCCAGTTTC
TTCTCAATCGCTTCTTCGGTCATAAAGCTGCACATGCTGTGGTTGTTGACCAGCATAACG
GGAGCGTCGCCGCATGCGCCCATGCATTCGCCTTCGACAAGGGTAAACTTGCCGTCAGGG
GTAGTTTCGCCGTAGCCGATACCGAGTTTTTGTTTGAGGTATTCGCCGGTAGCCATACCG
CCGCGCAGGGCGCAGGCAGGTTGGTACAAACGGTCAGTTTGTATTGCCGACAGGCTCA
AGGTCGTACATATTGTAGAAAGTGGCGACTTCGTAGGCTTGTCAGGCGTGATGCCGATG
TAGTCGGCGACAAAAGCGATGGTCTCGGGAGCAAGCCAGCCTTTTTCGGTTTGGGCAATA
CGCAATGCGCCCATAATCGCGGAGCGGCGTTGGTCGGCAGGATATTTGCCAACTCGATG
TCGATTTGTTTTAAAGATTCTGCGGATAACATTATCGGTCAACCTCCCCGAATACGATGT
CCTGCGTACCGATGATGGCAACGACGTCGGCGAGCATGTGGCCTTTTGCCATTTCGTCCA
TGCCTTGCAGATGGGCGAAGCCGGGTGCGCGGATTTTCAGGCGGTAGGGTTTGTTTGCGC
CGTCTGAAATGATGTAAACGCCGAACTCGCCTTTCGGATGTTCGACAGCGGTGTAGGTCT
CGCCCTCGGGAACGTGCATACCCTCGGTAAAGAGTTTGAAATGGTGAATCAGGTCTTCCA
TACCTGTTTTCATTTCGGTACGTTTGGGCGGAGCGAATTTGTGGTTTGTGGTAATGACCG
```

```
GACCCGGATTGACACGCAACCACTCGGAACATTGTTTGATGATGCGTACGGATTGACGCA
TTTCTTCCATACGGCAGAGGTAGCGGTCGTAGCAGTCGCCGTTCACGCCGACAGGGATGT
CGAAATCCATTTTGTCGTACACTTCGTAAGGCTGTGTCTTACGCACGTCCCATTCCACGC
CCGAACCGCGCAACATCACGCCGGTAAAGCCTTTTTGCATGGCACGTTCGGGGGAGACGA
CGCCGATGCCGACGGTACGCTGTTTCCAAATACGGTTGTCGGTCAGGAGGGTTTCGAGTG
TGTCGATATTTTTGGGGAAGCGTTCGCAGAAGGCATCGATAAAGTCGAGCATGGTGCCTT
CGCGGGATTCGTTGAGCTGCTTCAATACTTTGGCATTGCGGAATTTGCTGCCCTCGTATT
TGGGCATAAAGTCGGGCAGGTCGCGGTAAACGCCGCCGGGACGGAAGTAGGCGGCGTGCA
TACGCGCGCCGGACACGGCTTCGTACAAGTCCATCAGCTCTTCGCGGTCGCGGAAGGCGT
AAAGAATGGCGGTCATCGCGCCGATGTCGAAGGCATGCGAACCGATGCCCATCAAGTGAT
TGAGGATGCGCGTTACTTCGGCAAACATCACGCGGATGTATTGGGCGCGGATGGGCACAT
CGATACCGACAAGTTTTTCTACTGCCAAACAATACGCCTGCTCATTGACCATCATGGAAA
CATAGTCCAAGCGGTCCATATAGGGCAGGGCTTGCAGATAGGTTTTGGTTTCCGCCAGTT
TTTCGGTACCTCGGTGCAAGAGGCCGATATGCGGGTCGGCACGGACGATTTGTTCGCCGT
CCAGCTCCAAAATCATACGCAATACGCCGTGCGCCGCAGGGTGTTGCGGGCCGAAGTTGA
TGGTGTAGTTTCTTAATTTATTGGCCACCGTAGTTCTCCTCACGGACGATACGCGGCGTG
ATCTCGCGCGGCTCAATGGTAACAGGTTGGTAAATCACGCGTTTTTGCTCTTCGTCGTAA
CGCATTTCCACATAGCCGGAAATCGGGAAGTCTTTGCGGAACGGATGTCCGACGAAGCCG
TAATCGGTCAGGATGCGGCGCAAGTCCGGATGGTTGTTGAACATGATGCCGTACATATCG
AAGGCTTCGCGTTCGTACCAATCCGCGCTGTTGTAAATATCGACTACAGATTCGACTACG
GGGAAGTCGTCGTCTGAAACCCAGACGCGCACGCGGATGCGTTGATTGTTTTTAACGGAA
AGCAACTGACTGACGACGGCAAAGCGTTTGCCCTGCCATGCTTCGTTTTTGTAAGTGCTG
TAATCGACACCGCACAAGTCAACCAGAAGCTCGAAATGCAACTCTTCATGGTCACGCAAT
GCGGTCATGACTGAAATATAGTGCTCGGGCAGACACTCGACGGTAATCTCGCCCAAAGCG
GAAATGACTTTGCCTGCCTGATTGCCCAAAACGCGGCTGACGGTTTCGTATAAGTCTTGA
ATGCTTGCCATATCGTCCTCTCCTTACTCGTCACGCGCAATGGTGGAAGTGCGCTTGATT
TTTTGTTGGAGCTGAATCAGGCCGTAAATCAGGGCTTCCGCAGTCGGCGGACAACCCGGC
ACATAAACATCTACCGGCACGACGCGGTCGGCACCGCGCACAACGGAATAAGAATAGTGA
TAATAGCCGCCGCCGTTGGCACATGAGCCCATAGACAATACCCAGCGCGGCTCGGCGAGC
TGGTCGTACACTCGGCGCCAGGGCGGGCGCCCATTTTATTGGTGAGCGTACCCGCCACAATC
ATCAGGTCGGCCTGACGGGGGGACGGACGGAAAATAATACCGAAACGGTCAAGGTCGTAA
CGCGCCATACCCGCGTGCATCATTTCCACGGCGCAGCAGGCCAAGCCGAAAGTAACCGGC
CACAACGAACCGGTACGCATATAGTTCAGCACCGTATCCGCGCTGGTGGTGATGAAACCT
TTTTTCAAAACGCCTTCTATTCCCATTCCAGCGCACCTTTTTTCCATTCGTAAACAAAGC
CTACCGTCAGAACAACGATAAACACCAGCATAGACCAGAAGCCGTACGCGCCCAAATCTT
TGAACACGACTGCCCACGGCAGCATAAACGCGACCTCCAAATCAAACAGGATGAAGAGGA
TGGCGACGAGGTAATAGCGCACGTCGAACTTCATCCTGGCGTTTTCAAAAGCTTCAAAAC
CGCATTCGTAAGGCGCGTCTTTTTCGGCATAGTGGCGTTTCGGGCCTAAAATCGTGCCGA
GCAGGATAAACAGCACGCCGGCCGCGAGGCCGATGAGGATAAAGACAAAGACGGGAAAGT
AAGCGGACAACATGGTTACACCCAAATCCGTTAACAAAATTTCTACAATAATTTCGTATT
TTAGCGAATTTCAAAAACCATTAAAAGGTAAATATCGGCAAAACGCCCAAAAAAACCCAA
TAAATACAATCATGTTATGATAACGATTCTTATTTGATTTTATAAGGTCATATAAATTTT
TACACCGTAATTCGTGGTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTA
GCTCAAAGAGAACGATTCTCTAAGGTGCTCAAGCACCAAGTGAATCGGTTCCGTACTATT
TGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATATAGGAA
TAAGAATTCGGGACAAAATGTTTAAACCATTTTGTCCCGACTGCTGTGATGCGGTTTTTT
TGAACTAGCAGGACGTTACCTAAAACCTGCGTTGCCTGAAACCCTTTAAGACGGTTAAAT
CCCTCTGCCGTATTTGTATTCTACAATCATATTATCGTCGGTAATAACTTCCGCCCCAGC
CGAAGGTTCCGTCATCTGAATCAGCATACGAGAGACAACCTTTTGTGCTGCAGCATCCAC
GGTGCTGCTGTCAAATACGTGCCTGCCGCTTTCCGGCCAAATCAACCGGGAGAGACGTTG
CTTGAGCAGTTCTTTATTAGGGAAAACTACCGGGGTTGCCGAGCCGACTACCATATGCCC
ATAGCGGTATGCATAGGGAATACTGTGTACGGCGGTAGCAAAAGCATGCGGGCTGTGCGT
GGTATTAAACATTACAATACCATCCGGGGTAAGGTGGCTTTGCACCTGTTTTAAAAAATTC
CGCACTCAACAGGTTGGTGGAATAGGCACGCCAGTACCAAGTCGTATTCATCAAAATCAG
GTCGAATTTTTCATCAGGATGGCGACGCAGCCATTTCCTACCGTCATCCAATACAATTTC
AACACGTTTGTCCTGCAAAAGCGGGGCGATTTGCGGCTCGTCCGCGATAAGGCTACGGTA
TGCCGGATTGATTTCCGCAACGATCATCGACTGCATTTCCGGAATGGCAGACAAGACGCG
```

```
CGCCCACGAACCTGTACTCAGTCCAACGACGAAAATGCGGCGTATGCCAGACTTCAGGGA
GGGTAGCAGATAGGCACGTTCGATGCCGTTGACACTATTGAATACATCGGTATTGTATGC
GCCGTCGTATACATTCGCCCCATAAACAACCTTATCACCATCTCTATGGTAAACCGCAAC
AATGCCGTGTTTGTTTTCAATCAGCCTATCCGGACGGTCAGCAATATTTTGAAAGACAGA
ATCCGGCAGTAGGAACATGAGGATGCCGAACATTAGGGAAACTGCTACCGACACTGCATT
CAGTCGGAGACTTTTTTGGAACAGTGTACAAAACAAAGGGACAGCAGCAGAAATCAAACA
GATGAGCAGGTAAATCTGTTGGGTGGACAAGAAATCAAGTATCACAAAGCCGATAAGGAC
CGGACCCAATGCACTGCCGGCAACGTTGGCGAAATAAACATTGGAAACCTGTCGTCCGGA
TTTGTTGCCATCCGTACCCACATGGTGTACGAGCGGGAAAATCAACCCTCTGACGACGGC
AGACAGGGTAATGAAGATACCGGCGTGGTGGACGAAGCCGGAAAAACCCGTCAACAACCA
CGCAGCACCCAAAATCAAAAAGTCGGCAATACCCGCCCACAAGAAGCACTGCCCGATAAA
GGGAATATCAACAAAGCGGCTGCGGCAAATCCGTTTGCCAAAATACGCGCCGACGGCGAT
ACCGGTCAGAAAACAGGCAAGGGTAAATGAAAATGCCTGAGGCACGGACTGTGCTGCGAA
CGAAAACATCCTCACCCACAAGACTTCTATACCCAAGCTCAATAAGCCGCTAAGGAAAGA
AAGCATATAAATCAAACTAGTATTCGGTTTAGTGTTCACTATATCCATCCTTTCTGTAAC
GCAGCCATACTGAAGCAGCAATCAGAAGGTTAAAGCAGGCTGTCAGCGCAATGGTTTGGG
AGAGGGTAAAAAAGACGTAGAAAAATTCGGCGGCGGCAAGCGATCCGAGTGCCGCACCCA
AAGTGTTGAAAAAATATAAGGTACCGATAGACTCGCCAACATTATGTATTTTCCGGTTAA
AAAAACAGGTCAGCAAGGGCAAGGTCGCGCCCATCATAAAGGTAGGAAGCAGCAATAAGA
GGAAATTGGCAGCAGCGATGATGGGCAAATCAGCCTCAACTAAAAGATGCCCCAAGCCGG
AAATCAGACCCCTGCTTACCAAACCGAACAGACCGATGGATACTTCAGCGATGCAAAACA
GGGGGATGATACTTGAAGGAAAACGGTCAGCAATGCGTCCACCGAAATACGCACCTACAC
CCAAGCCGACCATAAATACAGAAATAATGACAGTAATCGAACTCAAATCGATACCTATGT
GACTGAATAGAAGCCTCTGCCAGCTGACCTGGTAAATCAGGGCGCAGAATCCAGAGGCGA
AAAACACCAGCGACAATCCTTTCAGGGTTTTACTTGCGGTCGAATTCATATTTTCTATTT
TCAAATAGGCGGAACTATAAATGAAATGTATCAATGTGTAAACATTTGTATTAACCGTAG
GAAATCACCGTATTGCTCAAACTGCAGGCCGGGAAAATAAACTCGTAAGCCCGCAAACGG
CGTATCACTGTTCAAACTGCTGTGCGGCTTCACGGTGTTATAAAAATAATGGGGCTGTCC
TGGACAACTAAGATAAACTCGATTTTACTAATTGTTTTAAAATGGAAATTTGAACTTTTA
TCTCACTGTTGTTAAAACGCCATTCGCACTCCTTTAAATACAGCTCAAAATGCGCTTTGG
GAATGCCGTTAAACTTGCGTAAATGAATAGCTACGATAACATCCGTATAAACAATGCTG
TCGGGCTCTGTTGCTGTTCTTGCAGTTACACCTGCGACAAATAGCTCAATGAGTTTATTT
TGTTTATACCGGCTTAGACGACTTTTTCTCATAGGGATAATTCTAACTTAATTTGAATTT
CCCTATTTATCTAGGACAGCCCTAATGATTAAATTGGATTTAAAAAGCATAAATTTATAT
GATATTGATTTTGAAAAATTTACCCCCGAAATTCCAGATAATTTCCATAGATGGATAGAT
TTGGATATCGGAATCGAAGGAGAACAAGGCTCATCTATTTTTTCACTTTGCATTTGTTCT
CCTAAATGGATTTCCCATCATTGTAATAAAGAAGGTTTTTTTTGGTCTAATGCATTAATA
TTAGAACAGTTTGATCATAAGATTATTAAAAGTGAAATTGATAAAATATTAGAATATTGC
TCAAAAGAAACTTGGGATTTGACACTTTCAAACTTATTACGATTTTTTTCTTGGGAATTC
GAAGATTACAATCCAAACACATAAGAGCAATTTGGGATGATAAGTCTGGAGCAATTGTAA
TCAGAGACCCAAATTCAAAAGATGGTGGAACTGCATTTAGACCAACCTTAGGCAAAACTT
ACTTTGACAAACAAAAATAAAATTATTATGAATATAATCAATTACAAAGGTGATGACATT
ATTATTTCTTTAACAAGAGAAGAGCTTCAATTATTGCGTTCCCTTGTTATTGAAATTTAT
GCAGGTGTTTGCATAGATGCAGAAGAATTTGAGATTGTGTCAGGAATTCGCAATCCAAAA
TTGGTATAAGAGCTAGAACAACAATTAATTGAAGCATATGATTTAATGGATACAACAGGA
TAACCGAATTATATTTGAGATAGCTCCAAAATTGATAAGTTCTGTTAATAATGTCAATGC
TGTCGGGGACAGTTTTTTGCAAAGGTCTTGGATGGCGCGTTCCACCAAACCGTTTTCCTT
ACGGATTCAAGCGATTACCCGTTATTTCGCCCGTTTTCTCTTGATGATTTCAGTTTTTCA
ACCACCGTTTTATATTTCTTCGTCAATAAACTCATCTTCATGCCGCAAGCTGCGGATAAA
GGTTTCAAAATCGGGGGCAAGTTCGACGATTTCAAAATCCGATTCTTGTTCGACAAACAC
CACTTTCGGCTCGCCGTCTTTGCCGCACGCCCGATAGTCTAAGGCAAACATGGCATGACC
GCCTGACGGGTCGTTGGCAAAATACACGCCGATAGGCGGGTATTCCCATTCTTCCAGCCA
AAGTTTTTGCCCCATCGCGCCGCACAAACTCCCTTCTTTTTCAAAACCGATTCCCGATAC
CTCGCAAATTTGCACATGATTTTCCGCCCACGAATTTCTCTGCGTGGTCGGAAAACAGTT
TTTGACAAATATTCCGCCGTTTTGTACTGCCATCAATTCAATAAAACTTTGCGGCAATTT
ATAGCCCAGTTCACTTTCTACGGCAGCCAAAATTTCAGGGGTAAACGGGGCTTCTTTGTA
GTTTTCATCTGCCCAACTATTAGTTTTCCATACGGAGGACAAGTCAAAATCTTTAAAAAC
```

-193-

```
TTGGGACATAATGTTCTTCCTTATTGATCTCAGTGATAACAGAGGGTGGGTATTCATACC
CGGCTTTTACCGTCCGTCATTTATGTTCCGGCGGGAATCTAGGACGTGGAATCTAAAGAA
ACCTTTTATCCGATAAGTTTCCGTGCCGAAAGGTCTGGATTCCCGCCTGCGCGGGAATGA
CGGCGGCGGTTGCGGCAAAATTGCCCTTCCCGTTTTCAGACGGCCTTTTGCTTTGTCCTT
ACTACGTTTTTTGCCGTAAGTCAGATTCTTGTATCCGACATTTCCAACAGCGGTGTTTCG
GAAACAATAGACGCGTCAAATGTTTTTGTCGGATACGAATATCCGACCCACATCTCTATT
TGCTCTGTGTGTACATTGTAGCGTGGGCTTCATCCACGATAATGACGGCTAAAAATGCCG
TCTGAAATTTTGGGCTTGATTCATAGAAAAAGCCCACGCTACGGGTTTCTATTCTCTCCT
GCTAAGGTTTTTGCCGTAGGTCGGATACGAATATCCGACCTACATTTCAAATTTACATCT
CTTCCAATTTCGCAAACTTGGTGTCCAACTCTTTCACGCCCTGTTTGCCGAAATTGATGG
TCAGTCGGGCGGATTCGCCTTTATCTGCGGCATCGATAATCACGCCGGTGCCGAATTTGG
CGTGGCGGACGTTTTGTCCGATACGGAAACCTGCGTAGGTTTGGGGCTGTTTGTAGTCGT
CGATGATTTATCTTTGGATGCGGCGGTTTGGCGCGTGTTGCCGTAACTGTCGTAGGCAG
GCTTTTTGACGGACAGGTAGTGCAATACTTCGGGTGGGATCTCTTCGACGAAGCGGGAGA
CGATGCCGAATTGGGTTTGTCCGTGCAGCATGCGTTGTTGCGCCATGGTGATGTAGAGGC
GTTTGCGGGCGCGGGTGATGGCGACGTACATGAGGCGGCGTTCTTCTTCGAGGCCGCCGC
GTTCGGCAAGGCTCATTTCGCTGGGGAAGCGGCCTTCTTCCATGCCGGTGAGGAAGACGG
CGTTAAATTCCAAGCCTTTGGCGGCGTGGACGGTCATGAGTTGGACGGCCTTTTCGCCTG
CGCCTGCCTGGTTTTCACCGGATTCGAGGGCGGCATTGCTTAGGAAGGCGAGAATGGGGA
AGGCGGGGTCGTCTGAAATGTTTTCAGGCAGGATTTCGAAGTTGCTGTCTTCGGGTTTGA
ATTCGATGGCGGCGTTGACGAGTTCGTCAAGGTTGTCGAGACGGTCTTGGTTGTCGCCTT
TTTGGGTGCGGTAGTGTTCGGTCAAGCCACTGTCTTTGAGGATGCCGACGATGATTTCGG
ACAGGGACAGTTGTCCGACTTGGTTGCGCAGGGCTTCAATCAGGCGGACGAAGGCGACGA
CTTTGGCGGCTTTCGCGCCGGCGTTGCAGGCGGCTTGCCAGAGGGTGATGCCTTGTTCGT
TTGAGGCCGTCTGAAGATTTTCGACGGTACGTGCACCGATGCCGCGCGGTGGGAAGTTGA
TGACACGCAAGAGGGCGTTGTCGTCGTCGGGATTGACGGCGAGGCGCAGGTAGGCGAGCG
CGTGTTTGATTTCTTGGCGTTCGTAAAAACGCAAGCCGCCGTAGATTTTGTAGGGAATGC
CGCTGCGGAACAGGCTTTGTTCGATAACGCGGGATTGGGCGTTGCTACGGTAGAGGACGG
CGATTTCGTCCAAATCCCAGCCTTCGCGTTCGAGGGCTTTGGTTTCGTCCAAGATGAACC
GGGCTTCTTCGAGGTCGGTAAAGGCGGAGTAGTAGCGGATTTTGTCGCCTGCTTCGGCGT
CGGTGCGCAGGTTTTTGCCGAGTCGTTCGTCGTTGTTTTCAATCACGGCATTGGCGGCGG
CAAGGATGTTGCCGACGGAGCGGTAGTTTTGTTCGAGTTTGACGGGCGCGTCGATGTGGA
ATTCTTCCATCAGCGCGGTCATGTTGCCGACGCTTGCGCCACGGAAACGGTAAATGCTTT
GGTCGTCGTCGCCGACGGCAAATACTGCTGCGTGGTTGCCGGCAATCAGTTTCAGCCAAG
CATATTGCAGTTTGTTGGTGTCTTGGAACTCGTCAACGAGAATGTGGTTGAAGCGGTTTT
GGTAGTGCTGGCGCAGGATTTCGTTGTTTTGCAGCATTTCGTAGCTGCGGAGCATGAGTT
CGGCAAAATCGACCACGCCTTCGCGTTGGCAGATTTTGTCGTATTCGGCGTAGCACTCAA
TCATGCGGCGTGTGTGCGGATCGGGCGCGCTCAACACGGAAGCGCGCAAACCGGATTCTT
TTTGCGCGTTGATAAAGCCTTGCAGCGAACGGCGCGATGATTTCTTCGGCGATGTTGA
GGCTTTTGAGCAGGCGTTTGATGAGGGAAAGCTGGTCGCCGCCGTCGAGGATTTGAAAGG
AAGACGGCAGACCGGCGTCGCGGTGGTGCAGGCGCAAAAAGCGGTGGCAGAGACCGTGGA
ACGTGCCGAGCCACATGGCGCGGACATTGATGGGAATCATCGCGCCCAAACGGGTTTGCA
TTTCTTTGGCGGCTTTGTTGGTAAACGTTACCGCCATAATGCTGTGCACGCTGGCTTGTC
CGCTTTGCAACAGCCATGCGATGCGCGTGGTCAGCACGCGCGTTTTGCCGCTGCCCGCGC
CCGCCAGCACAAGTGCGGATTGCGGCGGCCAGGTTACGGCGGAGAGTTGTTCGGGATTCA
AGCCTTGCAGCAGGTTGGGGGCGGATTGGTCGGGAAACATAAGGATGCCGTCTGAAAAGT
GGAATGCGCTATTTTAATAGAAACGGTTTAAGGTCGTCTGAAAAAGTGCAGCGGCAGGGC
AGCACTTTTCCAATCGACGGTTTGATGATGCAGCACAGAAGATATTGACAAACCGCCGCC
CCTGCATATAGATTCATTAAAACATAACCAAATGAACAACAAATGAGAATAGAGATCAC
ACCAATCAGCGAATCCGCTTTGGTCTACCGACTGAATGCGCCTTCCGAACTGGGCAAACA
GCAAAGTTGTGGGCGTTTGCCGCTGCGCTCGGGCAGCACGACAGGATTGAGGAAGTGGT
GGTCGGCATGAACAATCTGACCGTGTTTACCCGTTTCGATACCGATTTGGCGACGCTTGC
CGATGAATTGCAATATGTGTGGGAACACACCGCCGTTACAGACCATCAGGGCAAACTGGT
GGAAATTCCCGTCTGCTACGGCGGCGAATACGGCCCGGATTTGGCGGAAGTCGCTGCTTT
CCATCAGACGGTTATTTCCGAAATCGTCCGCCGCCATACGGCGCAAACTTATACCGTATT
TATGATGGCTTCCAGCCCGGTTTCCCTTATCTGGGCGGCTTGCCCGAAGCATTGCACAC
GCCCCGCCGTGCCGTGCCGAGAACGTCCGTTCCTGCCGGTTCGGTCGGTATCGGCGGCAG
```

```
TCAGACCGGTGTGTATCCGTTCGCTTCGCCCGGCGGCTGGCAGATTATCGGCAGAACCGA
ATTACCCTTGTTCCGAGCCGATTTGAATCCGCCGACCCTGCTGGCGGCGGGTGACCAAGT
CCGCTTTGTTGCAGAAAGGATTGAGCCATGATTCACGTTTCGGCAGTGCAGGCACCGGCG
CATATTCAGGATACCGGACGCTACGGACACCGGCGTTACGGCATCGGTCATGCCGGTGCG
ATGGACACGGTTGCTTTGGCGGCGGGCAATATTTTATTGGGCAACGACGAAGGCACGGCC
GCAATCGAAATCGCTTTGGGCGGGATAATGCTGGTGTTTGAACGGGATACGCCGTTTTGT
CTCACCGGTGCCGTGTATCAGGCGGAATTGGACGGCGAACCGGTCTATTCGTATTGGCGT
TATACCGCCCGCAAAGGGCAGACCTTGAAACTGGTGCGTGCCGTGCAGGGCATGTACGGC
TATGTGTGCGTGGCGGGCGGATTTGATGTGCCGGAAGTGATGGGTTCGAGAAGCACCGAC
CTGAAAGCCGGTTTCGGCGGCCATCAGGGCAGAATGCTGCAAAAAGGCGATTATCTCCCC
ATCGGCAAAGGTGCGCAGGAATTGTCCAAAGTCGGCATTGCCCCGATACCGTTTACCGAT
ACCGTCCACCTTGTTCCTTCGTCGGAATATGCCGCTTTCAGTGAAAAAGGGCGTCTGAAT
CTGGAACGGGAAACGTGGACGCTGCAAAGCGATAGCAACCGCATGGGCTACCGCTTCGAC
GGACAGCCGCTGACCCTGTCGCAACCTTTGGAAATGCTGTCCCACGCTGTTCAGGCAGGA
ACCGTGCAGGTGCCGCCCGGCGGCAAACCGATTATCCTGCTGGCCGATGCGCAAACCACC
GGCGGTTATCCGAAAATCGCTACCGTTGCCGCCGCCGATTGGGGCAGGCTGGCACAGGTG
CGCTTCGGCAGCAAAGTCAAATTCAAAATAATCGGCTTGAAAGAAGCCACCGCCCTGCGG
CGCAAAAACAAGCCTATCTGAACCAAATACGGAGAATCACCCATGAAGCAGGTTGATTTA
AACGCCGATCTCGCCGAAGGCTGCGGCAGCGACGAAGCCTTGTTGCAGCTGATTACTTCG
GCCAACATCGCCTGCGCCCAACACGCCGGCAGCATTGCCGATATTCGGGCGGCATTGGCG
TATGCCCAACAAAACGGCGTGCGCATCGGAGCACACCCCGGCTATCCCGATCGGGAAAAC
TTCGGCCGTACCGAAATGAATCTGTCCGAAGCCGATTTGCGGGCGTGTCTGAATTACCAG
TTGGGCGCATTGCAGGCCTTGTGCCGTGATCAGGGTTTGGAAATGGCTTATGTCAAACCG
CACGGCGCAATGTACAATCAAGCGGCGAAAAACCGTGCGCTGGCGGATACCGTTGCCCGA
ATTGTGGCGGATTTCGACCCGAAATTGAAATTGATGGCACTTTCCGGCAGCCTGCTCTTG
GAAGCCGGAAAAGCCGCAGGCTTGGGTGTGATTTCCGAAGTATTCGCCGACCGCCGCTAT
ATGCCCGACGGTACGCTGGTTCCCCGCAGCCGCCCCGATGCGCAGGTGGACAGCGACGAA
GAAGCCATCGCCCAAGTATTGCAGATGGTGCGGGACGGGCAGGTCAAAGCAGTGGACGGC
AGCCTGGTTGCCGTGCAAGCCGACAGCATCTGTCTGCACGGAGACGGGCCGCACGCCGTG
GTGTTTGCCGAAAAAATCCGGCAGGAACTACTGGCGGCGGCAGGCATCAAAGTTTCTGCTTGA
AAAACAGTTCATAGGCCGTCTGAAAACCGCAGGTTTCGCCAAAACGAGCAAAGCGAGTTT
CTGCGTAGCTAAAACCGCAGGTTTCGCCCAAACACAGCAACAACCAATTTTATAGAGGAT
AAGCGATTATGTCTGATCAAAAAAACCGCAGAAATGCCTTAATCGGCGCTGCATTCCTGA
TGGCGACTTCCGCCATCGGCCCGGGCTTTCTGACCCAAACCGCCACCTTCACCCAAGCAC
TGGCGGCAAGTTTCGGCTTTGTGATTCTGCTCTCGATTCTGCTCGACATCGGGGCGCAGC
TCAATATTTGGCGGATTGTCGCCGTTTCCGAAAAACAGGCGCAGGATATTGCCAATCAGG
TCTTGCCCGGCGCAGGCTATTTCTTGGCTGTGCTGATTGTGATGGGCGGTTTGGCGTTCA
ATATTGGCAACGTCGGCGGCGCAGGCTTGGGTCTGAACCTGCTGACCGGACTGTCACCGG
AAAACCGGTGCCGTGATCAGCGGCGTGATTGCCATCGGTGTGTTTCTGTTTAAAGAAGCAG
GCAAAGTGATGGACAAATTCGCCCAAGTGATGGGTTTCGTAATGATTGCGCTGACGGTTT
ATGTGGCATGGCAGGCGAATCCGCCGCTGGCAGATGCCGCCGTGCATACCTTTATGCCGG
AAAAACTCGATGCAATGGCGATTGTTACACTGGTGGGCGGCACGGTCGGCGGCTACATCA
CCTTCGCCGGTGCGCACCGTCTGCTGGACGCAGGTATCAAAGGCAAATCGGCGTTGCCGG
AAGTGAGCCAAAGCTCGGTGCGGGCGATCCTGATTGCCTCGATTATGCGGATTGTATTGT
TTTTGGCGGTTTTGGGCGTGGTCAGCCAAGGCGTACAGCTCAATCCCGACAACCCTGCTT
CCACACCGTTTGAATATGCGGCGGGATACATCGGCCTGCTGATTTTCGGCGTGGTGATTT
GGGCGGCTTCGATTACTTCGGTGATTGGTGCGGCTTATACTTCGGTGTCGTTCTTCTCCG
GTCTCAGCCCGTCTATCGAACGCAATAAAAACAAATGGATTATTGCCTTTATCGCCGTGT
CCACCGCCGTATTTTCCACCATCGGCAAACCGGCGCAGGTGCTGGTGTTCGTAGGCGCAT
TAAACGGCCTGATTTTACCGATTTCCCTCGGTCTGATTCTGATTGCCGCCTACAAAACCA
AAATTGTCGGCGACTACAAACACCCGCTGTGGCTCACCGTTTCCGGCGTGATTGTGGTCG
GTTTGATGGCAGTACTCAGCGCCATCACCATCAGCAAATATATCGGCGGCTTGTTCGGCT
GAACCTTGTAGCGCAGATGTTTGATTTTGTATATTATCCGAAGTTTGCCGCCTGATATGG
AAAATTCCTGTTTCAGACGATGTATCCGGTCTGAAACCTATTCACAACTATGAAACGCTT
CACCTATACTCTTTCCGACGGTTTGTGCATCGAAATCGAACTCAAACGCAGTGCCAAGAA
AAATCTGATTCTGCGCCCCGTCAATATGCAGACGGTCAGCATCAACGTCCCACCCTTTTT
TCAAGACCACGCGTTAGCAAACTGGCTGGCGGCAAACGAAACGATTTTGCGGAACACGCT
```

```
     TGCCAAAACGCCCGTGCATCCTGTTTCCCACCCAAACTTACCCGAGTGGATTTGGTATCG
     GGGAATAAAGACCAAGCTGGATACCCACAGCCAAAGCCATATCCGTATCACGTCGTCTGA
     AATCCTGCTTCCCCGAAAAGAAACCGCCGCACAAATCGACCACCTGCGCCGCCTGTTGAA
     CGAACGCGCCCGCGAATACCTGCTGCCCCGCCTTGAAAAACACGCAGCCGAAACAGGACT
  5  GACGCCCACCGCCACAGACCTGAGCAACGCCAAAACCTTTTGGGGCGTATGCCGCCCGCA
     CACCGGCATCCGCCTCAACTGGCGGCTGATCGGCACGCCCGAATACGTCGCCGACTATGT
     CTGCATCCACGAACTCTGCCACCTCCGCCACCCCGACCACAGTCCGCGCTTTTGGCATTT
     GGTGAACACGCTGACGCCGCATACCGACAATGCTAAAAGTTGGCTGAAGGCGCACGGGCG
     GGAATTGTTTGTGCTGGGGTAAAGGCTAACCGTAGCGTGGGCTTCGCCCGCGAGAATCCA
 10  CCCCCTCCCGTACGGAGGGAGAGGGTTGGAGAGAGGGTGGCTCTTGTCCCTTGTTCTGTA
     TATTTGCAAGCCACCCTATCCTAGCCTTCCCCCGTTGGATAAGGGAAAGGGATCAAGCTG
     CTGTAACTGAAAGAGGTCGGCGGATTCGCATTTGAAGTGCAACTTTCCCTAACAGAAAAA
     GGCCAGTATGCGGTAGCATACGGCCTTTCCTGCAAGAAAGATTGCCATGAGCTACACGCA
     ACTGACCCAAGGCGAACGATACCACATCCAATACCTGTCCCGCCACTGCACCGTCACCGA
 15  AATCGCCAAACAGCTGAACCGCCACAAAAGCACCATCAGCCGCGAAATCAGACGGCACCG
     CACCCAAGGGCAGCAATACAGCGCCGAAAAAGCCCAGCGGCAAAGCCAGACTATCAAACA
     GCGTAAGCGACAACCCTATAAGCTCGATTCGCAGCTGATTCAGCACATCGACACCCTTAT
     CCGCCGCAAACTCAGTCCCGAACAAGTATGCGCCTACCTGTGCAAACACCACCAGATCAC
     GCTCCACCACAGCACCATTTACCGCTACCTTCGCCAAGACAAAAGCAACGGCAGCACGTT
 20  GTGGCAACATCTCAGAATATGCAGCAAACCCTACCGCAAACGCTACGGCAGCACATGGAC
     CAGAGGCAAAGTACCCAACCGTGTCGGCATAGAAAACCGACCCGCTATCGTCGACCAGAA
     ATCCCGTATCGGCGATTGGGAAGCCGACACCATTGTCGGCAAAGGACAGAAAAGCGCATT
     ATTGACCTTGGTCGAACGCGTTACCCGCTACACCATCATCTGCAAATTGGATAGCCTCAA
     AGCCGAAGACACTGCCCGGGCAGCTGTTAGGGCATTAAAGGCACATAAAGACAGGGTGCA
 25  CACCATTACCATGGATAACGGCAAAGAGTTCTACCAACACACCAAAATAACCAAAGCATT
     GAAAGCGGAGACTTATTTTTGTCGCCCTTACCATTCTTGGGAGAAAGGGCTGAATGAGAA
     CACCAACGGACTCATCCGGCAATACTTCCCCAAACAAACCGATTTCCGTAACATCAGTGA
     TCGGGAGATACGCAGGGTTCAAGATGAGTTGAACCACCGACCAAGAAAAACACTTGGCTA
     CGAAACGCCAAGTGTTTTATTCTTGAATCTGTTCCAACCACTAATACACTAGTGTTGCAC
 30  TTGAAATCCGAATCCAAGGCCGTCTAAAAAGTAGAATGCGCTATTTTAATGGAAACGGCG
     GGGTTTTAAACGGTTCTTATTTGTTTGTTTTGATTTTTGCTTGGATAAAAAATCCCATCA
     TTCCCACAAAAACAGAAGCCTGAAATCCCGTCATTCCCGCGAAAGAGGAATCCGGTTTTT
     GGGTTTCAGCCATTCCCGATAAATCGCTTTAGCTCTGCCGCAACCTTAAAACGGCACGGT
     ACGAAAATACCGTCTGAAACCCAGATTGTCAGGCTTCAGACGGCATTTTTTGTTCAGACG
 35  GTTGCCGCTTCTTCGCCGAACACTTCCCGCCACAATTTCCTGACATTGCCGTAATGTGCC
     AACAGTTCGCCGGTTACTTCGGTTTTTGCCGCGTCGCGCAGTTTGGTGTTGTGCTGCTGC
     CGGCGGTAGAAGCGATAGGCGGTGCGGCTTTGTCCGGCGAGGGTTTTGTCAATCAAACCG
     CAGTCGGCGGAGATGTTTAAGAGGGCGATGTTGCCGTAGTTGTCCAAGAGTTGCGGATAC
     TGGCGGGCATGGGCAAGTATCAGATATTGGACGATAAATTCGACATCGACCACGCCACCG
 40  CGCGCGTATTTGACGTTGCTGTCGGCAGGCGGGTGGGTGGGGAACATTTTTTCGCGCATT
     TCGATGATTTCGCCTGCCAAGGCGGTTTGGTCGCGTTCGGCGGTGAGGATTTCGGTGCGG
     ATGCGGTCGAAGGCCGTCTGAATTTCGGACGTGCCGCAGATGAAGCGGGCGCGGGTAAGG
     GATTGGTGTTCCCACGTCCAGGCGTTTTCGCGCTGGTATTTTTCAAAGGCGGCGATGCTG
     TGGGCGAGGAAACCGGCGTCGCCATTAGGGCGCAGGCGCAGGTCGGTTTCGTAGAGGCTG
 45  CCTGCGCCAGTGGCGGCGGAAAGCCAGTTGGTCAGGCGGCGGGCGAGGCGGCTGTACACG
     TCGCCTGCGTCGGGGTGGGGTCGTCGTAGAGATAGACGAGGTCGAGGTCGGAGGCGTAG
     CCGAGTTCTTTACCGCCGAGTTTGCCGTAGCCGACGACGGCGAATTGCGGTGTGTCGCGG
     TGTTTTTTGGGCATGTCCGCCCATGCGCACAGCAGGGCGGCGGCGAGGATGGTGTCGGCG
     AGGGCGGAGAGTTGGTCGGAGAGGGATTCTACCGTCCACAGTCCGGCGAGGTCTTGGACG
 50  GCGAGACGGAAGACTTGGGCGTGCTGGAAGCGGCGCAGGGTGTCCATTTGCGCTTCAGTA
     TCGCCGCCGCAGGCTTTGAGGTCGTCTGAAAGGGCGGCGGCGAGCGCCTGCCAATCAAAC
     GCGGTATCCAAAAGCTGCGCGCTGATGAGTTCGTCCAACAAAATCGGATATTTGTTCAGA
     TACGCCGCCACCCAAGAACTTTGGCCCATAATCTGCGCCAGTTGCGCCAAGGTTTGCGGA
     TGTTCGTTGAGGAAGGCGAGATAGGCGGATCGGCGGCTGATGTTTTCGAGAAAATCCAAC
 55  AGCCGCATCAATGTATCGGTCGGGTTGCTTTGCGCTGCCGCCGCCTGTACGAACAGCGGC
     ACAACCGCATCGAAACGCGGCTGGGCGTGTGCGGAAAGATGGCGGTATTTATGGCCGTGG
     CGGATTTGGTCGAGCCTTGCGGCGACGGTTTCGGCATCGAACCCGTGCGCCTTCAGACGG
```

```
     CATCGCCGCCCTTCTTCGTCGGGTTTGTCCTGCCATGCCCATTGCCATTCGCTGTTGTCT
     TGCGTTTGCTCTTCGGGTTCGCTCAAAATTTCGTTGAACAACTGATTGACTTTGTTCCGA
     TGAACATTGAGACCGTCTGAAAAAGCGGAATAACTGTCGAAACCCATGCTTTCGGCGAGC
     AGTTGCCGCTGTTCGGGCGAGGTCGGCAGGGTTTGGGTTTGCTGGTCATCCCAGTATTGC
  5  AGGCGGTGTTCAACATCGCGCAGGAAGCGGTAGGCGGCAAGCAGGGTTTCGACGTGTTCA
     GACAGCATGATGCCCAGCTCGGCAAGCTTCTTCAGCGTTTCCTGCGTGCCTTTCAGTTGC
     AGCGCGCGCATTTGTCCGCCGCGTATCATCTGGAAAATCTGGGCGATAAATTCGACTTCG
     CGGATGCCGCCCGCGCCGAGTTTGATGTTGTCCGCCATGCCTTTTTTGCTGACTTCGCTG
     CTGATTTGGCGGTGCAGCTTACGCATCGCCTCATACGCGCCGTAATCCAGATATTTGCGG
 10  AACACAAAGGGGCGCACCAGTGCTTTGATGTCGTTCGGATACGGCGTAACCACGCGACCT
     TTGCACCACGCGTAGCGTTCCCATTCTCGCCCCTGTGTAATCAAATATTGCTCCAGCGCG
     GTTTCGCTCAATACCAACGCGCCCGAATCGCCGTCCGGCCGCAGCCGCATATCGACGCGG
     AACACCTGCCCATCGGCGGTAATGTCGTTCAGCAGCGCAATCAGTTTCTGCCCGACTTTG
     GTGAAAAATTCCTGATTGCCCCGTTCGCGCCTGCCGTCGGTGTCGCCTGATTCGGGATAG
 15  ACGAAAATCAAATCGATGTCGGAAGACACGTTCAACTCATAGCCGCCCGCCTTGCCCATC
     GCCACCACGCTCAAATGCTGCGGCGATTTGGTATAACGCCCGATCGGCGTGCCGTACATG
     TCCCGATAATAGGCGTAGGCAAAATCCAGCGCGGTATTGACGGCAAAATCGGCAAACAGC
     GTAATCGTGCGGGTTACTTCGTTCAAATCGCTGATACGGTTGATATCGCGCACGATAATC
     TGCGACACCACATAACGGCGCAACTCGCGCAACTGCCGCGCCAATTCTTCCTCGTTTTCT
 20  TCCGCGCGGATTTCGCCCCAGTCGGCAAAGGCTTGGAAATCCGCTTCGGTCAAAACCTTG
     TCGAGCATAGGCAGGAATATTTCGGGCTTGAGTTTGCCGTTGTCGAGCTGGCGGGCGAGG
     AAGAGGGAATGGCGGCGGGCGGTGTCGAGGCGGTTGTCGGACATTTCGGATTCCGTTTGG
     AAGGATGACGGGAATGAGATAGTGGATTAACTTTAAATCAGGACAAGGCGAGGGGATGCC
     GTACCGGTTTAAAGTCAAGCCACTATATCATAGCAACCTTCGATGTCGTCTGAAACCTTG
 25  CCCCGATATTCGGACGGATGCCTACCAATAAAAAACAGCGGCAAATGCCGCCGTTTCCTG
     TTCACACCTCGCCACGCTCTTTTAAAATAGCATAAGCCGCACTTTTCTCCCGTGTGGAAT
     TTTTAAAAAAACCATCACTCTTGACGATTTCATGCAGCTCCTCACTTGATTTCTCCGCAT
     ATTCCATTTTCAACGCCTTATGCTCATTGCCGGCTTCAATCATTCCCTCTCCCACTGCTT
     TTGCTGCTTTTGCCACACCATTCCAAAAACCCATAATCATGTCCTCCAATCGTTTCAAAT
 30  AAGGTCGTTGTTTCTGTCAAGAAACAACGACAGTTTATAAACTGTCGGAAAACAAAATGC
     CGTCTGAAGGCCGGATAATGCTTCAGACGGCATCGGATTGCCGGTTTTAACCCTGCCCTC
     CGCCGTTGTTCAAATAGTGTTCCCAGTGAGAATATAACCGGGCAATATTTTCTTCATAGG
     TGTGGGCAGAAGGAATATAACCGTCTTTGGGCGGCATATACCTGACAAATGATTCTATTT
     CTTCCGGATAATCAAAATCTGCATAAATTTTTTCAACTTCCCCCAAAGGATCCTCAAATT
 35  CTTCTTTTCTATGGAATACATCGCTTAAGAGGACGTACAGCCAATTTTTAGGGGAATAAT
     CCCTCATTTCCGAAGCCAAATCTTCCAGAACAGGCTTTAATTCAAGAATATTGGATTTGT
     TGATTAAAGATAGTTTGAACACACGTTCATCATGATCTGAAAGCGTCATTTTTCGGGCAT
     AAGCTGCCACATCAGCCCAACCCAAGTATTTATTCCCATACCCCCACAGAATATCCTTCC
     AAGAAAGACGGACTTTTTGCGCGGTTAAATCAAGGTTCATTTTTTACTCCGATTGCCTGC
 40  TCCGTGTTCACGCATCGGTTTGCCTTATTTCAAACAGGGCGGCGCGTAAGGGATTTTCAA
     GGGGCGTCAGGCGGAAAAAGGAAATGAAAATGCCGTCTGAACGGCAAAACGTGCGTTCAG
     ACGGCATTTTGGGCGGATCGCGTCATCGCGCCAAAGCCTTCAAACATTCTTTGACCAATG
     CCGGACCTTTGTATATCAATCCGCTGTACACTTGGACGGCGGTCGCGCCCAAGCGGATTT
     TATCTGCCGAGTCCTCGCCTTCCATAATGCCGCCTACGCCGATAATCGGCAGCTTGCCGT
 45  CTATGTGGTCTGCCAACAGCTTCAACACCCGATTACTTTTTTCATGAACGGGCAGCCCGC
     TCAAACCGCCCTGCTCGCCTGCGAGCGGATGGCTGCCGAGACTTGATTTGTCGATGGTGG
     TATTGGTAGCGATGATGCCGTCCATTTCGACGGATTTGACAACGTGGGCGATGTCTTCGA
     TTTGTGCTTCATCCAAATCGGGGGCGATTTTGACGGCGAGCGGGACGTATTTCCCGTGTA
     CAGAGGCAAGCTGTGCCTGTTTGTTTTTCAAAGCCTCAAGCAATGCGCTCAACTCGTCGC
 50  CACCTTGCAGCGCGCGGAGGTTTTTAGTGTTGGGCGAGGAAATATTGACGGTAATGTAAC
     TTGCGTGTGCGTAGGCTTTTTCAAGGCAGATTAAATAATCATCGGCAGCGTTTTCGATGG
     GTGTAACCGCGTTTTTACCGATGTTGATGCCCAATACGCCACTGAATTACTTTTTTCGA
     TGTTGCGTATCATGGTGTCGATACCGTGGTTGTTGAAACCCATGCGGTTGATGATGCCTT
     GGTGTTCGGGAACGCGAAAGAGGCGCGGCTGCGGGTTGCCGGGCTGCGGGTTGGGCGTTA
 55  CCGTGCCGATTTCGATGAAACCAAAGCCGAGCGCGCCCAATGCGTCGATGTATTCGCCGT
     TTTTGTCGAGTCCGGCGGCAAGTCCGACAGGGTTGGGCAAATCCATACCCATCAATTTTA
     CAGGTTTGGTACGGTTGTCGGTTACAGGAATCAAACCCAATTTATAAACCGTGTAGAGCG
```

```
CGTCGAGCGTGAAGTGGTGGGCTTTTTCGGCATCGAGTGCAAACAGGATGCGACGGGCAA
GTGGATACATGACAGGGCTTTCTGCTTCAGATGGAAATGCCGCCATTTTAACCGAAATCC
CGCCAAACATACGGCACACAGGTCAAACTTGAACGACAAAACCCGCCGCACCCAAAAATG
TACAAATCGGCAAATATTGATATAATAGTCATTAGATAGAAAACTCTATTAAAAGTCGGT
ACAATACCACCGATTTATTTCCCTTAAACAACCTGCCGCAAGGCATAAAGGAACGACTGA
TATGTCAAACATCGAACAACAAGTTAAAAA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 17>:

gnm_17

```
CTGCTTGCCGCCACGGCAACAGACAGACCGATGACCATGATGACGGGGCCGATGACGACC
GGAGGCAGCAGTTTGTGTACCGCTGCCAGTCCGCGCCAACGGATCAGCGCGGCAAACACA
AAATACATAAAGCCGGCGGCAAACAGTCCGAACATGGTGGAAGGCAGCCCCCATTCGCCG
ACGGAGTAGATAATCGGTGCGATAAAGGCAAACGAACAACCAAGAAAAATCGGCACTTTG
CGTTTGGTTGTGATTTGGAACAGCAGCGTTCCCAAGCCTGCGCCCAAAAGCGCAAGAGCC
GGATTCAGACCGGTCAGCAGGGGAACCAGCACCATTGCGCCGAATGCCACAAATAAAATC
TGTGCACCGGAAACGGCAAGTTTCAGTTGGTTCATACCATCTTCTTTCAATCGGTTCAAA
CGGCACGGATTATACTGGTTTGCCGAGGGTCTGCGTAAAAATACATACGTCGGGCAACAG
ATATGCCGTCTGAAAGGCAATGTCTGTCTGTTGCAGGATGAAAGCAGGAGAAATGGAGTA
TAATCCGACACTTTCCATATTCAATCCGCAAGCCGTCCGGCTTCCTTATTTCAGACGGCA
TTTTCCGGTAATACGGCATGACAGAAAAATCCCATAAAAAAACAGCAAAAGGCAGGGCGG
GAAGCCCGTCCCCAACGTCCGCACGCAACAAGAAAGCCGACAACGGCGCACGGGGCAATA
AAGTTTCCGAGCGGCTCAAGGCGGTCAAAGAGTTGCAGAAAACCGAAACCAAAAAGGCGC
GTCCCGAACATGTCGTCAACCTTATCGGCGACGCACTGTGGCTGATGGGTTTGGCGGCAA
CCCTGTATTTGGCGATTTCCCTGATCAGTTTCGATATGGGCGATCCGTCTTGGTCGCACA
GTTCGCCGGTTGTGGAAGATGTCGCCAATTGGGGCGGACTGTTCGGCGCGTATGTTGCCG
ATGTCGGCTATTATCTTTTCGGCTGGTCGTTCTGGTGGTGGATAGCGGCTGCCTGCGTCG
TGCTGTATAAAAATTTCCGCCTGCACGCAAAACAGACGGAAAACGAGGCATACAACCACA
AAATCGCTGCCGCCGCGCTGTTTGTCCTGACGGTCTTCAGCCCCGTCTTGGAGTATTTTG
TGCTGGGCGGAAAATATGCCGACTCCCTGCCTGTCGGAGCAGGCGGTATGGTCGGCATAC
GCGTCGGCGCAGTGTTTGCGTGGCTGCTGGGGAAATCGGGCAGCCTGCTGATTATCTTGG
TTGTTCTGCTGTTGTCGTTGTCCCTGCTGGTGCAGATTTCATGGCTGGAATTTTTGAACG
GTGCGGGCAGGGCGGTTCAAAACCGCCTGAGTGCCTTATCCGGCAAGGTCATGGCTTTAG
GAAAACGCCGGCCGAATACCAAAACAGACGGTGTCGATACCCAAAATACACGGCGCATGG
TAAAAGAAGCCAAGAATATTACGGCCAAACCCGTTGCCTTGCCCGAAGGCAGCAGCAGCA
ACCGCAAATCCGTCGCGGTTTCCGTCGCGCCGCCGCCCAAAATTCAGGTTTCTCTGTTTG
AAGATGACGAACCTCGGCAGGCGGGCGAATACCACAAGCCTACATTGAACCTATTGCGGA
TTCCTGACAGCGAACCCGTCAGCATCAATCCCGCCGAATTGGAGCGCACTGCCGAACTGA
TCGAATCCAAACTGGCAGAATTCGGCATCGGCGTACAAGTCGTATCCGCCACATCCGGCC
CCGTCATCACGCGCTACGAAATCGAACCCGCGCAAGGTGTTAAAGGCAGCCAAATTGTTG
CCTTGTCGAAAGATTTGGCACGCTCTATGTCGCTGCAGTCCGTGCGTATCGTCGAAACCA
TCGCAGGTAAAAACACGATGGGCATCGAGTTGCCCAACGACAAACGCCAAGACGTGATGT
TGAGTGAAATCTTGTCCTCGCCCGTGTTTGCCGAAGCCAAATCCAAGCTGACCGTCGCGC
TGGGCAAAGACATTGCCGGTACCCCCGTTGTCGGCGACTTGGCGAAAATGCCGCACCTTT
TGGTCGCCGGTATGACTGGTTCGGGCAAGTCCGTCGGCGTGAACGGCATGATTATGTCTA
TGCTTTTCAAAGCTACGCCCGACGAAGTCCGCTTCATTATGATAGACCCGAAAATGCTCG
AGTTGAGCATTTACGACGGTATTCCGCACyTGCTCTGTCCCGTCGTGACCGATATGCGCG
AAGCAGGGCAGGCGTTGAACTGGTGCGTCGCCGAAATGGAAAAACGCTACCGCCTGCTTT
CCCATGCCGGTGTGCGTAATTTGGAGGGCTTCAACCAAAAAGTCGAAGCCGCAAAAGCGG
CAGGCAAGCCGCTGCTCAATCCGTTCAGCCTGAACCCCGACGAGCCCGAGCCGCTGGAAA
AACTGCCGTTGATTGTGGTCGTTATCGACGAACTTGCCGACCTGATGATGACCGAACGCA
AAGCCGTCGAGCAGCAAATCGCCCGTCTCGCCCAAAAAGCGCGCGCCGCCGGTATCCATA
TGATTGTCGCCACCCAACGTCCCAGTGTCGATGTCGTTACCGGCCTGATTAAAGCCAACA
TCCCGACGCGTATGGCGTTTACCGTGCAAAGCAAAATCGACAGCCGTACCATCCTCGACC
```

```
     AAATGGGCGCGGACGAACTGCTCAAATATGGCGATTCGCTGTTCCTCCAGCCCGGCAGTG
     CCGAACCGACTCGCCTGCAAGGCGCGTTTGTTTCAGACGACGAAGTACATCAAGTCGTCA
     ACTATGTCAAATCGCAAGCCCCAGCCGACTATATTGAAGGTCTGCTCAGCGGCGAGGCCG
     CGCTGGAAACTGCCAATATCGTTAATCCGAATGCAGACAGCGACGAATTGTTCGATCAGG
  5  CAGTCGCCTATGTTTTGGAAAGCAAAAAAACCTCCATTTCGTCTTTGCAGCGGCAGCTGC
     GCATCGGCTATAACCGCGCGGCAAACCTGATGGAGGCACTGGAAAATGCGGGTGTCGTTT
     CTTCCACCGACCTCAACGGCAGCCGTAAAATTTTGGCGCACAAGGACCATTTGTAGCCCG
     TATTGCAAAATGCCGTCTGAACGGCGGAATTGGCGTTTCAGACGGCATATTATGTTTCAG
     GCGAAACATTGTGATATACTTGCCAGCTAAAATTTCCCCTTTGCGGCAATGCGGTTCAAA
 10  TATCGTACCGTTGCGCTGTTTGCTTCCCCATGTAGGGAAGAAAGTTTATCATTTTATCAA
     CACAACAAATTTAAGGGCTTATGATGAGCGTAACTGTTGAAACTTTAGAAAATCTGGAAC
     GCAAAGTAGTGTTGTCCCTGCCTTGGTCCGAAATCAACGCAGAAACCGATAAAAAACTGA
     AACAAACCCAACGCCGTGCAAAAATCGACGGTTTCCGTCCGGGTAAAGCACCTTTAAAAA
     TGATTGCCCAAATGTACGGTGCGAGCGCACAAAACGACGTGATCAACGAGCTGGTGCAAC
 15  GCCGCTTCTACGATGTTGCCGTTGCCCAAGAGTTGAAAGTGGCAGGCTTCCCCCGTTTTG
     AAGGCGTTGAAGAACAAGACGATAAAGAGTCTTTCAAAGTTGCCGCCATTTTTGAAGTGT
     TCCCCGAAGTCGTTATCGGCGATTTGTCTGCACAAGAAGTTGAAAAAGTAACCGCTTCCG
     TCGGTGATGCCGAAGTGGACCAAACCGTAGAAATCCTGCGCAAACAACGCACCCGCTTCA
     ACCATGTCGAACGCGAAGCCCGAAACGGCGACCGCGTCATCATTGACTTTGAAGGCAAAA
 20  TCGACGGCGAACCTTTTGCCGGCGGCGCATCCAAAAACTACGCCTTCGTATTGGGCGCAA
     GTCAAATGCTGCCTGAATTTGAAGCCGGCGTAGTCGGCATGAAGGCTGGCGAAAGTAAAG
     ACGTTACCGTCAATTTCCCTGAAGACTACCACGGTAAAGACGTTGCCGGTAAAACTGCCG
     TGTTTACCATTACGCTGAACAACGTTTCCGAAGCGACTCTGCCTGAAGTCGATGCAGATT
     TTGCAAAAGCCTTGGGTATTGCGGATGGCGACGTTGCCAAAATGCGCGAAGAAGTGCAGA
 25  AAAACGTAAGCCGCGAAGTGGAACGCCGCGTAAACGAACAAACCAAAGAATCCGTAATGA
     ACGCGCTGCTCAAAGCCGTAGAGCTGAAAGCACCTGTTGCTTTGGTCAATGAAGAAGCCG
     CACGCTTGGCAAACGAAATGAAACAAAATTTTGTTAACCAAGGTATGGCTGATGCTGCCA
     ACTTGGATCTGCCTTTGGATATGTTCAAAGAACAAGCCGAACGCCGCGTATCTTTAGGTC
     TGATTTTAGCCAAACTGGTTGACGAAAACAAACTGGAACCGACTGAAGAGCAAATCAAAG
 30  CCGTTGTTGCCAACTTTGCAGAAAAGCTACGAAGATCCTCAAGAAGTGATTGACTGGTACT
     ACGCAGATCCTTCCCGCCTGCAAGCCCCGACTTCTTTGGCGGTAGAAAGCAACGTCGTTG
     ATTTCGTTTTGGGCAAAGCCAAAGTAAATGAAAAAGCTTTGTCTTTTGACGAAGTGATGG
     GCGCGCAAGCCTGATTATCCTGAAAATGCCGTCTGAAGGCAGTTTTTGAAAGCACCGAAG
     CCGCTTTTAAAGCTCGCTTTGGTGCTTTTCCATCATGAAAGGAGACGAAATGTCTTTTGA
 35  TAACTATCTTGTCCTACCGTTATCGAGCAGAGCGGTCGCGGTGAGCGTGCATTCGATATC
     TATTCCCGGCTTTTGAAAGAGCGCATCGTATTCTTGGTCGGACCGGTAACCGACGAGTCC
     GCCAATCTGGTGGTTGCCCAACTGTTGTTTTTGGAAAGTGAGAATCCGGATAAGGATATT
     TTCTTCTATATTAACTCGCCGGGCGrTTCGGTAACGGCCGGTATGTCGATTTACGACACC
     ATGAATTTCATCAAGCCCGATGTATCGACTTTGTGCTTGGGGCAGGCGGCAAGTATGGGC
 40  GCGTTCTTATTGTCGGCAGGCGAGAAAGGCAAACGTTTTGCCmTACCCAACAGCCGGATT
     ATGATTCACCAGCCTTTAATCAGCGGCGGTCTGGGCGGTCAGGCATCCGACATTGAAATT
     CACGCACGCGAACTTTTAAAAAATCAAAGAAAAACTCAACCGCCTGATGGCGAAACATTGC
     GACCGCGATTTGGCAGATTTGGAACGCGACACCGACCGTGATAATTTCATGTCTGCCGAA
     GAAGCCAAAGAATATGGTTTGATTGACCAGATTTTGGAAAACCGCGCTTCTTTGCGGCTT
 45  TAATAAAAGAAACCTGAGAGAAACCGATGCCGTCTGAAACGTTCAGACGGCATTTGTTTC
     AAGCTGCGTTTGATATGGTATCGATACCGTCATCCACGGGACGGAAGAAGGATTTGGAGT
     TTTTTAAAGGATCCCCGTTCCCGCCTGTGATGGACGGATGCCGTCTGAAAGCCAAATGGG
     GCAGCAGTTTTTGCAAGGGCGCGACACTCGCATCCTCCTGAATCTGCCGGTACGGTTATT
     GAGAAAGACAAGGGCAGGAAGCGGTATCCCGCCTTCCTTATTTATACCTGCAATTCATC
 50  TCCGTATTTGCCGATTGTATTTTCATATTGCGCCTCCATTCCTTATCGGTTTAAAAAAAT
     GCCTTTTCCAATGGGATGGGTTTTATATCAATGAAAATAAACGGTTTTTATTTAAAAATA
     GCCAAGGTAGGCTGGCGGTTGGATTTTATAGGGAGTGTATCGGGATAACCTTCCCTTGAT
     GGCGTTTGAGTCCGTTCTCCCCATAATTGGTTTTGACATACTCTTCAACAATAGCCAGAA
     ATTCCGTTGCAATGTTGTCGCCTTTCAGCGTTACTTTACGTTCACCATCTACATAAACAG
 55  GGGCAACGGGTGTTTCTCCCGTACCGGGCAGGCTGATGCCGATGTCGGCCAATTTGCTTT
     CTCCGGGCCCATTGACAACGCAGCCCATTACGGCAACGTTCAGGGATTCAACCCCAGGAT
     AAAGGGTACGCCATATAGACATTTTTTGGCGCAGGTAATTTTGAACATCTTGTGCCAGCT
```

```
     CTTGAAATACGGTACTGGTGGTACGCCCGCAGCCGGGGCAGGCGGTAACCATCGGCGTAA
     ACGAACGCAATCCCATAGTCTGTAAAATCTCTTGCCCGACGACGACCTCCTGAGTACGCG
     GGCTGCCAGGTTCCGGAGTCAGTGAAATGCGGATGGTGTCGCCGATTCCTTCTTGAAGCA
     AGACGGATAATGCCGCCGTTGATGCGACAATGCCTTTGCTGCCCATACCGGCTTCGGTCA
5    AACCCAAATGCAGCGGATAGGCGCAACGGCTGCCCAGTTCGCGGTAAACCTGAATCAAAT
     CCTGAACCGCGCTGACTTTGCACGACAGGATGATTTTGTCTTCGGGCAGTCCCAATAGAA
     CGGCTTTTTCGGCAGATTCCAAAGCGGAGACAATCAGTGCTTCCTTCGTCACTTCTTCGG
     GCGGTTTCGGCGCGGAAGAAGCGAGGTTGGCATCCATCATACGTTGGCGAGGCTTTGAT
     CCAAAGAACCCCAGTTTACGCCGATGCGGACGGCTTTATCGTTTTCAGCAGCAGTCCGAA
10   TCATAAAGGCAAATTTTTCATCGCCTTTTACGCCTTTGCCGACATTGCCGGGATTGATGC
     GGTATTTGGACAATGCTTTGCCGCATTCTGGAAATTCCGCCAACAGGCGTTCGCCGTTGA
     AGTGGAAATCGCCGATAAGCGGTGTGGCATAGCCCATATCGTCCAAGCGGCGGCGGATTT
     CGGCAACTTTGGACGCGGCTTCGGGGCTGTTGACGGTAATACGCACCATTTCGGATCCGG
     CATCGCTCAATTCCTTAATCTGCAATGCGGTGGCTTTTGCATCGGCAGTGTCGGTGTTGG
15   TCATAGATTGGATAACGACGGGTGCTTCTGAACCGACGGTAATATGATCGATGCGGACTT
     GATGCGTCTTGCGGCGTTGGAGTGTGTTCATATGGTTTGAATCTGTTTATTGACCGGTGA
     GGACGGTTTGCAATTCTTCCGAGTAGGGGAAATTCGCCTGCAATTGTGCTTCATATTCGT
     ATGCCGCCTGTGCGTTGCCGAGGGCTTTGGCAATTTTCCAGCCTAGCAGCAAATCATCGG
     CCTGAAGGACTTCTACCCTGCTTTGGTATTTTTAAAGTAGTAATCGGCATCGCCCAACT
20   GCCCGGCCAGCATTTTGGTGCGCGCCAGTTCTTTAAATGCGGGTGGGAACTGCGGCTGGG
     CGGCGAGGGAACGTTTCAAATAGGCTTCCGCCAATCCGAATTGCCCCTGTTTTGCGCTGC
     ATATGCCTTTATTCAGGTTGGCAATATAAGGGGTCGGGTAGGTGGGGTCGGCCAGAGCTT
     TGTCGAAATATGCCATAGATTCGGCAGGGCGGTTGAGCCTGCCGCATAGGAACCAACCGT
     AGTTGTTGTTGATTTCGGCACTGTCGGGTTTGATGGAGAGGGCTTGCCGGAAACTTTCCT
25   GCGCCTTGTCGTTAACTTTCAGGTATTGATAGATTTCGGCACGGACCAGCCAGGCAAGCT
     CGTTTTTAGGGTCCGATTTCAGGGCGTCTTCAATACTTGCCGTCGCCTGACGGTAGTCCT
     GACCGCGCATATATTCCATTGCCAACTGGGTTTTGATATTGGAAACCTGATTGGCTTTTT
     CTGCCCGCGAGGGGCGGTAGGAAGTGCTGCACGCGCCCAAGGCAAGAACGAGTAATAAAG
     AGATTCGTTTGGATGGCTTAAAAGGCATAATTACCCCTGTTGTCCGATTAAAATCTGCTG
30   CCATTTTTGTTGGCGGCGCGTTTTATCCTGAACCTGCCCCGCCAACTGTCCGCAGGCGGC
     ATCGATGTCGTCGCCGCGCGTTTTTCGTACGGTAACGACAAATCCTGCCTGCTGCAAAAT
     ATCGCGGAACACACGGATGTTCTCATTGCTGGAGCGTTCGTATCCGGAGTTTGGGAAGGG
     ATTGAACGGAATCAGATTGAACTTGCAGGGAACATCTGTGACCAGTTCGATCAGTTCGCG
     CGCATGTTGCGCCTTATCGTTTATTCCGTCCAACATGACGTATTCGAAAGTGATGAAATC
35   CCTGGGTGCTTTGACCAGATAGCGTTGGCATGCGGCCATCAATTCTTTCAAGGGATATTT
     TTTGTTCAACGGTACGATTTGGTTGCGGACTTCGTCATTGGAAGCGTGGAGGGAAACCGC
     CAAAGCCACCGGCATGACATCGCGCAACCTGTCCATTTGGGGAACCATACCCGAAGTGGA
     AACGGTTACGCGGCGGCGGCTCAAACCGTAGCCGTGGTCGTCCAGCATGATGCTTAAGGC
     GGTAACGACATTGTCGAAGTTCGCCATCGGCTCGCCCATGCCCATCATGACGACGTTGGA
40   AATCACGCGCTCGTTTTTCGGTGTAACGCCCATCGCTTTGTTTGCCCACCACAATTGCCC
     GATGATTTCGGCAGCAGTCAAATTGCGGTTGAAGCCCTGCCGGCCGGTCGAACAAAATGT
     ACATTCCAAAGCGCAGCCGACTTGTGAGGAAATGCAGAGCGTGCCGCGATCCGATTCGGG
     GATGAAGACGGTTTCCACGCCGTTGCCCGTACCGACATCCAAAAGCCATTTTCGAGTGCC
     GTCTGAAGATTTTTGAGACATCATCAGCTTGGGAATTTCGATGCCTGCCTGTTCGTTCAG
45   TTTATGGCGCAACGATTTTGCCAAATCGGTCATTTCGTCAAAATTTTGCGCGCCGGATTG
     GTGCATCCAACGCATAACCTGTTTGGCACGGAAAGGTTTTTCGCCCATATCGGCAAAATG
     TCGGGTCAGCCCTTGAAGGTCGTAGTTGAGCAGATTGGTTTTCATGTGTTTGTGTTTTTC
     TTAAATCAAGGCTTCAAATAAAAAATTGCAGGGCAGGCAAGTTTGATTTGAAGCCTTTTG
     CAACAGAGTTTTCAGACGGCATGGATATATTTATGCCGTCTGAAGAGGAGTTGGGCGGTG
50   TATTGTATCAACGGGGGCAGATTTCGGTTTGGCTGAAAAAGTAGGCAATTTCCAAAGCGG
     CATTTTCCACGCTGTCGGAACCGTGTACGGCATTAATGCTGACCGAAGTGGCAAAGTCCG
     CGCGTATCGTGCCTTCGGCGGCTTCGGAAGGATTAGTTGCACCCATCAGTTCGCGGTTTT
     TCAGGACGGCGTTTTCACCCTCTAATACCTGAATCATAACCGGACCGCCGGTCATAAATT
     CAACCAATCCGGCGTAGAAGGGGCGGTCTTTATGAACCGCATAAAATTCTTGCGCCTCTT
55   TGAGAGTAAGCTGCTTCATTTTGGCGGCAACGATTTTCAGACCGTTCTCCTCAAAGCGGC
     TGTATATTTTGCCGATAACATTTTTGCCGACGGCATCGGGTTTGATGATGGAGATGGTAC
     GTTCAATCGCCATGCTATATCCTTATTTTTACTTAAGAAGAATCAAATCGGTATTCTATC
```

```
AAAAAAATAACTTATCCGCCTGAAGCCTTGGGAGATAGGGTCAGGTGCGGCTGTTCCAAA
TAAACTTCGGACTGCATTTCGACCATCCGGCTGGCGGTGCGGGTAAATTCTTCGGCAAAA
TCGCCTTCCGTATAGATATGGTTGACATCTACCGCGCCGGTGGCACACAGTTTGACCCGG
AAATCGTAGAGTACGTCAATCAGCCAAGTCAGCCGCCGCGCCTCCGCCTTTTCTTGCGGT
GAGAGTTGTTCCAAACCTGAAATAAAAACCATTTCATAATGTTCGGCCAAATACAGATAG
TCGGACTGTGAGCGGGGGCCGAAGCACAGTGCGCGGAAATCAAACCATATGGCACGGCCG
GACTCGGCTTTGTGGGGAATCTCCCGACCGTGGATGGTGCTGATGCCGGGGTTCAAATCG
GTAATGCCTGTCATTTCTTTGAACAGTTTTGCCAGTTTTGCCTCATTTTCTTCATTGGCA
GGCGTAAAGAAAATCTCGGCGGGGCGGAGGGTACGCAGTCGGTAGTCTTCACCGCCGTCA
ACGTTTAAGACGGTCAGGCTGGACTCGATGAGCGCGATTGTGGGAAGAAAACTGCTCCGG
TTTTGACCTTGCGGGTAGAGTTCGGAAGGCGCGTAGTTTGAAGTCGCCACCAAAACAACG
CCCTCGTTAAGCAGGTTTTCCAGCAGACGGCCTAAAATCATTGCATCCGCAATATCGCTG
ACATGAAATTCGTCAAAACACAATACGCGGGTTTCTTTGGCAATCTCGGCGGCAACGGAT
TTCAACGGGTTGCTTTCGCTTTTCAGGGTTTTCAGCCGCTGGTGGATTTCTGCCATAAAG
GCATGAAAGTGGACGCGGCGTTTGCGGCGGTACGGGAGGCAGCCGAAAAAAGCGTCCATC
AGAAAGCTTTTGCCGCGTCCGACCCCGCCATAGAAATAAAGCCCTTTGGGGACTTGCGGG
GAACGCAAACTCCTGCCTAAAAAACGGTTTCTTTTGCGTTTGAACATCATCAATTCGGTC
CAAAGCCGATCGAGGTGTTCGATGGCGGCTGCCTGCGCGTCGTCGCGGATGAAGTTGGGC
AGTTGTGAGGCAGCCTGATACCAGGTCAGCGGGCTGTGGTTTTCAAACGGCGGGGCTTTA
AAAAGTTGGTCTCTATTACTCATATTTAACCTTGTTATACTTCTTGCGGCTAAGAAAGAA
AATGCTTACCGTCGGTATTATAAATGATTTCCTTCAAACTTGGCATTTTCCGTGGAAAAG
AATAATGACGCGCACAAGGGGGTATAAGCAAAGGCGGCGTTTCAATATGGTGCAGATATG
AGCTCAAATGCCTTTTATAGTAGATTAAATTTAAACCAGTACAGCGTTGCCTCGCCTTGC
CGTACTATCTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTAT
AATCCGTAGAGTCGGCTCCTTTCGGCTCAGACGGCATACGTTTATGCCGGCACTTCTTAC
CGCCCTCGTGCCGGCTATCCCAAAACTGCTTTGAACACTGAACGCTCTTTGGTTTACTTC
AAAAACGCGGCGTGATAAGCAATATGCTCGCCAATAAAACTGGCGATGAAGTAATAGCTG
TGATCGTAGCCTTTATGGAAACGCACATCGACCGGCTGGTTTGCCGCACGGCAGGTTTCG
ATAAAATCTTCGGTACGCAATTGTGTCGGCAAAAACTCATCTTCCAAGCCTTGATCGATG
CGCATACCTTGCACTTTATAGCCTTGTTGAATGAGTGAGTTAGCATCATATTGCTGCCAT
TTTTCACGGTCTTTCCCTAAATAAGCAGTAAAGGCTTTTTCTCCCCACGGCACGAGGCTT
GGCGATAAAATAGGCGAAAAGGCAGAAACACTTTGATAACGTTCCTGATTCCGCAGCGCC
AATACCAATGCGCCGTGTCCGCCCATTGAATGTCCCATAATGGAACGTTTGCCGTTGGTA
GGAAAGTGTTTCTCAATCAGACGGGGCAGCTCGTTCAAAATGTAATCATACATTTGATAA
TTCGCCGCCCAAGGCTGTTCGGTCGCATTCAAATAAAAGCCTGCACTCTGTCCTAAATCG
TAAGCATCATCGTTCGGCACTTGCTCTCCGCGAGGGCTGGTATCGGGGGGCCACCACAATT
ACTTGATGTTCTGCCGCATAACGCTGAAAGCCTGACTTGGTAATGAAATTTTGTTCCGTA
CACGTCAAGCCGGAAAGCCAATAAATCACACCAAGCGGTCGATTTTCTGGATTATTTGGC
AAATAGACGGCAAATTTCATTTCGCATTGCAGCGTTTGGGCATGATGCGCCCAAACTTGT
TGCGAACCACCAAAAATTTGATGTTGTTCAATCAGTTTCATCGCATACCTTAGTAGTGAA
TAACGGCGCGGATCGATTTACCTTCGTGCATTAAGTCAAAGGCTTTATTGATTTGATCGA
GTGTCATTGTGTGGGTTACAAACGGTTCTAACTCAATGTCGCCTTTCATTGAATCTTCCA
CCATTTTCGGCAGTTCAGAGCGACCTTTCACACCGCCAAATGCTGAACCTTTCCAAACAC
GACCTGTTACCAACTGGAACGGACGCGTTGAAATTTCTTGTCCTGCACCTGCTACGCCGA
TGATAATGGATTGACCCCAACCACGATGTGCACTTTCTAATGCCTGACGCATTACGTTTA
CATTGCCGATACATTCAAAGGTATGGTCAATGCCCCATTTATTAATGTCTAACAACACAT
CTTTGATCGGTTTATCGTAATCGTTCGGGTTCAAACAATCCGTTGCACCGAACTGTTTTG
CCAACTCAAATTTTGATGGATTGGTATCAATGGCGATAATGCGGCCGGCTTTGGCTTGAC
GCGCACCTTGCACCACCGCCAAACCAATCGCCCCCAAACCAAACACGGCAACAGAGTCGC
CTTCTTGCACTTTTGCCGTATTATGTACCGCACCAATACCTGTGGTAACGCCGCAGCCGA
GCAAACATACTTGTTCATGGTTGGCTTCAGGGTTGATTTTCGCCAGTGAAACTTCGGCAA
CAACGGAGTATTCACTGAAAGTCGAACAGCCCATATAGTGATAGATTGGCTGACCTTGAT
AAGAAAAACGCGTCGTGCCGTCCGGCATTAAGCCTTTACCTTGTGTATCACGCACTGAGA
CGCACAAGTTGGTTTTACCTGAACAACAAAACTCACATTCGCCACATTCGGCGGTGTAAA
GCGGAATCACGTGATCACCCGGTTTTACGCTTGACACACCTTCGCCCACAGCAACGACCA
CACCCGCACCTTCGTGTCCAAGCACCACAGGGAATACGCCTTCAGGATCGCTTCCTGATA
ACGTAAACGCATCAGTATGGCACACGCCAGTGTGGGTATTGCGGATTAACACCTCGCCTT
```

```
TACGCGGCATTTCTACGTCGATTTCCACAATTTGTAAGGGTTGGTTAGGGGCGAATGCCA
CCGCCGCACGAGATTTGATGGTTGAATCGGCTTGTTTCATTTCCATTGTCTTTCCTCTTA
ATTCATTGACAAAGTTGCCTTGCCTGAGCAACATAGCAACAGTTTACACTTTAGAGTTAA
CTCTAAAGCAAGTGTTTTTTACTGTTTTTGTTTAGAAGGAGGGAAAATGACTTATACTAC
TGCCAAAGCCGCCGAAAAAATAGGCATCTCCGCCCACACCCTACGTTTTTACGACAAAGA
AGGTTTGTTGCCCAATATCGGACGTGATGAATACGGTAACCGCTGTTTTACCGATAACGA
TTTGCAATGGTTGGGCTTATTGCAATGCTTGAAAAATACGGGAATGAGCTTAAAAGACAT
CAAACGCTTTGCGGAATGTACCGTCATTGGCGACGATACCATTGAAGAACGCCTTTCCTT
GTTTGAAAATCAAATAGAAAATGTGAAGTGTCAAATTGCCGAATTAAAACGCTATTTAGA
TTTGCTTGAATACAAATTGGCGTTTTACCAAAAAGCGAAAGCATTAGGCTCGGTAAAAGC
TGTAAATTTGCCGCAAATTCCTGAAACGGCTTAGTTTTAGTGCAATAAGCAGGATTTTTG
TCCTGTTCGTAATAGAAATCAAAAATTTGTTGTTTAAAAAGCGGATTGTAAGCAATGATA
TAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTGTAAATAGTACGG
AACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATTGTTCTCTTTGAGCTAAGGCGAGG
CAACGCCGTACTGGTTTTTGTTAATCCACTATAAAAAAATCCACGCTCTAATCCGTTGCT
TGCTTGGCTCAAGGTATTGAAGCAACGGATGAAGTTAAACCACAGAAAAAACGCCGCGTA
ACAGCGGCGTTTTGATGCTAAGGTTTAATTGGCATTTCTTTTAAAGCCAAGTCGACCCG
CTCGCGCAATTCTTTACCGGGCTTGAAGTGGGGTACATGTTTTTCAGGTACTTCCACACG
CTCGCCGGTTTTGGGATTGCGACCGATGCGGGCAGGACGATGGTTCAAATCGAAGCTGCC
GAAACCGCGGATTTCGATGCGTTGACCTCGGGCAAGCGATCTAGTCATGGTGTCAACCAA
GACTTTTACGCTGTACTCTACGTCTTTTGCCAGAAGATGCGTGCCGTTTTTGGCGGCAAA
CACTTCTGCCAAACGAACCATTAACTCAGACTTTGTCATGTCTGCAACCTTATTCTTGTT
CGCCGGAGAGTTTGGCTTTCAGCAGGTCGCCCAAGCTGGTGGTGCCGGCATTCGCATTGG
CGGCGGCATTGACGGAGTTCAGTGCTTCGCGGCTTTCTTTGGCATCTTTGGCTTTAACGG
AAAGTTTGATGCTGCGGTTTTTGCGGTCAACGGTAACGATGACGGCTTCAACTTCGTCGC
CTTCTTTCAGTTTGGTGGTCAAATCTTCAACGCGGTCGGCTGCAAATTCGGAAGCAGGCA
GGTAGCCTTCTACTTCGTCAGACAGGGCGATAACAGCACCTTTGGCGTCAACAGATTTCA
CGGAACCTTTAACCAAAGAACCTTTGTCGTTCACGCTGATGAAGTTGCCGAACGGATCGC
CTTCCAGTTGTTTGATACCCAAGGAGATGCGTTCTTTTTCCACGTCGATTGCCAATACGA
CGGCTTCGACTTCTTCGCCTTTTTTGTATTTGCGTACGGCTTCTTCGCCGGATTCGGTCC
AGGACAGGTCGGACAGGTGAACCAAACCGTCGATGCCGCCGGGCAGGCCGACGAATACGC
CGAAATCGGTAATGGATTTAACCGCGCCGGAGATTTTGTCGCCTTTGTTGTGGTTGGCGG
CAAATTCTTCCCAAGGATTGGCTTGGCATTGTTTCATACCCAAAGAGATACGGCGGCGGC
CTTCGTCGATTTCCAAAATCATGACTTCGACTTCGTCGCCCAGTTGTACGACTTTGCTCG
GGTGTACGTTTTTGTTGGTCCAGTCCATTTCGGAGACGTGTACCAAACCTTCGATGCCTT
GTTCGATTTCGACGAATGCGCCGTAGTCGGTCAGGTTGGATACTTTGCCGAACAGGCGGG
TGCCTTGAGGATAACGGCGGGTCAGACCGCTCCAAGGATCTTCGCCCAGTTGTTTCATAC
CCAAGGAAACGCGTTGTTTTTCTTGGTCGAATTTCAATACTTTGGCTTCAACTTCCTGAC
CGACTTCCAAGACTTCACTCGGGTGTTTCACGCGCCGCCATGCCAAATCGGTGATGTGCA
ACAGACCGTCGATGCCGCCCAAGTCAACGAATGCACCGTAATCGGTAATGTTTTAACGA
TGCCTTTGATGACGGAGCCTTCTTGCAGGTTTTCCAGCAGGGCTTTGCGTTCTTCACCCA
AAGTGGCTTCCAGAACGGCGCGGCGGGAACAACGACGTTGTTGCGTTTTTTGTCCAGTT
TGATCACTTTGAATTCGATCTCTTTGCCTTCGAAGTGAGAAGTGTCTTTTACAGGACGTA
CGTCGACCAAAGAACCCGGCAGGAATGCGCGGATGCTGCTAATCATAACGGTCAGGCCGC
CTTTGACTTTTCCGTTGATGATGCCGGACAGGATGTCGCCGTTTTCCATGGCTTCTTCCA
GGGCAATCCAATCGGCTGCACGTTTGGCTTTTTCGCGGGACAGTTTGGTTTCGCCGAAGC
CGTTTTCGACGGATTCGATGGTAACGGTAACGAAGTCGCCGACTTTAACTTCAATTTCGC
CTTGAGCGTTTTTGAATTCAGCTACATCAATCAGGGATTCTGATTTCAGACCTGCGTTTA
CGGTAACGAAGTTTGGTCGATTGCCACTACTTCAGCGGTAATCACCTCACCCGGGTTCA
TTTCTTGCAGGGGTAAAGCTTTCTTCCAACAGCTGAGCAAAATTTTCCATAGACATATATA
ACTCTTTTCGGTACACCGCCAAGGGGTGCGGGGTGGGTTGGTGGATATCTGCCGTCCTTG
GCAGGGCAGACGGGTACATAAGGTTTCAGACGGCATATGGGGGATTTTTATGCCGTCTGA
AACGTAATTTGTGCGATTATACCTGAAAATTTAAACTTCACGATACCAATCAAGCACTTT
TTTTACAGTTTCTTCTATAGTCAGGCGGCTTGTGTCCAAAAGCAGGGCATCGGGCTGTTG
TTTCAGGGGGGCAACTTTGCGGTTTCGGTCTGCCTCGTCTCTGGCTTCGATGTCGGACAG
GATGCGCTCGAATGCCAAACCTTCGCAGGGGATGCCGATTTGTTTGGCGCGGCGTTCGGC
ACGGATTTTGGATTCTGCCGTCAGGAAGATTTTAAGTTCGGCTTGGGGGAAGACGACCGA
```

```
     TCCGGTGTCCCGTCCGTCGGCAACCAGTCCTTTTTCGGTCAGAAAATCGCGTTGGCGTTG
     CAGCAGGGCGGCGCGGACTTTAGGCAACTGTGCGACTGCGGATGCGCCCATGCCGATGGC
     TTCTGTCCGGATGCCGTCTGAAACGTCTTCGCCGCCGAGCAGGATGCGGCTGCCTGAAAA
     TACGGCGGGCAGTTTTTTTGCCAGTTCGGAAACGTTTTCTTCATCGTGCCATCCCACGCC
  5  TTGTTTTTGTGCATATAGGGCAGTCAGGCGGTAGAGTGCGCCGGTATCGAGATAATCGTA
     TCCCAATGCGGCGGCAACGCGGGCGGCAACCGTGCCTTTGCCCGATGCGCCCGGGCCGTC
     GATGGCGATGACTTTTTGTCTGTTCATAAGGGGGATTCCTGATGGTTTGGGGTATGGGTT
     TTGCCGTCTGAAGGATGTGTTTCCCGTTGGGGCGGATTCTACCTGTTTTAAAGGACGATT
     GTCTAAGCAGACGGAACGCCGCCTGCCCGGAAACATCCGACAGAAGCCGGCAAGCCGGTT
 10  CGGATTTCGGCGTTGCGGGTATTGTGGCGGGCATCAAGGCAATGCTGTCTGAAAGAGGTA
     TGACCTTCAGACGGCATCGATTGCTGCGGATTAGAACAGGTTGCTGACGAAAATCAGCAG
     AATCACCAGCGGCACAAGATATTTCACATAAGCAAACCAAATATTGACCGTCGTATGGTT
     GCCTTTATAAAGCAATTCGTCCTTCGCTTCGTCCTTCATCACAAAACCGGCAAACAGCGC
     GGAACCGAGCGCGGTCAGCATAAACAAGATGTTGCCGCTGATGTAGTCGAAGGCATCGAA
 15  AATATTTTTGCCGAACACGGAACGTCTTTCCACGGACCATAGCTCAGAATGGACGGGATG
     TTGCCGAAAATGAAGATGGCAGCCAATACAATCGTAATCGCGGCGGTACGGCGGATTTTG
     GTTTTTTTCCTGAATGGTCGTAATCAACACTTCATAAATGGTCAGCGAAGTTGTCAACGCG
     GCAATCAGGAGCAGCGAGAAGAAAATCACGGCGAACACAGATCCCGCCCACATATGTGAG
     AACACAATCGGCAAGCTTTGGAACACCAAAGTCGGGCCGGAATCGGGGGCAACGCCGAAG
 20  CTGAAGAGCGACGGGAAAATCATAAAGCCCGCAAGTATGGCGATGATGGTATTGGTAATT
     GCCGTGATAACTGCCGTCTGAACCAGATTTTCGTTTTTATCCAAATAGCTGGACAAGGTA
     ATCATCACGCCGAAACCCAAGCTCAGGGCAAAAAATACCTGCCCCAAAACGAAGACGAAC
     AGTTCGGCGGTAATCTTGCTGAAATCAGGTTTCAGATAGAAAGCAACCCCTTCCATTGCG
     CCCGGAAGGGTAACGTTGCGGACGACCATCGCGATTAGGAACAAAAACAGCAGCGGCATC
 25  AGCTATTTTGCCGCTTTTTCAATGCCGCCGATAACGCCTTTGACCAAAATCCATTGGTTC
     ACGGCGACAAAAAGCAGCGTATAAAACGCAATTTCCCAAGGGCTGTTTCAATGTGTTCGG
     CAAAGAAGCCTTTTGTAACCACACCGTCGACGGGGCTGGAAATATTCAAATTTCCTCCAA
     TAATATTAACGATATAGCTGATTACCCAGCCGCCGAGTACCATGTAATAAGCCATGATGC
     CGAACGCGCCGAGCAGCCCATCCAGCCGACCAGTTTCCAAATTTTGGCAATGGGTTTGCC
 30  GTTCATCGGGCCGCCGAACGCATCCAGCGCGTTCACGCCTTTGCGCCGTCCGATGACATT
     TTCCACCAAAATCATCGGGATGCCGATAACCAGCATCGCGATACAGAATAAAAACACATA
     CGCGCACCACCGTTTTCACCGACCAAATACGGGAAACGCCACGTCGCGCCGAAACCGACA
     GTCGCGCCGGCAACGGTCAGGATATAGGTTAATCGGCTGGACCAGGTTTGACGATTGGTA
     TTTGAAGGGGAAGACATATTGAAACCGTGTCCGATTGAGATAAAGCGGAAATTCTACACG
 35  CGTTTTTTAACAGGAACTGACTGATTGCTTTTCAACTGTCTAGTGATTTTCCATGTAAAA
     GGCATATATTTCAGTGAGTATTTCTGATGAGTATAACCCGATGAGGAAGAATCGGAGTTT
     ATAAATAGATTAATTTGTTATTCTTCTACATCGGTGTATGGAAATGAAATTTTGTTAATT
     ATATTAATGATAGCATTTAAATAATGATGAAAGAGAGGGAATTTGAAATATAGTGGATTA
     ACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGCAAGGCGAGG
 40  CAACGCTGTACTGGTTTAAATTTAATCCACTATAAAAAAACCATCTATACAAGGGGAGAA
     GTATAGATGGCAAAACACATTACGGGGAAAACGTCTTACTCATAAGCCTGCTTGAACAGG
     CGTTACTCAGACAAATGGATTATATCGTAAATTGATTTTTTGCGTTAAATTGGGTTAAAC
     CATATATTTAATGAGTATGTGGATGAATATAAATGGAATTCTTGGATGTTATTTCAGAAT
     TTTGGACATTCGATAAATTTCCATTCCCCGGGTTTGAGGTTTTCTGTTTCCAGATGTGCG
 45  AATCGCCGGCGATGAAGGTGTTGCACGCGGTTGCCGGCGGCGGCGATCATGCGTTTGACT
     TGGTGGTATTTTCCTTCGGTAATGGTCAGCAGCAGGGTGGTCGGGTTTTTCAAAACGGCA
     TCGGCGGCACAAACGGTTTCGTTTTCGTCGTGGAGCAGCACGCCGTTTTTCAAGGTTTCG
     CAGAGCGTTTCTCCTGTGGGGTGTTTGAGCGTTACTTCGTACAGCTTGGGAATTTTTCTG
     CTCGGCGAAGTCAGGCTGTGGTTCAGTTTGCCGTCGTTGGTAATCAGCAATACGCCGGTC
 50  GTATCTGCATCCAGCCTGCCGACCGCCTGCATATCGATGTTCCGCATATTGTCGGGGAAC
     AGGCTGAATACGCTGCGGTAGTGCTTGGGTTTGTGCGAAGTTTCGTAATCTTCAGGCTTG
     TTGAGCATGATGTAGAAATAGGGTTCGGGAACGACGGTTACTGCTTCCCCGTCAATATCC
     AACGTTTCGACGGATGAGGAATCGATGTCTGCATCGGTGTCGTCCATGCAGGTTCCGTTG
     ATGAAAACATAACCGCCGGCAATCAGCCATTGGCACTGCTTGCGGCTTCCTATGCCTTGA
 55  TATTGCAGGTATTTGATAAGTTTCATGATGGTATGGGAAATGTGGGATGAAAAAGACAGG
     ACTGAGAAAGTCCTGTCATGTGCCGTATCCGAATCAGCTTCCAATCAGTTTGACCCTCTG
     TCCCGGATTGATGGTGTTCAGGTTGGGATTGAGCCGGCGGATGTCGTCGATATGGATATT
```

```
GAAGCGCGCGGCGATACTTTTGAAGGTGTCGCCTTTGCGCGCGGTGTAGGATACTTTTTC
AATACGGGTTTGGGCAGGGGCTGCCTGCGCCAGGCGGAGTACCTGTCCTTTTTGGATGGT
GTTGCCTTTGATGTTGTTGGCGACAATCAGGTCGGCTACACTGACGTTGTAGCGTTTGGC
AATGTTGAACAGGGTGTCGCCTTCTACAACGCGGTGGATGCTGGCATGGAGCGGGGAGAT
TTCGGCTTCGCCGTCGGCAGCTTTGGCTACGCGCGTTTCCAAACGTACCCGGCGTTTGCC
GTCGGCGGCAGCGGTATGTTGCGGAGATGCGGAAATTTTGTGTTCGGCAACTGTGTCAGG
CGTGCCGATGACGGCGGAGATGGTTTCTTCAGCCTGTCGGCGCAGGTTGTTTCGGGCAAC
AAGCTGCATGAGTTCGTCTGCCGCCTGCATGTCGTTTTGGGGGATGATCTGCGCGAGTGT
TGCGGTTTGGGTTTCAGACGGCATGGCGGTCTGTTTTTCGGTTTGAGGTTGCGCTGCGGC
TGTCGCAAGGGCAGGTTCGGCAATACGGACAAGGGGATCGGGTTCCGTACGGACGGTTTT
CTGCGGCAAAGGTGCGACGGTAATGTCCGCTGTCTGTGCGGCGGCGGGTCGGATTCGGGC
AATGCCGACGTTCACCGTGCCTGCCGGCATATTGGAACGGTAGGTGTCGGGCGTATTGTC
GATGTCGATGGAAACGACGGATTCCGATGCCGTCTGAAGGGTTTTGCCGTTCTTGGCGAC
AAGGATGCTGCGTCCTGCGTTGACAAGGTTGCCGTTCAGGTTGTTGAGGCGTTTGATGTC
GGCAATGCTCATGCCGGTTGCCGTCGAGATGTCGGACAGGCTGGTTTTGGCGGCAGGCGT
ATAGACTTCCCATGAAAACAGGCTGTCGGGTGCGGCGTTGAGGTAGTTGCTTTGGAAGGT
TTGTACGGACGCGACAGGAAGCAGCAGTTTGCGTTTGCTTTTGGGGATAAACGCGGGGAC
GTTGAATGCGGGGTTTAGGGCGAGCAGCTCGCTTTGCGTGATGCCGGCAAGCCGGGCGAT
GGCTTCGTTGTCGAGCGGACGATCCGGTTCGACTGCCTGAAAATAGGGTTTGTTGTCTAT
GTCGCTGATATTCATGCCGAAAGATTGGGGAGTGGCAATAATGTTGCGCACGGCGAGCAG
CTTGGGGACATAGTTGCGCGTTTCGTTGGGCATACGCAGGTTTTCGTAGGTCGGTTCGAG
CCCTTGGGCGCGGGCGCGGTTGATGGCGCGTCCGACGTTGCCTTCACCCCAGTTGTAGGC
GGCAAAGGCAAGCGGCCAGTCGCCGAACAGTCCATAGAGGTATTGCAGATAGTTGAGTGC
GGCATCGGTGGCGGCGTAAACGTCGTGCCTGCCGTCGTAAACCGGTGTTTTTCCAGGCC
GTAATGCCTGCCGGTAGCGGGCATAAACTGCCATAATCCTGATGCGCCGACGTGTGATTT
GGCTTTGGTGACGAACGCGCTTTCGATGAAGGGAAGCAGGGCGGCTTCGGCGGGCATATT
GCGTTTTTTGACTTCGTTGGCGATATGGTACATATAGGGTCTACTCCGGTTGATGACCCT
GTTGAAATAGCTGTGGCTTGCGATGAATTTGCTTTCGTGGCGGCGTACCAGTTCGGGATT
GACTTCGCCCATCCGGAAGCCTTGGCGCAGCTCGCCCCACAGGCTGCCGGATTGGAAATA
TTGTTTTGTCGGGGGCAGGTCGAGTATTGAAGAGTTTAAGCGCATAATCGCCAAACCGAT
TTGGTGTGATGAGGTGTTTTGGGCGTATAGGAAACCCGGACAAACGGACAGACCTGATGC
GGTCAGAGCGATGGTTTTGAGTTTGGACATGATTTATATTCGGCGGAATAAACATATTTT
ATCGTCCGATGGTACTGTTTGACTGAAAAAGCGTCAAGTTTTACAGGAACTTTATGCGGA
TTCGGAAATGGGCGGCCGATGTGTTTTTGACAGAAATCCTGTTTGGAATAGAATATCGG
CAGGCAATCTGTTTGAAACGGACGCAATATGGATGCATGGTTTGAAGATACGGCGATGGG
GCGGTATGTTGCAAAATTGGAACAGGATTTCTTCGGGCGGTATCTGGATTCATACCGTTT
TTCGGGAATGTGTGCGGTTCAGGTGGGCGGTCCGTGGCTGAGCCTGTCTGAAGATGTTGT
CTGTGTGCCGCGAGATATGTCGATGTCGGCGGAGAATATGGCTTTGGCGGATGTTTCTGC
GGATATGCTGCTTTTTCCGCATACGCTTGAAGGCGGTGTTCCTTCGCAAATCCTGTCGGA
AGCGCACCGGATATTGAAACCGTGCGGACGCTTGATGCTGACGGGTTTCAATCCGTATTC
GCTCTGGGGATTCAGCCGTTGGTTTGACGGCGAACGCCTGCCGGAAAAACGGTTTTGTCT
GCCGCTGCCCGAGTTGAAAAGACGGCTTGCGGATGTCGGTTTCGATATTGAATTTGGGAA
ATTTATGGTGTATCTGCCGCCGGTTTCGTCGCTCGGGCAAATACGCTTTTGGCGGTTTAT
GGAAAAGGCGGGCGACCGTTGGTGGCCGCAGTGTGCCGCAGTGTACGGTTTGGTTTTGGT
CAAAAGGGCAGCGGGCGTAACGCCCCTGCCCGCGTGGGACGGGTATTTGGGCGGCAAAGC
CCTTGCGGCGGGTGCGGCAAGGGTTGCGGATTAGGGACAGCCGTCTTTCAGACGGCATCT
GTCAGAAGAAATGTCGGGAGGGGTTATGCCTGAATTGCCGGAAGTGGAAACGACGTTGCG
CGGCATCGCGCCGCATATTGAAGGGAAAACGGTGGAAGCCGTGGTATTGCGCCAATTGAA
GCTGCGCTGGCAGATTAATCCCGATTTGGGGGAGATTTTGTCCGGCCGGCAGGTGTTGTC
CTGCGGCAGGAGGGCGAAATACCTGCTTATCCGCTTTCAAACGGGCGTGCTGCTGATTCA
CTTGGGGATGTCGGGCAGCTTGCGGATTTTTACGCCGTCGGACGGACGTATCGGCAGGCC
GGACAGACACGATCACGTCGATATTGTGTTTTCAGACGGCACGGTCATGCGTTACCGCGA
TCCGAGAAAGTTCGGCGGCGATACTTTGGTATGAGGGAATCGAAGAACATCATCCGCTGTT
GGAAAAACTGGGGCCGGAGCCTTTGTCGGAGGCATTTTGTGCGGATTATCTGTATGCAAG
GCTGAAGGCGCAGAAGCGCGCGGTCAAACTTGCCCTGATGGACAATGCGGTCGTGGTCGG
TGTGGGCAACATTTATGCCAACGAGAGCCTGTTCAGAGCGGGCATTTCGCCCCACCGTCC
TGCCAACCGCCTGAAAAAGAAAGAGTGCGCGCTTTTGGTTGAAACCGTCAAAGCGGTGTT
```

```
GCAGCGCGCCATTGAAACGGGCGGCAGTACCTTGAGGGATTTTGTGGACAGCGACGGCAA
AAGCGGCTACTTCCAACAGGAATATACAGTGTACGGGCGGCACAATCAGCCGTGCCCCCG
GTGCGGCGGTTTGGTTGTGAAAGAAACTTTGGGGCAGCGCGGCACGTTTTATTGCCCGAA
CTGTCAGAAATAGGACTGAAAACGGTTTCAGACGGCATTTTATCGGTATGCCGTCCGAAC
GTTTCAACAACAAACACCGATTATCGGGAAAGAATTGCTCATGTCTTCAAATAAAGCTTC
ATTTTTTACACGTCTGCGCCGCTTGTGCCGTTTGGCGGTCTGGCTGTTCAAAACCGGGAA
AAACCTGCGCGGTATTGACGGCGGTTGCCCCGAGTCGCGCAATCGGGCGGTAATCGAGTT
GGGCAGGGGGGTTTTGGCGGCTTTGGATATCGGATTGGAGGTGGGCAGACCCGCACCCGA
ACATCCGAACGGTGTCTTGGTTGCCGCCAACCACGTGTCCTGGCTGGATATTTTCGCGAT
GAGCGCGGTTTATCCGAGCAGCTTTATCGCCAAGCAGGAAATCAAAAGCTGGCCGGTATT
GGGCAAGATGGGGCAGAACGCGGGAACGGTGTTCATCAACCGCAATTCGCGGCGCGACAT
CGAACCGATTAACCGCGCCGTCTGCGAAACCTTGCAACGCGGTCAAAACGTCAGTTTTTT
CCCCGAAGCGCGGACTTCCTCCGGATTGGGGCTTTTGCCGTTCAAAGCCGCGCTGTTCCA
ATCCGCCATCGATGCGGGGGCAAAGGTTTTGGCGGTCGCGCTGCGTTATTATGACGAAAC
GGGAAAAAGGACGGCTCGTCCCTCATATGCCGATGTCGGTTTGCCGACCTGCCTGTGGCG
CATCGTGTCTATGAAAAAATTGACGATAAGAGTCGATTTCGTTTGCGTGGCGGATGCGGC
GGAAAGCGAAGACCGTTATGCTTTAAAAGATAAAATCGAAGAAAGCATCCGTGCCGTTGT
CGCCGACGATGCGGATATCGCTGTCTGAAACCGGTTGTCGGAATGTGGCAGTATGATTCG
CTTTTGTGGATGTATAGTGGATTAACAAAAACCAGTACAGCGTTGCCTCGCCTTAGCTCA
AAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTTCGTACTATCTGTAC
TGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATTAAGGCTGCGGC
AACGGGAGGACCTCAAACGAAATGGCGTAAGGATAGTTTGTTGTATCTATGGAAAATGCC
GTCTGAACCTGTGTTCAGACGGCATATTTTATATGGGATTAACGGCGGAAACTGCCGCCG
TCGAAATCATCGAAAGCCTCATAAGCCGCCCGGCATTGGATTTTCTGTTCCGCATAAGGC
AGGGAGCGGAATGCTTTGCGCGCCTTTTTGTTTTCGCGCAATTCCTGCACGTTGCCTTGC
GATCGGTACCACGCGGCACGGCGTTCCAAATATTTCCTGCATTCGGGGTGCAGCATCTGC
TTGTTTGCCTTGCGGATATGTTTGGTATCGCGGTGGGCGGGTTCTGACGTACCGGCAGCG
GCAGTTGTCGATACCAGTCCCAATATTGCAGACAACAGTATGGCAAGCATCTTTTTGACA
GACATGACGATCCTTTCAGTTGTCATTCTTTCCAGTATAGGATGGAAGGATGGAACGGG
CAAATTGTCGGCAGTTTCAGACTCATTCAGCCGACAAAACTTGCCGTTTGATATGCAGAT
TCAAATAACACATTAATCTCAATAATAAATTCCAATCGGTAAGAAAATGGAATTGTCGG
CGGCGGCGCGGCAAAATCATACTTTGCAAAATTTAACAATTTGCAGGGGCAGAAAACAGG
AAGCTTTCCTTTTTCGTCGGAAAATCCTTATTTCACCGCCTTGTAGCCGGAGCCGGTCAA
AAGGCAAAAAATTTACCCGTTTTTTATCGGTAAAGAATTATCAGATAAAACAAATATTAT
AGGAAAAATACGACAGGCGGGTTTTATCGCGCATTGCCTGAAACTGAAAAATACAACCGT
TGTCAAGACTGGAGAAAATGCCAAAAATCCACTATATTGTCTGCCTTAATTTATTTGAAA
AGACTGTGTCTTGAATATCAAGAGTGGAAGAGGAAGCGATGAATACACCGACTGATTTGA
AAGTAACCAAACGAGACGGAAGATTAGAAGCCATTGATTTGGATAAGATTCACCGTGTCG
TCACTTGGGCGGCGGACGGATTGGAAAATGTTTCCGTGTCGCAGGTCGAGTTGAAATCGC
ACATCCAGTTCTACAACGGCATCCGCACCGACGACATCCACGAAACCATCATCAAAGCCG
CTGCCGATTTAATTTCGGAAGATACCCCGGACTACCAATACCTTGCCGCGCGTTTGGCGA
TTTTCCATCTTCGTAAAATAGCCTACGGCGAGTACGAGCCGCCGCACCTTTACGACCACG
TTAAAAAACTTACCGATGCCGGAAAATACGACAGGCATATCCTTGAGGATTACAGCCGCG
AAGAATTTGACGAACTGAACGCCTATATCGACCACGAACGCGATATGTCCTTTCCTATG
CCGCTGTCAAACAGCTCGAAGGCAAATATCTGGTACAGAACCGCGTTACCCGCCAAATTT
ACGAAACGCCGCAGTTTTTATATGTTTTGGTGGCGATGTGCCTTTTCAGCAATACCCGA
AAGAGGCGCGCTTGGGTTACGTCAAACGGTTTTACGATGCCGTTTCTACATTTAAAGTAT
CGCTGCCGACTCCGATTATGAGCGGCGTGCGTACGCCTACGCGCCAGTTCTCAAGCTGTG
TGCTGATTGAATGCGACGATAGTTTGGATTCCATCAATGCCACTACCAGCGCGATTGTGA
AATACGTTTCCCAGCGTGCGGGCATCGGCATCAATGCCGGACGTATCCGCGGTTTGGACA
GCGAAATCCGGGGCGGCGAAGCGCGGCATACCGGCTGCATTCCCTTCTTTAAAATGTTTC
AGGCGGCGGTCAAATCCTGTTCGCAAGGCGGCGTGCGCGGCGGCGCGGCAACCTTGTTCT
ACCCCTTGTGGCATATCGAAGCCGAAAGCCTGCTGGTGTTGAAAAACAACCGCGGTGTGG
AAGACAACCGTATCCGTCAGCTTGATTACGGCGTGCAAATCAACCGCCTGCTGTACACCC
GCCTGATTAAGGGCGGCAACATTACGCTGTTTTCGCCCAACGAGGTTCCGGGATTGTACG
AAGCGTTTTTTGCCGACCAAGACGAATTTGAGCGGCTCTATACGAAATACGAGCAAGACC
CTGATATCCGCAAGCGCATCATTCCGGCTGCCGACCTGTTTTCCACGCTGATGCAGGAGC
```

-205-

```
GTGCCGGAACCGGGCGCATCTACATTCAAAACGTCGATCACTGCAATACGCACAGCCCGT
TCGATCCGCGCGTCGCGCCTGTTCATCAGTCCAACTTGTGTATGGAAATCGCCCTGCCGA
CCAAACCGCTGGACAATATCAACGATCCGAACGGCGAAATCGCCCTGTGTACACTGTCTG
CCTTTAACTTGGGCGCATTAAACAGCTTGGACGAATTGGAAGGGCTTGCCGACTTGACCG
TTCGTGCGCTCGATGCACTTTTAGATTATCAGGGATATCCGGTAGAAGCCGCGCGTACCT
CTACTATGGGCCGCCGTTCGCTCGGCATCGGCGTGATTAACTATGCTTATTATCTGGCGA
AAAACGGTGTCCGCTACAGCGACGGTTCCGCGCTCGGTCTGACCCACCGTACCTTTGAAG
CCATACAGTATTACCTGCTCAAAGCATCGGCCAAACCTTGCCAAAGAATACGGTGCGTGCA
CGCTCTTTAACCAAACCGTTTATTCGCAAGGCAAACTGCCCATCGACACTTACAAAAAAG
ATTTGGATGCCGTCTGCGGCGAGCCTTTGCATTACGACTGGGAAAGCCTGCGTGCCGAAA
TCGTCAAATACGGCCTGCGCGCAACTCTACTCTGACCGCGCTCATGCCGTCTGAAACCAGCT
CTCAAATCGCCAACGCCACCAACGGCATCGAGCCGCCGCGCGGATTGGTAACGGTCAAAG
CATCGAAAGACGGCATTTTGAAACAAGTCGTGCCGGAGTTTGAAACCCTGAAAAATGCCT
ATGAAACCCTGTGGCAGCTTCCCGGCAACGAAGGCTACCTGAAACTTGTCGGCGTGATGC
AAAAATTCGTCGATCAATCGATTTCCGCCAATACCGCCTACGACCCGGGCAAATTCGAAG
GCGGCAAAGTTTCTATGAAACAAATGCTCAAAGACCTGCTGACCGCCTACAAATACGGCG
TCAAAACCCTGTACTACCATAACACCCGCGACGGTGCGGACGATACGCAGACCGATATTC
AGGATGACGGCTGCGCGGGCGGGGCTTGTAAGATTTGATGAAAGGGGGAGTTTTCAGATG
GCCTTTAGATTAATAAATCATCTGAAATATAAAATATGAAAAATAAAATACAAAATCAAT
TAGATAATATAGTTACCTTAAATAATGAGAAATTTACTTTTATTGATTTATTTGCGGGAA
TAGGTGGTTTTCGCATTGCAATGGAGAATGTTGGTGGGCGATGTGTATTTTCTAGTGAAT
GGGATGATAAAGCCCGTCAAACCTACCAAGTAAATTTTAATGATATTCCTTATGGAGATA
TTACATTAAAGGAAACCAAAGCAGCTATTCCAAGTAAGTTTGATGTATTAACAGCAGGAT
TCCCGTGTCAGCCATTCTCTATAGCTGGTGTTTCAAAGAAAAAAAGCCTAGGACGAGAAA
CAGGCTTCTTAGATAAGGCGCAGGGAACTCTATTTTTTGATGTTGCTGAAATTATTGGAA
AACATCGACCTAAAATTTTTCTTTTAGAGAATGTGAAAAACCTTGTTTCGCATGACAAAG
GAAATACATTTAAAGTAATTAAAGGGACTTTAGAAGAGCTTGACTATCAGATATTTTATC
AAGTTATGAATGCAAAATATTATGTTCCTCAAAATAGGGAGCGTATTTTTATTGTAGGTT
TTGATAGACAATATTTTAATAAGGAAATAAATTTCAATTTTCCTTCCCCACCAGAATCAC
AACCAAAATTAAAGCAAATTTTGGAAGATGATGTAGATAATTCTTTTACTCTTTCTGATA
ACTTATGGCTTTACCTTCAAAATTACGCTAAAAAACATAAGGCAAAGGGTAATGGATTTG
GTTTTGGATTAGTTGATTTAGATGGAATATCACGAACTCTATCTGCACGATATTACAAAG
ATGGTTCCGAAATACTCATCCCTCAGAAAGGAAAAAATCCTAGGAAGCTGACACCTAGGG
AGTGCTCGCGTTTAATGGGATTTCCTAAAGATTTTGTTATTGATGCAGTATCCAAGACAG
CTGCATACAAGCAGTTTGGCAATTCAATTGCTGTACCGTTGGTTCAAGCTATTGCTAAAC
AAATTATAAATGAGTTAAAAAATGAATGACTTGGCAGCTCAGACAATACAAGTAGTAAAT
AAATCCGATGACTTAGTAGCTTCAGCAATACAGACAGCAAATAAATCAATTGCAGTATAC
TGTCGTTATATTCGTCCCAATGATGTTGGTACTACTGGTAGTCACCAATCAGGATTTTAT
ATTCAAAAACATTTTTCAGACGACCTCTTTGATGTAGTTTGCCAAAAGGGAACAAATAAA
ACTATTTCAATCAAAATTAATTGGCAAGATGGAAGCGTCACTAATAGCAATTTTAAAATAT
TACGGCCAAGGCACGAGAAATGAGGCGAGAATTACGGGTTTTGGCAAGAATTTTGAATTT
TTAAGTGATAAATATAGTGGTTCCTTATTGGTATTGTGCAGAGCTTGTTATAAAGATTTA
TTATTCCATGCTTTTGTTTTATCTTCAGATGAAGATATTGAAATATTTATCGCAGAAACT
AACATTTTACCAGGAAGTTTATATTTACCTAAAAAACAAGAAGTAGAGGATAACCTAACA
AAATTATTTTCACTATTTCCTAACTTCCCCAAAACTGAAGAAATGGCAGTTTTGGCAAGG
GAAAATATTGCATTAAATAAAACTAACGTTAGTAATGTGTTAAAACAATGGGTTTCAAAG
GAATATGAATTATTTTCCATTTTTGAAAAACGTGAATTTGAAATTATTAAATCAAAAATT
ACTGATTTGGATAGCTTCATTAATTTTGCACATTCTTTTACAAATCGCAGAAAGCAAGA
GCAGGAAATCTTTAGAGTTACATTTATCAAGAATATTTGACGAATTTTCCTTAAAATTT
GAGACGCAAGCGAAGACAGAAGGGAAAAAGAAACCAGATTTTTTATTTCCTGGAAGTGAA
GAGTACCATGCGATGGATGAATCAGGGAATTTCATATTTCAAACTGAAAAGCTGACAATG
CTAGGTTCAAAGACTACTTGTAAGGATCGCTGGCGCCAAGTTTTAAATGAAGCAGATCGA
ATTCCTCATAAGCATTTATTTACTCTACAAGAAGGTATATCTGATACTCAATTCAGGAA
ATGAGTGATGAGAATTTAACCTTAGTTGTCCCTAAAGAATCCGTAAAAACATTGGAACT
TTTGGGAAAACCCATGTTTTAACTTTAGAAAATTTTATTAAATATATAAAGTCTCAGCAG
GTTAGTTAAAACTTACAGATCATTTTTAATTAATATAGAGAATAGATTATGTCCTGCGAA
CACTTAACTATGTCATACAGCACCTTTCCCAAAACCAAAAACGACGCGCTGAATGAGCCG
```

```
ATGTTTTTTGGTCAGCCGGTTAATGTTGCCCGTTATGACCAGCAGAAATACGAAGTATTT
GAAAAACTGATTGAAAAACAATTGTCTTTCTTCTGGCGGCCTGAAGAAATCGATGTCTCG
CGCGACCGTATCGACTACGCCAATCTGCCCGAACACGAAAAACATATTTTCATCAGCAAT
CTGAAATACCAAACACTGCTCGATTCCATCCAAGGGCGCAGTCCGAATGTTGCCTTGCTG
CCTTTGGTTTCGATTCCCGAGTTGGAAACGTGGATTGAAACGTGGAGCTTCAGCGAAACC
ATACACTCGCGCAGCTATACCCACATCATCCGCAATATTGTGAATGATCCGTCGGTCGTG
TTTGATGATATTGTCGAAAACGAATACATTACCGCCCGCGCCGAAGACATTGCCTGCTAT
TACGATGACTTAATCGAATACACCCAGTATTACAACCTGTTGGGCGAAGGGGTGCACAAT
GTCGGCGGCAAACCCGTTACCGTGTCTTTGCGCGGGTTGAAGAAAAAACTCTATCTCTGC
CTGATGTGCGTCAACGTGTTGGAAGCCATCCGTTTCTACGTTTCATTCGCCTGCTCGTTT
GCTTTTGCCGAGCGCGAGTTGATGGAAGGCAACGCCAAAATCATCAAACTGATTGCCCGC
GACGAAGCCCTGCACCTGACCGGCACGCAGCATATGCTTAATCTGATGCGTTCTGGTGTT
GATGATTCTGAAATGGCAGAAATTGCCGCCGAGTTGCAGGACGAATGTTTCCAACTCTTC
AAAAAAGCGGCGGAACAGGAAAAAGAATGGGCGGCATATTTGTTTAAAGACGGTTCGATG
ATTGGTTTGAACAAAGAAATCTTATCCCAATACGTCGAATATATTACCAATCTGCGTATG
CAGGCGGTGGGGTTGCCGGCCGGATTTGAAGGCGCAAATCAAAACCCGATTCCGTGGATT
AATGCGTGGCTGTCGTCCGACAACGTACAGGTCGCGCCGCAGGAAGTGGAAATATCCTCT
TATTTGATCGGTCAGATAGATTCTGAAGTGAATACGGATGATTTGGGCGATTTTGAGTTG
TAAATGTTTTTTGAAAAAATGCCGTCTGAAGCCGGATGTTTCAGACGGCATTTGTATGTT
GTATGATGGGAAAAACAGCGGGTAGGATCGGTTATTGTTCCTTTTATAGTGGATTATAGT
GGATTATAGTGGATTAACAAAAATCCGGACAAGGCGACGAAGCCGCAGACAGTACAAATA
GTACGGCAAGGCGAGGCAACGCCGTACTGGTTTAAATTTAATCCACTATATTTTTGATTG
GTCGGAAATGGCGCGCATTGGTACGAATAAGGGTTTTTTTGAACTCTTGGAGGGCGAGAC
TCTGTTGGAAGGCTTGGAACGGACGGGGCATATGGTGGAATATCAGTGCCGAAGCGGATA
TTGCGGATCGTGCCGAGTGAAGATTTTGGAGGGAAGCGTTACTTATCGGGAGCCGCCTTT
GGCTTTTTTGGGGCGGGACGAGATACTGCCGTGCTGCTGTTGCGTCGAGGGGGATGTCAG
GCTGGATTGCGGTTTGTCGGGGGAGGATGAGGGGCTGTCTGACAGTTTGTTGAAATAAAA
GCCGTCCGAACATTGGTTCGGACGGCTTTTTGACGGTATTACCGGTTATGCCTGATGAGT
CGGTAAAAGGTTTCACCGTCTTGGATATAACCCAGTTCTACCCGGGCGATTTCCGAAATG
GCTTCTTGACCGTTTTCCAAATCATAGACTTCGGCGGCAAGGGAATGATTGCGTAGGGCG
AGTGTCTGGTTTTTTTCTTCTTGAACGGCAATCTGTTCTCTCAGACTGCTGTTGCGTCCG
ATGCTGCCTTTGCCGAACCAGAGGCTGTATTGGCAACAGACAAGTGCGAAGGATAAAACG
ACAGTTACCCACTTCATACCTTAACCTTTTTTATTTGCCCAGTTGGTAGAATGCGGCTTT
GCTGGGGTAGTCGGCGGCTTCCGCCAATTCTTCCTCGATACGCAGCAGTTGGTTGTATTT
CGCCATGCGGTCGGAACGGCTCAAAGAACCGGTTTTGATCTGCATACAGTTGGTGGCGAC
TGCCAAGTCGGCAATGGTGCTGTCTTCGGTTTCGCCGGAGCGGTGGCTCATTACGCTGGC
GTAGCGGTTGCGTTTGGCTAAGTCGACGGCTTTCAGGGTCTCGCTCAAAGTACCGATTTG
ATTGACTTTGACCAGCAATGCGTTTGCTACGCCTTTTTCGATGCCTTCGGCCAAGATTTT
TGGATTGGTTACGAACAAGTCGTCGCCAACCAATTGAACTCTACCGCCCAGTTTTTCGGT
CAGCAGTTTCCAGCCTTCCCAGTCGTTTTCATCCATGCCGTCTTCGATGGAGATGATGGG
GAACTCGTTGACCAGGCCTTCCAGATATTCGGCAAATTCCGCGTTGGTGTAGGAGCGGCC
TTCGGCTTCCAAGTGGTATTTGCCGTCTTTGTAGAACTCGCTGGAGGCGCAGTCCAATGC
GAATAATACGTCTTCGCCCGCTTTGTAGCCGGCGGCTTCGGTCGCCTCGACCATCAGTTG
CAGGGCTTCTTTGTGGCTGTTCAGGTTGGGGGCGAAACCGCCTTCGTCGCCGACTGTGGT
CGGGAAGCCTTTGCTGTCGCACAGTTTTTTCAAGGCGTGGAAAATTTCCGCACCGCAGCG
CAACGCTTCGCGGAAAGATTTTGCGCCGACGGGCATAATCATAAACTCTTGGATGTTCAG
GCTGTTGTTGGCGTGTTCGCCGCCGTTGATGACGTTCATCATCGGTACGGGCAGGGACAT
CGGGCCTGCGCCGCCCAAGTAGCGGTAAAGCGGCAGGCCTGAGTCTTCGGCAGCGGCGCG
TGCAACCGCCATAGAAACCGCCAAAGTCGCATTCGCACCCAAATTGCCTTTGTTTTCAGT
ACCGTCCAATTCGATCATGATTTGGTCGATATAAGATTGCTCGTTGGCATCGATACCAAT
GAGGGCTTGGGCGATTTGGTTGTTGACGTGTTCGACCGCCTTCAATACGCCCTTGCCCGA
ATAACGGGATTTGTCGCCGTCGCGAAGTTCCAAAGCCTCTTTTTGACCGGTGGACGCGCC
GCTCGGTACGGCTGCGCGTCCCATTACGCCGGATTCGAGCAATACATCACACTCGACTGT
GGGGTTGCCGCGTGAGTCCAAAATTTCGCGGGCGAAAATATCAACGATTGCGCTCATGAA
TGTTCTCCAAGTGAAGTGAAGGGAGGTAAAAAAATGGGAGGGCTTCAGACGGCATCTTTG
CCGGAAAGCCGCCAACTTAAAACTGCTGAAAGTAGGGCGGTTGCCATAAAAACAATACTG
GAAATGCCGTGCCACATTCCGAAGGATCCGCCTACAAACGACAACAGCCAATTTTCATGT
```

```
CCGTATTTCAGTGCCTCGATAACGGGTGTAATCAAGAATCGGTTGGCGGCAAGGGCGGAC
AATAAAAAAAGCAGCAGGGCGGTTTGCCGCCGGGTTAGGGCGGCAAAGGCGGCAGCCAGT
ACCGCGCCCCAAACGGCAAGCCCGCTCCAAGAGAGGATGTCGAACAATACGCCGGCAATT
TCGCCCGCCTGCATTTTGGGCAGCATTTTGAACAGCACCGGTGCGGCGATATAACCCGCC
ATAATCTGCATACCGAGCCACAAGGTTGCGACATACCGGCTGATTTTTCGGAAAGTCTGC
ATCATAAGGCGAAACCGTGTTACTCGATTGTTAAAATCGGTTGTGATTTGATTAAATCGT
CCAATGCTTTGATGCGGATTAAAAAATCTTCTAAAAGGTGCAGCGGCAGCGCGCTGGGGC
CGTCGCATTTTGCCAGTTTCGGATCGGGGTGCGATTCGAGGAACAGACCGGCAAGGCGGG
TTGCCATGCCTGCAAGTGCCAAATCCAAAGCCTGTGCGCGACGACCGCCGGATGCGGCAG
AACCGGCATCGCGGGTTTGCAGGGAATGGGTAACGTCGAAAATAACCGGCAGGTTGCCGC
AAGTCTGTTTCATCACGCCGAAACCGAGCATATCGACAACGAGGTTGTCGTAGCCGAAGC
TGCTGCCGCGTTCGCATAAAATCAGTTTCCCGTTGCCGGCTTCGTGGAATTTTTCCACAA
TGTTTTTCATTTGAGAGGGGCTGAGGAACTGAGGTTTTTTGATGTTGACGACGTTGCCAG
TTTTTGCCATGGCAACCACTAAATCGGTCTGCCGCGCAAGAAAGGCGGGAAGCTGGATGA
CATCGCACACTTCGGCGACGGGTTGGCACTGATGGGGTTCGTGTACGTCGGTAATGACGG
GGATGCCGAACTCTGCTTTGACTTTTTCAAAAATCTTTAAGCCTTCTTCCAAGCCTACGC
CGCGATAAGAATGGATGGAGGAACGGTTTGCCTTGTCGAAAGAGGCTTTAAAGATATAGG
GAATACCGAGTTTTCGGGTAACTTCGACGTAATGCGCGCAGGTTTGGAGGGTGGAATCCA
AGCTTTCCAAAACGTTGATGCCGCCGAATAGGACGAAGGGCGAGTTGTTGCCGAGGGTGA
TGTCGTTGATTTTAATATCCATAATCGATGTCCGTTTGCGGAATTACAGCACGGTGTGCG
GCGGCTCGTAGGAGATGATGTCGCGGATTTTGTTGTTTCCGTCTACCAAGACGACTTTGG
GTTCGTGTGCGGCGATTTCGGGTTCGGAGAGTTGGACGTAAGACATGATGATGACGATAT
CGCCTTTCTGTACCAGCCTGGCTGCAGCACCGTTCAGACAAATCACGCCGCTGCCGCGTT
TCCCTGCAATGGTATAGGTTTCAAAACGTTCGCCGTTGTTGTTGTTGACAATGGCGACTT
TTTCGTTGGGGTAGATGCCTGCCGCGTCTAACAGGTCTTGATCGACGGTAATACTGCCGA
CATAGTTCAAATCGGCTTCGGTAACGGTGGCGCGGTGGATTTTTCCGCCAAGCATGGTAC
GGAACATGTATTTCCTTTTGGTTTGTGTGCGGTTTGACGGGCGCGATGCCGTCTGGAAAT
CTGAATGCCGTATTATAGTGGAGTTTCCTTCAAATTCATAATGGCGGCTTTCGGACAAGG
AAAACGGTGTTTCAGACGGCATTGCGGTGTCGGCTTTATTTGGGCAGGCATCTGTTTTGC
AAGGTTTTTAAAACGTTTTTTACGGTGTTGATTCTGACCTCGATATTTTCCATCTCTGCG
GTAAACCGCAGCTTATCGGCGCCGGCAAGGCGGTATTTTTTGTCGTTCTGAATCAGCAGG
ATGATTTCGGTTGGATCGACATTATTGTTTTTACCAAAGGTTACCGTTACCGCTTCGCCG
GCCGCATCAATGGCATCGATACCCAATTCTTTTGCCATAAGCCGTAAGTGGTGGCTTTCG
ATAAGGGTTTTGACGGGTTGTTCGGGCAGGCCGAAGCGGTCGACGAGTTCTTCGTGTATG
GTGTTGATTTGTTGCACGGTTTCGCAGACGGCGAGGCGTTTGTAGAGGACGAGCCGTTCG
TGGATGTCGGGGCAGTAATCTTCGGGCAGCAGGGCGGGCTGTGCAGTTTGATTTCGGTG
GTGATGCCCAACGGTGCGTCGAGGTCGGGCTGGCGGCCTTTTTTGAGGTCGCGAACGGCT
TGTTTGAGCATTTCGGTGTAGAGCGTGAAGCCGACCTGTATCATTTCGCCGGATTGTCCT
TCGCCAAGGATTTCGCCTGCACCACGGATTTCCAAATCCTGCATGGCTAGGGTAAAACCT
GCGCCGAGTTCGTCTGCCGCCGCAATGGCATCGAGGCGTTTTTCTGCGTCTTTAGTGATG
TATTCGGGCGTGAGCAGGTAGGCGTAGGCTTGGTGATGGCTGCGGCCGACGCGCCCGCGA
AGCTGGTGCAGTTGCGCCAGTCCGAATTTGTCGGCGCGGTTGATGATGATGGTGTTGGCG
TTGGGGATATCGATACCGGTTTCGATGATGGTGGAACAGAGCAACACGTTAAATCGTTGC
TGCAAAAAGTCGCGCATGACTTGTTCCAGCTCGCGCTCGCGCAGTTGTCCGTGCGCCACG
CCGATGCGGGCTTCGGGCAGCAGGGTTTCCAGCCGCTCGCGCATATTTTCAATCGTATCT
ACTTCATTGTGCAGGAAAAATACCTGTCCTCCGCGTTTGAGTTCGCGCAACACGGCTTCG
CGCACGCTGCCTTCGCTAAAGGGTTTGACAAAGGTTTTGACGGCGAGGCGGCGGCTGGGC
GCGGTGGTAATCAGCGAGAAGTCGCGCAGTCCTTCCAACGCCATACTTAAAGTACGCGGA
ATCGGCGTGGCGGTCATGGTAAGGATATCAACATTGGCGCGCAGGCGTTTGAGCTGCTCT
TTCTGACGCACGCCGAAGCGGTGTTCTTCGTCGATAATCACTAAACCTAAGTTTTTGAAT
TTGATGTCGTCCTGCACCAGTTTGTGCGTACCGATAACAATATCGACCGTGCCGTCTGCC
ATGCCTTCCAGCGCGGCTTTGGTGGCTTTGCTGTTGTTGAAACGCGAAAGGCTGGCGACT
TTCACGGGGAAATCGGCGAAACGGTCGGCGAAGTTTTGCGCGTGCTGCTCGACCAAAAGC
GTGGTCGGAGCAAGTACGGCGACCTGTTTGCCGCCCATCACCGCCACAAACGCGGCGCGC
AGGGCGACTTCGGTTTTGCCGAAGCCGACATCGCCGCACACAAGGCGATCCATCGGCTTC
GCTTGCGTCAAATCTTTAATCACGGCGGCGATGGCGGCGGCCTGGTCTTCGGTTTCCTCG
TAGCCGAAGCCGTCGGCAAACGCCTGATAGTCCAACTCGTTGATTTCAAACTTGTGTCCC
```

```
     GATTGGGCGGCGCGTTGGGCGTAGAGGTTGAGCAATTCGGCGGCGGTGTCGCGCGCTTTT
     TCGGCGGCTTTGCGCTTCGCCTTGTTCCACGCGCCACTGCCGAGCTTGTGCAGGGCAATG
     TTTTCATGCGCCTGACCGGAGTAGCGGCTGATTAAATGCAGTTGCGAAACAGGCACATAA
     AGCTGCGCTTCGCCTGCGTATTCGAGCAACATCATTTCGTTGGTTTCGCCGCCCAAGTCC
5    ATCGTTACCAAGCCCATATACCGCCCGATGCCGTGTTCTTCGTGCACGACGGGGTCGCCG
     ATATTGATTTCGGCAAGGTCGCGCAACAGCCGTCTGAAACGGCGGCGTGTTTCTTGCGG
     CGGTTGTGGATGCGCGAACGGGCGACGTATTGGTAGAGATCGGATTCGGTGATGACGGCG
     ATGGCACTTTGAGCGGCAACTGCTTTGCCCTCTCCCCAACCCTCCCCCACGGGGGAGGGG
     GCAGGTTGCTGTTGGATTTGCCCGTGCAGATTACTTTTACCGGGGGGCAGGCTGCTTTCG
10   GTTGAAACGGCGGCTGCTTTCAGACTGTCTGAAACGACGGCTGCACTTTGTTCCCTCTCC
     TGTGGGAGAGGGCTAGGGAGAGGGTTTGTTGCGGCTGCGGAAAATTCGGTTTGAGCGGCA
     ACTGCTTTGCCCTCTCCCCAACCCTCCCCCACGGGGGAGGGAGTAGGTTGCTGTCGGATT
     TGCCCGTGCAGATTATTTGCGACGGGATGCAGGCTGCTTTTGGTTTTCAGGTCGTCTGAA
     ACGGCGGCTGCACTTTGTTCCCTCTCCTGTGGGAGAGGGCTAGGGAGAGGGTTTGTTGCG
15   GATGCGGGAAATTCGGTTTGAGCGGCAACTGCTTTGCCCTCTCCCCAACCCTCCCCCACG
     GGGGAAGGGGCAGGTTGCTGTCGGATTTGCCCGTGCAGATTACTTGTACCGAGGGGCAGG
     CTGCTTTCGGTTGAAACGGCGGCTGCTTTCAGACTGTCTGAAACGGCGGCTGCACTTTGT
     TCCCTCTCCTGTGGGAGAGGGCTAGGGAGAGGGTTTATTGCGGCTGCGGAAAATTCAGTT
     TGAGCGGCAACTGCTTTGCCCTCTCCCCAACCCTCCCCCACGGGGGAGGGAGTAGGTTGC
20   TGTTGGTTCGGCGATTGCAGTCCGCCCAGTTTGAACCCGTATGCCAACGGCGCCACTGTA
     ATCATCAGCGGCTCGTGTGCCGATAAAAAGCCCTGCCAGTCGGACACGGGTTTGGCTTTC
     AAACCGTTTTGCTGCAAGAAACCGAGCATAGTTTCGCGCCGTCCCAAACTTTCGGCGCAC
     AGCAAAATCCGTCCGTCAAACGCCGTCTGAAAATCCTTCAATGCCTGCAACGGCTCATCT
     GCTTGGCGGTTGACGGCAAGGTCGGGCAGGGTGTATTCCTTGCCGGAAACATCGGGCAGC
25   ACCTGTCCGTAGTTTTTCAGACGGCCTGCGAACACATCGGCAGAGAGATACAAATACTGT
     GGAAGCAAAGGCGGATAGGTTTCGTCGCCCTGCGCCATCGCGTAACGCGATTTGACATCG
     CTCCAAAAACGGTTTGCCTCGGCATGAACATCGTCTAAAGAGACAAACAGCGCATCTTCG
     CCGATATAGTCAAACAGCGTTTCCAACTCGTTTTCAAAAAACAGCGGCAGGTAGTATTCC
     ACGCCCGCGCCGAAATGACCGTTGCTGACGGCTTTGTACACAGCCGCATCGTTCGGATTA
30   CCATCGACTTCCTCGCGGAAGCGGCTGCGGAAGATTTTTTGCGCCTCGCTGTCGGTGGGG
     AACTCGTGCGCCGGCAGCAGGCGGATTTCGGAAACGGGGGAAATGGTGCGTTGCGTTTCG
     GTATCGAAGGTTTTGATGCTGTCGATTTCATCGTCAAACAAATCGATGCGGTACGGCATT
     TCGCTGCCCATCGGGAACAAATCGACTATACCGCCGCGCACGGCAAATTCGCCCGCCGCG
     ACAACGTGGGAAACATGGTTGTAGCCCGCATCCACCAAATCACTTTTCAGACGGCCTATA
35   TCCAAAGTCTGCCCCGTTTTCAGCCAAAACGTGCGCCCTGCCAGAAACGGCACGGGCGGC
     AGCTTCTGCATCGCCGTGGCAACCGGCACGAACAACACATCCGCCGCGCCGCTTTTAATC
     TGCCACAACGCCGACAGCCGCTCCGACACCAAATCCTGATGCGGCGAAAAACGCTCGTAA
     GGCAGCGTTTCCCAGTCCGGCAGGAACACCGCCGTGTCGTGCGGACGGAAAAACCGCCAT
     GCCGTCTGAAGGCGCAACGCCTGTTCCGCATCTTGGGTCAGCACGACCTTGAGCCGCTTG
40   TGCGGCAGATAACGCGCCAAAGCCAAGGGCAGCGAGCCTTGCGAAAGATTGGGCCAACGG
     GATTTTTCACGGGGTTTGGGGATGGGGTAGGTCATAGTGCGGCAATCGGCGGACAGTGAT
     GCAAACGGTCATTTTAGCACGGGAGGGGACGCGATGCCGTCTGAAAGGTCGGCGGATTGT
     TGCCCGGCGCACTTTGTGGTAAAGTTTAGAAAATCAACTCTAAACTGTGGCAGGCGGTTT
     GACCGGCCGCCGATTAATGGGAACCGACAGAGGAAGCCGATGATACACACCGAACCGAGC
45   GCGCAGCCGTCAACTATGGACACGGCTGCTTTTTTAAAGCACATCGAATCCGCATTCCGC
     CGCATTTTTTCAGACGGTATCGACCTGATGCGATACCTGCCCGAAGACAAATGGCTTGCC
     TTGAAGCAGGCGGGTTTGCTGTTGCCCTTCCTCGACAAAAAATACGGCGGGCGCAAGGGC
     AGCCAGTTTGAAATCCAAGAAGTCCTGCGGATTGCGGGGCATTACGGCGTGCCCGTTACG
     CTGCGTACCGGCATCGAAGGCGCGCTGGTGTTGCAGCCACTGCAAGAGTTCGGCGATGAA
50   GCGCAAGTCGCGCAAGGTTTGGAGATGATTTTCAAAGGCGAGGGCGGCGGTTTGGGTGTT
     ACCGAACCCGAAACCTCCGGCGCGGCGATTGCACGCGAAATGCAGTCCTACTACGAATAT
     ATCGACGGACAAACCATTTACGTCAACGCCGCGAAATACTGGCAGGGCAACTCGCAAAGC
     GACTTCCTCCTCGTTGCCGCCAAAGAGCGCAAAAACGGCAAACTCGCCAAAGTCATCGAC
     CTGCTGCTCGTCCCCAAAACATACATCCGCTGCGAAACCCTCGCATCCGAAGGCTTGCGC
55   GCCGTCCGTTACGCCGTCAACCGCATCGATGCCGAAATGCCTGCAACCGCCGTGATGAAA
     CTCTCCCAGAGCGACGCTGCCGGTTTGCGCGCGTTCCAAAACATCTTTATCCGCAGCCGC
     CTGCAACTGATCGGCATGACGCACGGCATTATGGAATACATCCTTGAAAATCTGGAACGA
```

```
TACGTCCGCAACGACATCAAATTCGTCGATTACGAACGCCGCGAAATCCGGCGCCGCCAT
CAGGTTTCCGAGATTCTTTACCGCTACGTCTGCCATTCCGTTTCGCCTGTTGCCCCCGTC
GCCCATCAGCTGATGGAGGCGAACATCGTCAAAACCCTCGCCACGGAATACACTTACGCC
GCCGCGCAAATGTTGCAAAAACTCTTGGGTGCGAAGGGTTTTGAACGCGGACACACCGCC
GGCAATATCGCTATCGACATCCGCCCCTTCACGATTTTTGAAGGCCCGAACGATATGCTT
TATGCCGAAATTTACGACCAGTTTGTCCGCGCCACCGCCGAAGAAAAAGAAGCAGGCATG
AAGTTGGACAAAAACCAAACCCTGCTCGACCGCCTGCAAACCGATGCCCGCTTTGCCGCC
GTCGCCCGCGACTACACTTTGCCTGAAGACATCCGCAGCTTCCTGCAGGAACACACCCTG
ACCGATGCCTGCGCCCTGCAAAAAGTCTTTATCGGCAAAATCATCGCCCGACTCTTTGTC
TTCGTACAGGCGAAACACGAAGACACCGCAGCCTTCCTGCTGAACGACATCCGCAAAGAT
ATATTGGACTGCCGATATTGCGGGTAGCGGGCAAATACGGCGGCAGGCAATGCCGTCTGA
AAGGGGAAGTGCCTTCAGACGGCATTTTCGGCGACGACATACGGATTTCGGGCGGTGCAA
GAGGCAACGTGCGGCATTCCGCAAAGCCGCCGATTGCGGCGGATGCCGCATTTCGCGCCG
CCCCCTTGTGCCGCTTTCCCACTTACCCTATTTGTTCGGAACATATTTATGAAAAAGAGA
AAAATACTGCCGCTGGCAATTTGTTTGGCGGCTTTGTCTGCCTGTACGGCGATGGAGGCA
CGCCCACCCCGGGCAAATGAAGCCCAAGCCCCCCGCGCGGTTGAAATGAAAAAAGAAAGC
CGCCCCGCGTTTGACGCGGCAGCCGTATTTGACGCGGCAGCCGTACCGGTATCCGACAGC
GGGTTTGCCGCCAATGCAAATGTCCGCCGTTTTGTGGACGATGAAGTCGGGAAAGGGGAT
TTTTCCCGGGCGGAATGGCAGGATTTTTTTGACAAAGCGGCTTACAAGGCGGACATCGTC
AAGATTATGCACCGCCCCTCCACATCGCGTCCGTGGTATGTGTTCCGCACGGGAAATTCG
GGCAAGGCGAAATTTCGCGGCGCGCGCCGGTTTTATGCGGAAAACCGCGCGCTTATCGAT
GATGTGGCGCAAAAATACGGCGTGCCTGCCGAACTTATCGTGGCGGTTATCGGGATTGAA
ACGAATTACGGCAAAAATACGGGCAGTTTCCGTGTGGCGGACGCATTGGCGACCTTAGGC
TTTGATTACCCCCGCCGCGCCGGGTTTTTCCAAAAAGAATTGGTCGAGCTTTTAAAGCTG
GCAAAAGAAGAAGGCGGCGATGTTTTCGCCTTTAAAGGCAGCTATGCGGGCGCAATGGGG
ATGCCGCAATTTATGCCTTCGAGCTACCGGAAATGGGCGGTGGATTATGACGGGGACGGA
CATCGGGACATATGGGGCAACGTCGGCGATGTCGCGGCATCGGTTGCCAATTATATGAAG
CAGCACGGTTGGCGCACGGGCGGGAAAATGCTGGTGTCTGCAACATTGGCGCCGGGTGCG
GATGTTCAGGCAATCATTGGCGAAAAAACCGCCCTGACGCGGACGGTGGCGGATTTGAAG
GCGTACGGCATCATCCCCGGCGAAGAGCTTGCAGATGATGAAAAGGCGGTTTTGTTCAAA
CTGGAAACCGCACCGGGCGTGTTTGAATATTATTTGGGCTTGAACAATTTTTATACGGTA
TGGCAGTACAACCACAGCCGGATGTATGTAACGGCGGTCAGGGACATTGCCAATTCGCTT
GGCGGCCCGGGATTGTAATGTTTTTTAAAATGCCGTCTGAACCACGTTTCGGTTCGGACG
GCATTTTTGCATCCTTTTATGGGGATTTCCCGCATCAGGGCGGTATTCGGGGCGAATCCC
GCTTCAGACGGCATTGCCGGTCAAGGCTTGTCCGAAGGAGGATGTCCCTGTTCTTTGGCG
GGCGGGAGGAAAAGTATGCAGGGATTGCTTTTAATCTGATTCCAAAAACTTTTAATCAGA
TTGCGGATGCTGCCGATTTTCGTGCCGCGCGAGCGCAGGGCGACGAAGAGGGCGAGGCTG
AAGCTGACGCAGAGGTTGACCAGGCCGATGGCGAGGACGCTGAAAATGCCGAGTACGAAC
GTGCCCAAACCGACGTTGCCGCTGACGGCGGCATAGCCGAGGTTGGCGGAGGAAAAGGCG
ACGTGGCGGATGTCCAGCGGCAGCCCGAGGAGGTGTCCGAAATAGCCGGTCATACCCAAG
AGCATCCCGAAGATGAAGTTGCCGACCAGCGAGCCGTAGTGTTTGTGGATGTAGGCGGCG
AGGACGCGGCGGGGCCCGGGGCGCATGATTTTACGCAGCAAGGGGTTGAAGGGCAGGCGT
TGGCGCAGGTTGAGGTAGTCGGCGCGGTTGTCGAAAAAACCTGCGATGATGCCGGAGCAG
AACAGCCACAGACCTGCAATGGCGGCATACCACAGCGTCGGGTAAGCGATGATGTCTATG
GATTTGAACTGGTAGGCGGCGGTGTGGGCATCGAGTATGGGCAGCCGGTACAGATGGGCA
TAGCCGAACGATATGGCGCACGCCAAAAGGATGGCGATGGAAACGTTGCCGAAGACGGCG
ACACTTTGGGAGCGGCATACGTCGATGAGGAGCTTGGCGAGTTTGTTGTCCACCGCTTTG
CCGCCTTCGTTGAGATCGACCTGTTCGGCAAAGCTGGCGGCAGTCATCGCGGGCTGCTTG
GTGGCGACGGTGCAGTGCAGCATATGGATGATCATAAAGCCGATGCCGTAGTTGAACCCA
GCCGACAAGGAAGTGAGGAAGGGGCTGAGGCCGAGTGAGCCGATGCGGATTTTGAGCAGC
GCCATTAGGGCGATGATGATGCCGCCGCCTGCCGCCGAGTAGAACATTTTGAAATATTCT
TTGCGGTTGCGGGTGATGTAGTGTTCGCCGTGGTGGCTTTTGTTTTCGGTAATGCTGCGG
GCGAGCATACGGATGCTGCTGCGGCGCAGGTGGCGGGTGCTGTATTGTTCGACCGCCGCG
TAGATGAGGGAGTTCATCAGCGCGATGGTCAGGCGGTTGCTGTTGCCGGCGCCGGTTTGG
ATGTCGGTGAGCAGCTTCAGACGGTCTACGGTCTGCCGGAGCCGTTCGAGCAGGTGGGCG
ACTTTGACCGACGAACCGGAGCCGGCGCCCGTCCCTTTGCGGCGCAAATAGTCAATCTGG
CTGAAACATTGGTCGAACATCACTTCGAGGTGGGCGGTGTCGTAAGGCGTGGTGCCGTTG
```

-210-

```
CGGTAGTGTTCGACCAGTTTGGCGGTTTCGCGTTGGAGGGCGACGAAGGAAGAATCGGCT
TCCAGCAGGCGCGGGGCGATGCGGATGAGGTCGGGTTCGATGGCTTCGGATGCCGTCCAG
ACAGACAGCATTTCGATGGCGCGCAAACGCGCATCGGCAAGGCGGATGCCCGCCGTCTGC
AATTTGGACGGCTCGGCGTGGCTCCGGATGAGTTCGTATAAAACCAGCCATTGGCGGATA
TTGAGCGTTTGCAGCCATTTGTCGTCGTTTCGGAATGGAAAAGATAAAGGAAGACTTCG
CCCAAGTTGGCAAAATCTTTATATGACGGGCTGAAGCGTTCGTAGATGCGTATGCCCATT
TCCCGGGCAAAGCTGTGGCGCGAGAAGATGCCGAGTTTGATGAGTGCCGGATAAATGTGT
ATTTGCGCGAGCCAAATGTAAAAACACCGGCTGAAGCGGGACAGTAATTCCCTGTCTTGT
TTGAATGTGTCGATAATCAGGTCGAAACGTTCCCCCGCACATTTTTGCCGCCACGGCGC
AAAAATTTAATCAGTGCGTTGAGGACGTTGACAAAATCGGTATGTCCCAAGCTTTCCGAA
AGCAGGGGGCGCAGGTTTTGAGGGGTAATTTTCTTCATATCAGCCATTGTACCGCATCGG
CAATCCGGCCGTTAAACGCCCCGATAGCGGGGAGGGCGCGCCTGCGGTGGGCGGCGCATTT
TCCGCCGGTTTGAAATCAAACTATATTAATGATATAATAAATATCGATAAATCAATCTGA
TAGAATAATCCGTATTGATTTTTAATTTTTTCGATTATAACAATTTCGGCCGGTTTGTGC
ATTTCGTCATCCGGAAGCCGGTATTTTACCGGCAGGTTTTGACCGCTTTGCCCGATGACC
GGGTTTGTCTGTTTTTAACAAAGGAGTGAGAAGGTTTGTCCCTGTCTGAATTTATAGAAC
GCCGAACGTCATTTAATCCGATGGTTATTTTGACGACTTTGTTTTTTGTGTGTGTTTTGG
TGGTATTGGTTTTAACCGTGCCGGATCAGGTGCAGATGTGGCTCGATCGGGCAAAAGAAG
TCATTTTTACCGAGTTCAGCTGGTTTATGTTTTAACGTTTTCCATTTTTCTGGGTTTCC
TGCTGATACTCTCGGTCAGCAGTTTGGGAAACATCAGGCTCGGACGGGATGAAGATGTGC
CGGAATTCGGCTTCCTGTCGTGGCTGGCGATGCTGTTTGCGGCCGGGATGGGCGTGGGTC
TGATGTTTTTCGGCGTGGCAGAGCCGTTGATGCATTATTTTTCGGACATTACGGCCGGCA
CGCCGGAACACAGGCAGCAGCAGGCATTGCTGCACACGGTGTTCCATTGGGGCGTTCACG
CTTGGTCGGTGTACGGTACGATTGCATTGGCTTTGGCTTATTTCGGTTTCCGCTACAAGC
TGCCGCTTGCCCTGCGTTCTTGTTTTTACCCCTGTTGAAAGAAAAAATTTCCGGAAGGT
TCGGCGATGCCATTGATATTATGGCGTTGCTTGCTACTTTTTTCGGCATCATCACCACAT
TGGGGTTCGGGGCTTCGCAACTGGGCGCCGGATTGCAGGAAATGGGCTGGATTGCCGAAA
ACAGCTTCAGCGTGCAGGTTTTGATTATCGCCGCCGTCATGTCCCTCGCCGTCGTTTCGG
CAATATCCGGCGTGGGGAAGGGCGTGAAGGTGTTGAGCGAGTTGAACCTGGGCCTTGCGT
TTTTGCTGCTGTTTTTTGTTTTGGCGGCGGGACCCACTGTTTACCTGTTGTCGGCATTCG
GCGACAACATAGGGAACTACCTCGGAAATCTGGTGCGCCTCAGTTTTAAAACTTATGCGT
ACGAACGGGAACACAAGCCGTGGTTTGAATCTTGGACGGTGCTTTATTGGGCGTGGTGGT
GTTCTTGGGCGCCGTTTGTGGGTTTGTTTATCGCGCGCATTTCAAAGGGGCGCACCATCC
GCGAGTTTGTCTTCGGGGTTTTGCTCATCCCCGGCCTGTTCGGCGTTTTGTGGTTTACCG
TCTTCGGCAATACGGCGATTTGGCTGAATGACGGGGTTGCGGGGGGAATGCTCGAAAAGA
TGACCTCCTCTCCGGAAACGCTGCTTTTTAAATTCTTTAATTACCTCCCCCTGCCCGAAT
TGACGAGCATCGTCAGCCTGCTGGTCATTTCTCTGTTTTTTGTAACTTCTGCCGATTCCG
GGATTTATGTCCTGAACAATATTACCTCTCGGGACAAAGGCTTGAGCGCGCCACGGTGGC
AGGCGGTTATGTGGGGCGTGCTGATGTCTGCCGTTGCCGTTTTGCTGATGCGCTCGGGCG
GACTCGGCAACCTGCAGTCTATGACCCTGATTGTTTCCCTGCCGTTTGCCCTGCTGATGC
TGATAATGTGTTTCAGCCTGTGGAAAGGCTTGAGTGCGGATAAGAAATATTTTGAGACCC
GGGTTAACCCTACCAGTGTATTTTGGACGGGCGGCAAGTGGAAAGAACGGCTGGTGCAGA
TAATGAGCCAGACGCAGGAGCAGGATATTTTAAAATTCCTCAAACAGACTGCATCGCCCG
CTATGCACGAGTTGCAACGGGAGCTTTCGGAAGAATACGGCTTGAGCGTCCGGGTCGATA
AAATGTTTCATCGGGACGAGCCCGCAATCGAGTTCGTCATTCGGAAAGAGACGATGCGCG
ATTTTATGTACGGGATTAAGTCTGTCGGGCAGGATGTATCCGACCAGTTGATTAACGACG
GCAAGCTGCCGCATATCCGGCATCAGACAACTTACAAACCCTACGCTTATTTTTTCGACG
GGCGCGTCGGGTACGATGTGCAGTATATGAACAAGGACGAGCTGATTGCCGACATTTTGA
AAAACTACGAACGTTATTTGATGTTGTTGGATGATGTCGGTCAGGAACTGATGGCGCACG
AGCAGGTGGAATTGGCAGAGTAAATGCCCTCCCTCCGGTGTTTGTCAAAAAAATGCGGTG
AATCAGATTCACCGCATTTTTTTGCCGGACGGGGCTTCGGACGGCACGGCGTTCATTTGT
TTCCGTCAAACTGCTCCTTCAACACCCGTTTCAATACCTTGCCCGTAGCGTTGCGCGGCA
GCCCGTCTTTAAAGTGGATTTGTTTGGGGATTTTGAAATTTGCCAGCACGGTACGCAGGT
GGCGGCGGATTTCGTTCTCGCCCAAATCCATACCTTCCTTCAATTGGACGAAGGCGACGA
TTTCCTCGTCGGCATAACGGTCTTTCACGCCGATGACGGCGGCGGCTTCGACGGCATCGA
GTTTGTAGATTTCTTCTTCAATCTCGCGCGGATAGACATTTTGACCTTTGGAAATAATCA
AATCTTTTTTGCGGTCGACGATAAAGATAAAGCCGTCTTCGTCTATGGTAACGAAATCGC
```

```
CCGTTTTCAACCAGCCGTTGACGATGGTTTCATCGGTGGCGGCAGGCATATTGAGGTAGC
CCCGCATCACCGAACCGCCCCTGACGATCAGTTCGCCCACTTCGCCGCGCGGCACTTCGA
CCAATTCTTCATCGACGGCTTTGGCTTCCAAACCGGGCAGGGGGATGCCGACGCTGCGGG
CTTTTTGCCTCTCGGGCGTATTGACGGCGACGACGGGAGAGGCTTCGCTCAGTCCGTAGC
CTTCCAGCAATTTGGCGCGGGGGAACTTGGCTTTGAAATCGAGGATGGTTTGTTCCGCCA
AAGGCGCGCCGCCGCTGATAAACAGGCGAATGCCGGTTGAACCATCTGAAATACCAAGGGA
TTTTCGCCTTGCTCATCGCGGTGTAAATCGCGGGTACGCCCAAAAACACGGTCGCGCGTT
TGAGCAGTGTCTGTTTCAAAACGTTGGAAAACGGAAAAACGGATTTGACCAAAATAATCG
AACACGCCATATAAATCGGCAGCAGCACCATAGCCGTCAGCGTGAAGCTGTGGAACATCG
GCAGGAAAACGATAAAGCGGTCGCGCTTGGAAATTTTAAAGATGCGTTCGATGCCGTTCA
GGTTGGCGAACAGGTTGGCGTAACTGATTAGCGCGCCTTTGGGATGCCCCGTCGTGCCGG
AGGTGTAGATGATGTGTGCCAAATCATTTATCCGGGGTTGGCGGCCCAAGTCGGGTTTTT
CGGGGAAGCGGCGCACGTCTTCAAAAAAGGCATCGCCTTCCGCCGTTTCGCCGGTCGGAC
GGCTTTTGTCCGTCCAAATGATTTTTTCGACGGGCGTTTGCGCCTTCAAGCCCGCCAATT
CTTTTGACAGGCCGGCCGAGGCGAACAGGAAGCGCGCCTTGCAGTCGTTCAGGATATACG
CGTATTCGCTGTTTTTCAAAAATGTGTTCATCGGTACGGCGACCGCGCCGATGGCGGAGA
TGGCGAAATAGGCGGTAATAAATTCTGTGGAATTGGAAACCGCCAGCGCGACCGTGTCGC
CGAACTTCACGCCGATATTTTGCAGATACGCCGCGACGGCTTCGGCCTCCTGCTTGAGCG
CGCGGTAGGCGGTTTTTTCCTTGCCGTCGAACACTGCCGTGCCGTTTCCGTTTTTGCGGC
AGGCGGCGGCGAGCATTTCGTAGAAATTGGCATAAGTCCGGTTCATGAAACTTCCTTTAT
GGTTGCGGACGGAGAACGCCCTCATTTGAAAACAATATGCCGTCTGAAAACGGAAGGCGG
CAGTTTATCATCTTTGCCTTCAGACGGCATATCAAACGCCGCCTTTGCGCCGTATGCCGG
AGGTTCGCCTGCGTCCTTCCGATGCCTGAGGCGAATGCCGGTTGCGTCCGGCAAACCGTG
CGCGGGGTGGCTATGCCGTCTGAAGCAATATGAAGGTATGCGTTTCAGACGGCATCCCCC
TGTTGCGGAAATACCGTCCGCCTCCTGTCCGATTATTGCCTGATTGCAGCGGAGCGGACG
AGTTCTTCGAGGCTGTCGGCGAGCATTTCCGCCGCGCGCCGGTAGCCTTTGGCGGAGAAG
TGTACGCCGTCTTTGGCGGCCCATCCTTGGTTGAGCCAGTTTTTCATGCTGCATATGCCG
CCCATGGCGTTTTGCCAAGACCAGAACATCGTCTGCCCCTGACGGGCGACGCGCCGCTGC
ATCTGTTGGACTTCGGTCAGGCGGACGGGGCGTGTGCCGCATACGCCGAGCGTGTTTTTC
AGGGATTCGGGTGCGCCGATGATGAGGATGCCGGCGGCAGGCAGGCTGTCGCGGATTTGG
CGGACGGTATCCAGCCATTTTTGTTCGGTGTCGGCAATGTCGATGTTGTTGTTGAAAGCT
TCGTTGGTGCCGTAGGAAAGGATAACCAAATCGGCGCCGGTTTGGGCGAGGTCGTTCATA
CGGTCGGCACGCCATTTCGACCACTGGGTTAATTGTGCGCCGTTGATGCCCATCGCGGAA
ACGGTAATGCCGCCGGCGGGATTTTCGATGTTGATGAAGCCGATGTCCCACGGCATTTCG
GTGTGTATGGTCAGGGGCAGTGCCGCGCCCGTATCCAGTACCTGCCAGCCGCCGCCGTTG
GCGGAGACGGTGTTGCCGTTGACGGTCAGGGTTTGTTCGGCAAGCAGGGGTTTGGCAAAC
AGGGAAACGCGCTGCTTGCTTGCTATGCCGTCCGATGCGGTCAGGGTCATGCTGCCGCCG
CTGCCGGTGTGGGCGAGGATGCCGCCGAGCGGGAAGTCTCCGGTGTTGTTCCTGCTGGTG
AGGCTTTGCCAGTTACCGTTGTGCCGGACGGCCGCCATGCGCTGCCCTTTGACGTTGGCG
GGGTAAACCCAGCCTATGCCGCCGTCGCCCCAAGTTTTTGCAGGCGTTTGCGCAGGCTG
TCGGTAAAGAAGTCGCCGGCGGTATGCGAGTCGCCGATTTGCAGGATACGGAAGGTCTCG
CCGCTGCCTTGTGCGACGGATTGGAGTTTTTTCATCCAAGGCGAGGCGGAGGCGTTGCCG
TAGTCGGTCAGCAGCCCGTTTGTATCGGTGTAGGGGGCGGACGGGGAAACGGTAACGGTG
TCGAGGCTGACGGAGGCGACAGGTAGGGCTTCTGCCTGCGTGGCGGCGAATAGGGCGGAA
AATGCGATGAGGTGTTTGGGGTTCATGGCTGTGTACTTGATGGTTGCGTACTTGGTTCAA
AAACGATTTTTTCCATTATTTTTGCCGCCAGCAGTTTTTGTCCTTCGGCGGTAAAGTGTA
TGCCGTCCTTGCTGCGGTAGCGGACGGGTTTGCCGTTGACGTTGACGGAGTCGGTGTAGC
GGTCTTTCCCGCCGCTCAGGGTGTGCGTGGTGGGAATCAGGATGATTTTGCCTTTCAAAT
GTTCCGAAAGCAGTTTGTCTAGGTAGCGCATCTGTCCGTCGAGCTTGGCTTTTTTCATGT
AGGGGATGCCGAGCCAGACGACTTGGACGCGGTGCGTGTGTGCGGCTTCAAGGATGCGGT
CGACACGTTTCAGGTATTCTTGCGCCCATTCGTCGGAAGCGAATTTGAGATAGAGTTTGC
CGACGGGGAAATCCCACGGGTCGTTCGGTCCGAGGAAGACGGCGAGTACGCTGATTTCGG
GATGTTTTTGCAGGGTTTCTTCAATCGTTTTCGGCCAGTCGAAGAATGAGGGGTAGGACA
GCCCCGTGCTTTGTTTGCTGAGGTTGACGGATTCGATGCCGTATTGCTGTTTCAGGCTTT
TTTGCACGAAGGGGGCAACGCCCTGCATCAGCGAGTCGCCGACAAAAAAGACTTTGTCGC
CGCTGCGGACGGCGGCGGCTTCGGTGTCTTGTTTCCATTCTGTTTCACCGGTTTGAGGGA
CGGCTTCGGATGCGGCGGCTTCAGACGGCATATCTGCCGAACCGCCGTCTTGAGCCGTCG
```

-212-

GCGGCGTTTCGCCGGACAGGAAGGCTTTGATGCCGTCTGAAAGGGCGTAGGCGTTTTCTT
GCAACGCCGCACCGCTCCGCCACCATCCGTAGGCGGCAAGCGGTTCGAGCGGGCTGTTGC
GGTGGTAGGTCTGCTGCCAGTAGGCGTTGATGGGGTTTTGGCTGAACCACACGGCAATCA
GGGCAGACATCAGTATGGAGGAGAAAAGGGAAAGAAAGTTTTTCATGTCCAAACCCTTAA
AAATTGGCATAAATAAAGCCGGGTATCCCCGAGGGGGCGAGGACGATAATCAGCAGCAGG
ACGGCGGAAACGGGGATAAACCACAGCCACATCGGGATTTTTTCCAAACCTTTGACCGCG
CCGTCGAAAGCGCGTTGCAGGTAAGGGTAGAGCAGCATCACGGATGCAAACGAGGCAAGC
AACAGCATGTTTGCCTGTTGCGGCGCATTCCAGCCGTTGGCATTGGCAAAGAGGGCACTG
AAAACTGCGCCTGCATCGTCGGGATTTGCGGTATTGAAGACGACAAAGCTAAGGCAGACG
AAATGGAAGGTAATGAGCCATGAGAGCGGCGCGAAGTATTTCAGACGGCATAGCGCGTCG
CGTCCGAAATAGCGGTCGCCCGTGTTGAGCAGCACCAGTGCCGTGCCGTGCAGCGCGCCC
CAAATGAGGAAGTTCCAGCCGTAGCCGTGCCAGATGCCTGAGAGCACCATTGCCGCCATC
AGGTTGAGCTGTGTCCGTAAAAAGCCTTTTTTGCTGCCGCCCAAGGGGATGTAGATGTAG
TCGCGTATCCAGGTGGAAAGGCTGATGTGCCATTTGTCCCAAAATGCGCGGATGTTTAAA
GCACGAAGCGGTGCGGAGAAATTTTTGGGCAGCCTAAAGCCCAGCAGCATCGCCATGCCG
ATAACCAAATCGGAATATCCGGAAAAGTCTAAAAAGAGTTGGAAGGTATAGCCGTACACG
CCGCCCAATACGCCCCAGCCGTCGAATTGGGCGGGATTTTCAAATACGGGCGACACCCAG
TTTTCCGCCAGCATCCCCGCCAGCCACCATTTTTTGGCAATACCCAGCAGAATCAGGGAA
ACGGCGAGTGCGGGGCGGACGGGCGAACGCGCTCGGCGGGTACGGATTTGCGCCAATGCG
CCTGCCTGCTCGCCGTCTGCGCTTTTGAATGCGGCGGCGCGGATAATCGGGCCGGAGGTA
ACGGTGGGGAAAAAACTCAGGTGCAGCAGCAGCTCGTGCCAGCTGAAACGCGCGGCGTGC
GGGGCGCGGAAGCAGTAAACCAGATAGGCGAGCGACTGGAAGGTGTAATACGAAAGCCCC
AGCGGCATCAGGATGTCGATTGCGCCGCCTTTTCCGGCATATTGGGCAATCATCGGGCGG
AAAAAGTCGAAATATTTGAAAAAGCCCAAGACGGTCAGCGAGGCGGCAATGCCGCACCCC
AGCCAGAAACGGCGCGTATTTTCGCGATCGGAACGGAGCAGTTCGCCCAAAAGGTACACG
CAGGAGGAATAAAGGACGATGATTGCCGCAAATACAGGGCCGATATGGTAGAGCCAGCCC
ATACCGGCAGCCAAAAGCAGCAGGTTTTGGACGGACGGGTATTTCGCCAAGCCCCAGTAA
ATCGGCAGGAAGGCGAGAAAGAACAGTGCGAACTCGACAGACAGCAGCGGCATAAACCAT
CCTTGGAACAAAAAATAGGCGTTAAAACACGGCAAAGCCCGTTATTTTAAGCAGGGGTGG
ATATTTCTTCAATCAAAATGCCGTCTGAAGGGCGGGAGGGGCTTCAGACGGCATCGTGCG
GTCAGGTTCGGATATGGCGGTTCAGGTTCAGGCAGACCCACAAACCTGCCGCCGCCGTCA
GCATACCCGCAACGCCGATGCAGGAAATGCCCGAGTATTGCGTAACCCAATGCCCCAGCA
GCGCGCCGCCGCCGATACCGACGTTGTATAGTGGATTAACAAAAATCAGGACAAGGCAAC
GAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGA
GAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGACGTACTGGTTTTTGTTAATCCACTAT
AAATGCGCCGATTGCCAAGGCAATGATGCTCAACCAGGGTTTTTGCGAAGCGTTCATTGT
TGTTGTCCTGATGGGAATTGCCGCCATTATGCGCAAGCGTCCGTATTTTTTCAAACCGCC
GCACCGTTTCCGCGTTTGCCCAAGTTCACGCCCCGACTTACAATAACGCCCGTCAGAATG
CAGTACCAACGAAAGGAAAAATCATGGAAACCCTTATCCTCGACATCGGCGGCATGAGCT
GCGGCGGCTGCGTCAAAAGCGTTACCCGGATATTGGAAGGCGTAAAAGGCGTGGCAAGCG
TCGAAGTCAGCCTTGAAAACAAAAGTGCGACCGTCGGATACGACCCCGCGCAAACCGATG
CAGGGGCGTTGATTGAAGCCGTTGAAGACGGCGGCTATGATGCCGCGTTGAAATAAAGCG
GCAAAAATGCCGTCTGAAGCCTTCGCGCCTCCCAGATGCCGTCTGAAGTACGCTCCGCGC
CTTCAGATGGCATTTGATTTAGTTGAACGGGTAGGATGAATTGGTTAAACTTGCGGGCAA
TAGTGCCTTCAGACAAACAAAATATGCCGAACAAGAAGAAAAAGCCGCCTTTGCGCGTG
CTGCAACGGAGAACGGTGTGCCGGACGTGTCCAACATCAAAAATTCATATGATGATTTGA
TGTACGAATCCGGCGCATTCTCTCAAACCGCCATCAATAATTTGGAGGCGCGCGCCCGCC
TGATGGGTTTGCAGCCCGCGCCCGCCGCCAATGCCAAGGTCTTGGAGCTGGGCTGTTCGA
TGGGCGGAAACATCATCACGCAGGCACTTTATTACCGGATGCGGAATTTGTCGGTATCG
ACCTGTCCGGCAGGCAGGTTGCACAGGGCAACGCCATCATTGAAAAAATGGGCTTGAAAA
ATGTGCGTCTGGAAGAAAAAGATATTTTGACCATCGATGAGTCATTCGGGAAGTTTGACT
ATATCATCGTCCACGGCATTTGGTCGTGGGTGCCTGACGCAGTTAAAGACAAAATTTTTT
CGATTTGCTGGAACAACCTGACCAAACACGGCATTGCCTATATTTCATACAATGTTTACC
CCGGCTGGAAACGGCAGGAGCAGTTGCGCGAAATTATGTACTTTGCCGGCAGGGATGTGC
TTGAAGAACCCTTGGAAGCGCGGACGCGGAAAGGCTTGGACGCGCTCAAGGCGCTGGCGG
AAATTTTGGAAAACGACAAGGGCTTGGACGGCGGCGGCAAACTTCCGGCGATTCAAAAAA
TATTGAATCATAATTTTTATTACATCGCACACGAATATATGGAGGCGTTTAACGACCCGA

```
     TTTACGTCAACGGCTTCATCGAATGGGCTAACCGCCACAGGCTCGCATATATCGGGGATA
     CCAATTTGCACGTGTCTTTTGTTTCTTGGATGGCGGAGCATACGCGGGAGCGGATTCTGG
     CATTGGCAGGGGACGATTATATTGCCAAAGAATTTTACAGTGATATTTTATCCGACCGCC
     AATTCCGCCGTTCGCTTTTATGCCGTGAGGAAGTCGGGGATACTGTCAGGCGTGATGAGT
 5   CGGTTGCCGTCGAAGTGATAGAAAGTTTGAATTTCCGCCCGGCAAGAGGGGAAACAATCA
     ACTTTGATGAAAACGATATCCTGCTTTCGGGCATACGCGATGTGATGAAAACCGGAGAGG
     CGTTTAAAACGGAAGATGTTGCGGAAAATCTCGCCCGCCGATTTCCCGGTTTGGAATTTG
     ACCGCATGAAAATCAATTCCCAGCTTTTATTGCAAACCATTCTCGGGCGTTTTTCTGTTT
     CATCAGACAATGCGGGCAAACCATTTTTTGAAGACCATAAAACCTATGTGCCGGCGCGCT
10   TTACAAACTATGCCGCCGCCTTTGTGGAACACGGCGCGGAAGCGTTTGTCCGGCCTGCCA
     ACCGTTACAACGAAAGCACCCCCTCATTCGGATACGGGCATTTGTACATTATGCGCCAAT
     TGTCGCGGCCGACGAGCAAACAGGCATTGATTGAAACGGTTGCCGAAAACTTGAACATCG
     TCAGCACCACGCCCGACGGTTTGACATTCCATCCGCCTGCCGAAGTGTATGTGGAAGAAA
     TATTGGCAGACTTGGCAGACAGGCATTTTCTCGTTTCGGCGGATTGACGGGCAAGTCCCG
15   GCGGCAATCCGTCCGATATATTTTCAGACAGGAAAGACACACACTGCGAAAAGCGGTGCA
     CGACACATATGAACCAGACATTTACCTTGCCCGATACGCGCCCGTATCCCCAAAATCCGA
     TTAAAAACCACCTGCTGCTCAATGCCTACCAGTTGGCGCATAATTCTTCCCAGGCTTCGC
     GCAAACTCTCGTCCGGCCAACTTCAAACCGAAATCAGGGGAATGCTTGAGCAAAACCACT
     ATATCAACCTTTCCCTCGCGCTGACGATGTCGCCCGATGCCGGAACTTATGCCGCGCTGC
20   TTTCCAGTGTGAACGCGGTACTCGATTGCGAGAAAGAAGGCGAAGTGCAGTGGTTCGCCC
     TGCCGGTCGTGCTGGTGTCCGGCTGCAAAAAAGAACGTGCAATCGAGATGAAGCTGCCGA
     CGGAGGCATTGTTTGCCTGCCTGCAAAACTATCCGCACCTGCGCGCGTTGACGCAAGAGA
     CGCAATGGCTGCCTTATCTTGTGCATTCTTCCGATTTGAGCGCGGTCGCGCCGGATGAGT
     GGTGGCGTGCCAAACAAAATACCGAAGCGGCGGCGCAACACTTGCGCCGTTTCGCCCCGC
25   GCCCTTTGCTGTTGCCCGAAGGGCAGTCCGTCCACGTCGTTTACGCGCTGGGTTTCGGCA
     GCGGCAAAGTTCAGACGGCATTGGGTCAGAACCTTCTTCAGGCAGGTCTGCCCCTGATGC
     AGGTATGGCAGGAAAATCTTGCATCGGAAGGCGTTACGCTGTTTGCCAATCCGCTTTCCC
     CGGATTCTCCGGTACGCGCGCTTTCAGACGGCAGCCACACGCGCCAACGTATGGCGATGG
     ATGTGTTTGCGGCAAACGCGATACGCGCCGTCCGTATGCAGAGTCCGCGCGTCGGCGTGG
30   TCGCTGCGGCAAAGGCGGGCGGACAGATTTTATTCGGGTTTAATGCGACCGACGGCGCGT
     TTGAAGTCGTGCCGCAGGTGTTTTCGTGGCAGCTTTCCTTTACCGACAACATCGCCGTCA
     TCCAGCAAAATTTCCTCGACCTGATGGCGGAGTGCCGCGTGGAACACGTTTACCTGTTGC
     ACAATCCCTTGGGCGAACAGGAAAGCATCCCGAGCTATGCGGAAGCATTGAAACGGGAAG
     GGCACAATCCGTTTTTCAGCGCATAGTGATTTGTAGTAGTGATAGGCTTTCTCATTTATA
35   TAATAAATCAAAATAAAGAGCACAACACTTTTTCATTCTGTGTTGTGCCTTGAGTGAAAC
     GAAAGGATGAATTATAAATATGAAGATTGTAATTGCACCGGATTCGTTTAAGGAAAGCTT
     GACAGCTCAACAGGTAGCTGAAGCAATAAAAAGAGGCTTCCAACAATCGATAGCAGATGT
     GGAATGTCTCCTCTGTCCTGTCGGTGATGGGGGAGAAGGCACTGTAGATGCTATCCGACA
     TTCTCTTGACCTAGAAGAAAATGTCTCCAAGTGACAGGACCTTTTGGACAAAAAGAAGT
40   CATGCGCTATTTTCAAAAAGAACAACTAGCCCTATTCGAAGTTGCTGATTTGGTTGGTCT
     TGGAAAAATCCCGCTAGAGAAACGAAATCCATTACAAATCCAAACTCGTGGTATTGGAGA
     ATTGATTCGCCACCTCATTAGTCAAGAAATTAAAGAAATCTATATTGGCGTTGGCGGTAC
     GGCCAGTAATGATGGAGGTATTGGGATTGCTGCTGGTTTAGGTTATCAATTTTATGATGA
     GGATGGAAATGCCTTACCCGTTTGCGGTCAATCCTTACTAAACCTAGCTTCTGTTTCAAC
45   AGAAAATCGCTATGAAATTCCTGAAGATGTTCACATTCGTATTTTAGCAGATGTTGTGAG
     TCCCTTATGTGGACACCAAGGTGCGACCTATACGTTTGGCAAGCAAAAAGGGTTGGATTC
     TACTATGTTTGAGGCCGTAGATCAGGCAATACAAGATTTTTATGAAAAAGTCTCCCCTGC
     AACATTAAAACTTAAAGGAGCAGGAGCTGGTGGAGGCATCGCTGGTGGTTTGTGCGCCTT
     TGCTCAGGCAAGTATCGTATCTGGAATTGACACCTGCCTGGACTTGATTGACTTTGATAA
50   GAAAGTGTCAGATGTTGACTTGGTTATCGTTGGTGAAGGAAGACTAGATCGTCAAAGTTT
     AGCAGGGAAAGCGCCTATTGGTGTAGCAAAAAGAACCCCTGTCGGAGTTCCTGTTGTCGC
     TATTTGTGGCAGTCTCGTTGAAGATTTGCCTTCCCTGCCATTTGAAAAATCCAAGCTGC
     CTTTTCTATTTTGGAGAAAAGTGAACCTTTAGAAGATAGTTTGAAAAATGCCAGCCTCTA
     TTTGGAGCATACGGCTTCTAATATTGGACACTTATTAAATATGCCTAAGATTTAGCCAAA
55   CCATTTCTTCCAGATGGATGTTTTGGCTGGTTCTGCCTTATGCGGTTACGATTAACCGAC
     CGATGCCGTCTGAAAGGGTTTCCGCTTCAGACGGCATCGCGCCGGAACAGGGAGGGGATA
     TGAAAAAACCGAAAATCCTTTTTGTCTGCCTCGGCAACATCTGCCGTTCGCCGATGGCGG
```

```
AATACATTTTGCGCCGCCGCGCCGCCGAAGCGGGCATTCCCCTTGAAGCGGACAGCGCGG
GGACATCGGGCTGGCACGACGGCGAAGATATGCACCGCGAGACGGCAAAGATATTGAAAA
AACACGGTATCGATGCTTCAGGCTTTACCAGCCGCAAAATCCGCCAAAGCGATGCGGCGG
CGTTTGACTGCATCATCGCGATGGACGGCAAGAATTTGTCCGAATTGGAAAGAACCTTCG
GCAGGCGGCCGGAAAAAATATTCAAGCTGACCGACCTGATACCCGAAAGCGGTTACGACC
ATGTCCCCGATCCGTGGTATACGGGCGATTTTGAAGAAACCTTCAGGCTTGCGGATGCGG
GCTGTCGGGCATTGTTGGAAAAGATTTCCAAATAAAGCAATTGAATACAAATATAAAACC
GCCTCCTGCCGTATCGGTTGTTCAGACGGCATAAACAGAGAATTTATGAAAACAAATTTC
AAACAGAAAATTATCGAACAGGCACGCAGCGAAGGCTTGCAGGTAACCGCTTTGCGCGAG
CAGGTATTAGATATTGTCTTGCAGCAAAGCGGCGTGATTAAAGCCTACAACGTCTTGTCG
CAGATGCAGCAGCAAAGCGAGGGCGTGCTTGCACCGCCTACCGCCTACCGCGCCCTTGAT
TTTTGGGCGGAGCAGGGCGTTTTGCACAAAGTGGCGGCGGTCAACGGCTATATTTTGTGC
AGCCACGCGCAGCACGAGTGCGACGACCATTGCCACGACCACGAAGAAGCCGAAGCGCAC
CACAGCGCGTTTATTTTGGTCTGCACCGAATGTGGCACGGCGGACGAGCAAACCCTGAGC
CACGAGTGGGCGGCACTGCGCGCAGGCGTTGCCGAAAGCGGCTTTGCGCTGAAAGAAGAA
CACGTTGTTTTAACCGGGATTTGTAAAAAATGTCAGCAGTAATCGGTGGTTTGCATTGAT
AATAAGCCTTTCGAAAGGAGCAGATAATGAAACCGTCTCTTTTGTTGCAAAGCAGAAAGA
AAGAAATATTGGCAGTTTTCGGGAAATATCCATTGATTTGCAATCCAAGGGTATTCGGTT
CGGTTTCTCGCGGAGATGATACGGAAAACAGCGACATTGATTTGTTGGTGGATGCAAAAA
CAGGGACAACATTATTGGATTTGGGCGGGCTGCAAGAGGAATTGCAGAAACTCTTGGGCA
TAAAGGTCGATTTGCTGACACCCGATGACATCTCGGCCCACTTTAGAGATAAGGTGTTGA
CTGAGGCTGTCGCATTATGAAAATGCAGAAAGAATTGTCGGTCTATTTGAAACAGATATT
GCAGGCAGCGCAATATATCCGGCTATATACCGACAAAATGGATTATGGGCAATTTTCTGC
CGACACAAAGACTGTGCAGGCAGTCGTTTTTAATTTGTTCCTTATCGGTGAAAACGCAAC
CCATATCCTTAAATCGTATCCGGAATTTGCCGAGGAAACCAAATATTTGAATTGGATAGG
GATGAGGGGGTATTGCGCAATAGGATTGCCCATGGCTACTTTGAAATGAACCTGTCTGTC
GTTTGGGAGACGGTTTTGAACGTCATACCGGCGATGTCAGCCGATATATCGAATTTGCTG
GAACAATTGTCAATTGATGAAGAACATGATAACAGCTGCCATCACTTTTAACATTATTTA
ATCATTTAAAACACCCTATCTTCAAATTTTAAAGTGGGACATCACATAGAAATGAAAAAA
ACCAAAGTCCACCTGATTTCAGGTTTTCTGGGAACAGGCAAAACCACCGCGCTCAAAAGC
CTGATGGCGCAAAAAGACCCGAACGAAAATGGGTCATCATCGTCAACGAGTTCGGCGAA
ATCGGCATTGACGGCGCGGTATTGAGCGACAACGGCATCCCTGTGGCAGAAATCGCCGGC
GGCTGTTTGTGTTGCACCGCCGGCCCGCAAATGGGCGTAACCGTGCAGAAAATGCTGCGC
GACGCCAAGCCCGACCGCCTGATGATTGAAGCAAGCGGACTGGCGCACGCCGCCAGTGTC
ATTGATGAACTGAAAACCAAACCGCTGGACAGCCTTTTGGAAATCGGCGCAGTCTTTACC
GTCGTCGATCCGCGCCAGTTCATCAACCCCGATTACGCGCAGCAGGCATTGTATAAAGAC
CAAATCGGCATCTGCGACGTATTGGTTGCCAGCAAAACCGATTTATGCACCCCCGAACAG
CTTGCCGAATTTCACGACAAAGCCGCAAAACTGTTCCCGCCCAAGGCTAAAGTGGTCGAA
GTTCAAAACGCACAACTCGATATCCAATGGCTTGACATCCCCGTCATCGAAAATCACGC
TACCGCCTCAAAGCCCTGCCGGACAACACGATGGGCTTCCAGTCGCAAGGTTTCACATTC
CCCGCCGGACGCGATTTCGACGGTGAAAAATTGACCAACTTCTTCAATGATTTGCCCAAT
ATGACCGAAGGACTCGTCCGTGCCAAAGGCGTGTTCCAAGTATTGGGAACGTGGGTGTGG
CTCAACTGGGTGGACGGGCAATGGGGTGCGAACCAAGTGTCTTGGCGGCGCGACTCGCGT
TTTGAATTGATTGCCAAATCGTTTGATGCGGATTTAATCGAACAAAAACTCAAAGACGCA
TTGGAATAGCGTTAACGAGCCTTCAGACGGCATAGGAAATGAAAATGCTGTCTGAAGGTC
TGAGGAGGACGGGATGAAACCCAAATTCAAAACCGTTTTAACCGCGCTGCTTTTGGCGGT
TTCCCTGCCGTCTATGGCGGCAACCCATGTTTTGATGGAAACCGATATGGGCAATATCCG
TTTGGTTTTGGACGAATCCAAAGCCCCCAAAACCGTTGCTAATTTCGTGCGCTATGCCCG
AAAAGGCTTTTACGACGACACCGTTTTTCACCGCGTTATCGACGGTTTTGTTATCCAGGG
CGGTGGATTGACCGAGGACTTGGCACAAAAGGCAAGCGATAAGGCCGTTGCCAACGAATC
CGGCAACGGCTTGAAAAACACCGCCGGCACCATCGCCATGGCGCGGACGACAGCCCCCGA
TTCCGCCACCAGCCAATTCTTTATCAATCTGGCGGACAACGCTTCGCTCGACTACAAAAA
CGGACAATACGGCTATACCGTTTTCGGCAGGGTCGAAAGCGGCATGAACACCGTTTCCAA
AATCGCCCGCGTCAAAACCGCCACGCGCGGCTTTTATCAAAACGTACCCGTACAGCCCGT
CAAAATCCGTCGCGTTGTTGTCGGGCAGTAACACGCAGACAGACGTTCAGACGGCGTCGC
CCGTTTCCCAAAAAACGCCGTTTAAAGTAAAAAAAATATTTTAAAACAGACAGTTGATATT
GACAAATTCAAACCGAGGATTTTTAAAATGCTGCCAACCCAACCCAACCCAACCCAACCCA
```

-215-

ACCCAACCCAACCCAACCCAACCCAACCCAACCCAACCCAACCCAACccaaCCCAAGCCC
TGATCTAAGCGACACAGCCGGGGCGAACACGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 18>:

5   **gnm_18**

GACTTTTCTACTGTTTTGAAGCAGGATATCGATGTTCGCAATTATTTGCGTCAAAAATTG
GCCAATGCTTCGGTTGGTCGAGTGGwTATTGAACGCCCTGCAAAATCTGCACGCATTACC
ATTCACTCCGCTCGTCCGGGTGTGGTTATCGGTAAAAAAGGTGAGGATATCGAGGTTTTG
AAACGTGACTTGCAAGTCTTGATGGGTGTACCTGTTCATGTAAATATTGAAGAGATTCGC
10   CGTCCTGAGTTGGATGCTCAAATTATTGCTGACGGTATTGCCCAGCAGTTGGAAAAGCGC
GTTCAATTCCGTCGTGCTATGAAACGAGCAATGCAAAATGCAATGCGTTCTGGTGCTAAA
GGCATTAAGATTATGACTTCAGGCCGTCTGAATGGTGCGGATATTGCCCGTAGCGAATGG
TATCGTGAAGGTCGCGTGCCACTGCATACTTTACGTGCAAATGTAGATTATGCAACCAGC
GAAGCGCACACCACATATGGTGTATTGGGTCTGAAAGTTTGGGTTTATACGGAAGGCAAT
15   ATTAAATCTTCCAAACCTGAACATGAGAGTAAACAAAGAAAGGCAGGTAGACGTAATGCT
GCAGCCAACTAGACTGAAATACCGTAAGCAACAAAAGGGTCGCAATACCGGCATCGCTAC
TCGCGGTAATAAGGTAAGTTTCGGTGAGTTCGGCTTGAAAGCCGTAGGTCGTGGTCGTTT
GACTGCCCGTCAAATCGAAGCTGCTCGTCGTGCAATGACCCGTCATATCAAACGTGGTGG
TCGTATTTGGATTCGTGTATTCCCTGATAAACCGATTACTGAAAAGCCTATTCAAGTTCG
20   TATGGGTGGCGGTAAAGGTAACGTGGAATATTACATTGCCGAAATTAAACCAGGTAAAGT
GTTGTATGAAATGGATGGCGTTCCAGAGGAACTGGCTCGTCGTGAAGCATTCGAGTTGGCTGC
TGCCAAATTGCCTATTCCTACAACCTTTGTAGTAAGACAGGTGGGTCAATAATGAAAGCA
AATGAATTGAAAGACAAATCCGTTGAGCAGTTGAATGCAGATTTGTTGGACTTGTTGAAA
GCTCAGTTTGGCTTACGTATGCAAAACGCTACCGGTCAATTAGGCAAACCAAGTGAATTG
25   AAACGTGTACGTCGCGATATTGCTCGTATTAAAACCGTTTTAACTGAAAAAGGTGCTAAG
TAATGAGCGAAACTAAAAATGTTCGTACTTTGCAAGGCAAAGTAGTAAGCGACAAAATGG
ATAAAACCGTAACAGTATTGGTTGAGCGTAAAGTAAAACATCCGCTGTATGGTAAGATTA
TTCGATTATCTACTAAAATCCATGCCCATGATGAAAATAATCAATATGGAATTGGTGATG
TGGTTGTTATATCGGAATCCCGTCCATTGTCAAAAACTAAATCTTGGGTTGTCAGTGAGC
30   TGGTTGAGAAAGCACGTTCTATTTAAGAATTAAAGCAACGTGCTTGGAATGGGAAACGAA
GTATTGCAGCAAATTTAATTTGCGTGTAAACTTCGTTTCCTGTCTTTCAGTTTCTTCTGG
AAGTTTCTTCCCTTTCGGGGTCCAAGACTGGTTTACTTGAACCGCAAGGTTTCATTTAAT
AAGCAGCGGCTTTGCTGTAAGTTATCTGAAAGTGGTAAATTAAGTTGGTTAATTTAAAGG
TAATAACATGATTCAAATGCAGACCATCTTAGATGTGGCTGATAACTCTGGTGCGCGTCG
35   CGTAATGTGTATCAAGGTATTGGGCGGATCTAAGCGTCGCTACGCTTCTGTTGGCGATAT
TATTAAAGTGGCAGTTAAAGATGCGGCTCCGCGTGGCCGTGTCAAAAAAGGCGATGTATA
TAATGCGGTAGTTGTTCGTACTGCTAAGGGTGTACGTCGTCCTGATGGTGCGTTAATTAA
ATTCGATAACAATGCCGCCGTGTTACTGAATAATAAACTTGAACCTTTGGGTACTCGTAT
CTTTGGTCCGGTAACCCGTGAATTGCGTACTGAGCGATTTATGAAAATCGTTTCATTGGC
40   ACCTGAAGTATTATAAGGAATGGCACGATGAATAAAATCATTAAAGGCGATAGGGTTGTA
GTAATTGCTGGTAAGGATAAAGGTAAGCAGGGTCAAGTAGTTCGAGTGTTGGGTGATAAA
GTTGTTGTTGAGGGCGTTAATGTTGTAAAACGCCATCAAAAACCTAATCCAATGCGTGGC
ATTGAGGGCGGTATTATTACTAAAGAAATGCCTTTGGATATTTCTAATATCGCAATCCTG
AATCCGGAAACTAATAAAGCGGACCGTGTTGGTATTAAGCTGATTGAAAATGAAGGCAAA
45   GTTAAACGCGTTCGTTTCTTCAAATCAAATGGCTCTATCATTGGGGCATAAGGAGATAAC
ATGGCTCGGTTGAGAGAGTTTTATAAAGAGACAGTTGTTCCTGAATTGGTTAAACAATTT
GGTTACAAATCAGTAATGGAAGTCCCGCGTATTGAAAAAAATTACCTTGAATATGGGTGTG
GGTGAGGCTGTTGCTGATAAAAAAGTTATGGAACATGCTGTTTCCGATTTAGAGAAAATT
GCCGGTCAAAAACCGGTTGTTACTGTTGCCCGTAAATCTATCGCAGGTTTTAAAATCCGT
50   GATAACTATCCGGTTGGTTGCAAAGTAACATTGCGTCGTGATCAAATGTTTGAATTCTTG
GATCGTTTGATTACTATTGCATTACCTCGCGTACGTGACTTCCGTGGTGTGAGCGGTAAA
TCATTTGATGGCCGTGGCAATTACAATATGGGTGTTCGTGAGCAAATTATTTTTCCGGAA
ATTGAATACGATAAAATTGATGCTTTGCGTGGTTTGAATATTACTATTACTACTACAGCA

```
AAAACCGATGAGGAAGCGAAAGCTTTATTGTCATTGTTTAAATTTCCGTTCAAAGGATAA
TCATGGCTAAGAAAGCACTTATTAATCGTGATCTGAAACGTCAAGCTTTGGCTAAAAAAT
ATGCGGCTAAACGCGCGGCAATTAAAGCGGTAATCAATGATTCGAATGCAACTGAGGAAG
AGCGTTTTGAGGCTCGTTTGAGGTTTCAATCCATTCCTCGTAATGCGGCACCTGTGCGTC
AACGTCGTCGTTGTGCTTTGACAGGTCGCCCTCGTGGTACTTTCCGTAAATTTGGTTTGG
GTCGTATTAAAATCCGTGAAATCGCCATGCGTGGCGAAATTCCGGGTGTTGTTAAAGCCA
GCTGGTAATAGGAGTAATTAAGAATGAGTATGCATGATCCTATTTCCGATATGTTGACTC
GTATCCGCAATGCGCAACGTGCTAATAAAGCAGCGGTTGCAATGCCTTCTTCAAAATTAA
AGTGTGCTATTGCAAAGGTATTGAAAGAAGAAGGATATATTGAGGACTTCGCAGTTTCAT
CTGACGTAAAGTCTATATTGGAAATTCAATTAAAATACTATGCAGGTCGTCCTGTAATTG
AACAAATCAAGCGTGTATCTCGCCCCGGTTTGCGTATTTATAAAGCGTCTAGTGAGATTC
CAAGTGTTATGAATGGCTTGGGTATTGCTATTGTTAGTACTTCTAAAGGTGTAATGACTG
ATCGTAAAGCACGTTCTCAAGGTGTTGGTGGTGAGTTGTTATGCATTGTAGCCTAGTGGA
GGAAAAGAAATGTCACGTGTCGCAAAAAACCCAGTGACTGTTCCCGCTGGTGTAGAAGTA
AAATTTGGAGCAGAGGCATTAGTTATTAAGGGTAAGAACGGTGAATTGTCTTTTCCTTTG
CATTCTGATGTAGCCATTGAATTTAATGATGGCAAATTGACTTTTGTTGCGAATAACAGC
AGTAAACAAGCAAATGCAATGTCTGGTACTGCTCGCGCATTAGTCAGCAATATGGTTAAA
GGTGTTTCAGAAGGTTTTGAGAAAAGATTGCAATTGATAGGTGTGGGTTATCGTGCTCAA
GCACAAGGTAAAATCTTGAATCTGTCTTTGGGTTTTTCTCATCCGATCGTATATGAAATG
CCTGAAGGTGTCTCCGTTCAAACTCCTAGCCAAACAGAGATTGTTTTAACCGGCTCGGAT
AAACAAGTTGTTGGTCAAGTTGCTGCTGAGATTCGTGCGTTCCGTGCTCCTGAGCCTTAT
AAAGGTAAAGGTGTTCGCTATGTAGGAGAAGTAGTGGTAATGAAAGAAGCCAAGAAAAAA
TAATTGAGGTTCACTAATGGATAAACATACAACCCGACTCCGTCGTGCACGCAAAACCCG
TGCTCGTATTGCGGACTTGAAAATGGTAAGATTATGTGTGTTCCGAAGCAATAATCATAT
TTATGCTCAAGTAATTAGTGCTGAAGGTGATAAAGTATTGGCTCAAGCCTCTACATTGGA
AGCTGAGGTGCGCGGTAGTCTGAAATCTGGAAGCAATGTTGAAGCAGCTGCAATAGTTGG
TAAACGTATCGCTGAAAAAGCTAAAGCAGCAGGTGTAGAAAAGGTTGCTTTTGATCGTTC
AGGTTTCCAATATCACGGTCGTGTGAAGGCTTTGGCTGAAGCTGCTCGTGAAAATGGTTT
AAGCTTCTAAATATTTGGAGACTTTCAGATGGCAAAACATGAAATTGAAGAACGCGGTGA
CGGTCTGATTGAAAAGATGGTCGCTGTTAATCGCGTAACTAAAGTAGTTAAAGGTGGCCG
TATCATGGCTTTCTCAGCACTGACTGTTGTTGGTGATGGTGATGGTCGCATTGGTATGGG
CAAAGGTAAATCAAAAGAAGTACCAGTTGCTGTTCAAAAAGCAATGGATCAAGCTCGACG
CTCTATGATTAAAGTACCTTTGAAAAACGGTACTATTCATCATGAGGTTATTGGCCGTCA
TGGTGCTACTAAAGTATTTATGCAGCCTGCTAAAGAGGGTAGTGGCGTAAAAGCCGGTGG
ACCTATGCGTTTGGTTTTTGATGCTATGGGCATTCATAATATCTCCGCCAAAGTGCACGG
ATCTACTAACCCATATAATATCGTACGTGCAACATTAGATGGTTTGTCTAAGTTGCATAC
TCCTGCTGATATCGCAGCCAAACGTGGCTTGACAGTGGAAGACATTTTGGGAGTTAACCA
TGGCTGAACAAAAAAAGATTAGGGTTACATTGGTTAAAAGCCTGATTGGTACAATTGAAT
CTCATCGTGCATGTGCACGCGGTTTAGGTTTGCGTCGTCGCGAGCATACGGTAGAGGTTT
TAGATACCCCTGAAAACCGTGGTATGATTAATAAAATCAGCTACTTGTTGAAAGTGGAGT
CTTGATATGTTTTTGAATACAATTCAACCTGCTGTTGGTGCTACGCATGCTGGTCGTCGT
GTTGGACGCGGTATTGGTAGTGGTCTTGGCAAAACGGGTGGTCGTGGTCATAAAGGTCAA
AAGAGCCGGTCTGGTGGGTTTCATAAGGTGGGTTTCGAGGGTGGTCAAATGCCCTTGCAA
CGACGCCTCCCTAAAAGAGGTTTTAAATCTTTAACAGCATCAGCTAATGCACAGCTTCGT
TTAAGTGAACTGGAATCAATTGCTGTTAATGAGATTGATATTTTGGTCTTAAAGCAAGCG
GGTCTGATTGCATCTACAGTCTCTAATGTTAAAGTTATTGCTTCTGGTGAAATTTCTAAG
GCAGTTGCTTTGAAGGGTATTAAAGTTACCAAAGGTGCGAGAGCTGCTATCGAGGCTGTT
GGTGGTAAGATTGAAATGTAAGGTTTAATATTGTGGCTAATCAACAAACGTCATCAGGTT
CATCCAAATTTGGAGATCTTAAGAAACGTCTTTTGTTTCTATTGGAGCATTGATTGTTT
TTCGAATTGGTGCCCATATACCCGTACCTGGAGTTGATGCTGTTGCTTTAGCTAAATTAT
ACGAAAGCGCTGGAAACGGCATCCTGGGAATATTGAATATGTTTTCCGGTGGGTCGTTAG
AGCGCTTTAGTATATTTGCAATAGGAATTATGCCATATATTTCAGCTTCTATTATTGTAC
AGCTCGCTTCTGAAATTTTGCCATCATTGAAGGCTTTAAAAAAAGAAGGGGAGGCTGGTA
GAAAGGTAATTACGAAATATACTAGGTATGGTACTGTTTTGTTAGCAATTCTTCAAAGTC
TAGGTGTTGCATCTTTCGTATTTCAGCAAGGAATTGTTGTAACAAGTTCATTTGAGTTTC
ATGTTTCCACGGTAGTTTCTTTGGTAACGGGAACCATGTTTCTTATGTGGCTTGGGGAGC
AAATTACTGAAAGGGGGTATCGGGAACGGTATTTCTTTAATCATTACGGCAGGTATTGCTT
```

```
     CAGGTATTCCTTCGGGTATTGCAAAGCTGGTTACACTGACGAACCAAGGTTCTATGAGCA
     TGCTTACGGCGTTGTTTATTGTATTTGGTGCCTTATTATTAATTTATTTGGTTGTATACT
     TTGAAAGTGCACAGCGGAAGATTCCTATTCATTATGCAAAACGCCAGTTTAATGGTAGGG
     CGGGTAGTCAAAATACGCATATGCCTTTCAAGTTGAATATGGCTGGTGTTATTCCCCCAA
  5  TTTTTGCTTCCAGTATTATTCTATTTCCATCTACTCTTTTAGGTTGGTTTGGTTCGGCTG
     ATACAAATAGTGTTTTGCACAAAATAGCTGGATTGTTACAACACGGTCAATTGCTGTATA
     TGGCTTTATTTGCAGCGACAGTTATTTTCTTTTGTTATTTTTATACGGCTTTGGTTTTTA
     GCCCTAAAGAAATGGCAGAGAATTTAAAAAAGAGTGGTGCTTTTGTTCCTGGGATTAGAC
     CTGGTGAGCAGACCTCTAGGTATTTAGAAAAAGTTGTATTACGTTTGACATTGTTTGGAG
 10  CTCTTTATATTACAACTATTTGTTTAATTCCAGAGTTCTTAACTACGGTTTTAAATGTAC
     CTTTTTATTTGGGTGGCACGTCTTTGTTGATTCTAGTTGTTGTAACGATGGATTTTAGTA
     CACAAATAAATTCGTATAGGCTTACTCAACAGTATGATAAGTTAATGACTCGTTCAGAAA
     TGAAATCATTTTCTCGGAAATAGAATTATGGCGAAAGAAGATACTATCCAAATGCAAGGT
     GAAATTCTTGAAACTTTACCTAATGCAACATTTAAAGTAAAACTTGAGAATGACCATATT
 15  GTATTGGGTCATATTTCTGGGAAGATGCGGATGCATTACATTCGTATTTCTCCGGGAGAT
     AAGGTCACAGTAGAGCTGACACCTTATGATCTAACTAGGGCTCGAATCGTTTTCAGAGCA
     AGATAAACCAATAAAAGGAAAATAAAATGCGTGTACAACCATCTGTTAAGAAAATTTGCC
     GAAATTGCAAGATTATTCGTCGAAATCGTGTAGTTCGTGTAATTTGTACTGATCTCCGTC
     ACAAACAGCGTCAAGGTTAATGGAATATTTCTTTTAATGTGATTCTGTGATATAGTGACA
 20  CACTTTGCCCTAAAAAGGAAAAATATGGCTCGTATTGCAGGGGTAAATATCCCTAATAA
     CGCACACATCGTAATTGGTCTTCAGGCTATTTACGGTATTGGTGCTACTCGTGCTAAATT
     GATTTGTGAGGCTGCAAATATTGCGCCTGATACTAAAGCAAAGATTTGGACGAGACTCA
     ATTAGATGCTTTGCGTGACCAAGTTGCCAAGTATGAAGTAGAAGGTGATTTGCGTCGTGA
     GGTAACTATGAGTATCAAGCGATTGATGGACATGGGCTGCTATCGTGGCTTCCGTCATCG
 25  TCGCGGCTTACCATGCCGCGGTCAACGCACTCGTACAAATGCGCGTACCCGCAAAGGTCC
     GCGTAAAGCGATTGCTGGTAAGAAATAAATTTTAAGGAATTTTATTAATGGCTAAAGCAA
     ACACAGCTTCACGTGTACGTAAAAAAGTACGTAAAACCGTGAGTGAGGGTATTGTGCACG
     TTCATGCATCTTTCAACAATACCATCATTACAATCACTGACCGTCAAGGCAATGCGTTGT
     CTTGGGCTACCTCTGGCGGCGCTGGTTTTAAAGGTTCTCGTAAAAGTACACCATTTGCAG
 30  CACAAGTTGCAGCAGAAGCAGCTGGTAAAGTTGCCCAAGAGTATGGCGTTAAAAATTTAG
     AGGTTCGTATTAAAGGTCCAGGTCCAGGTCGTGAATCCTCTGTACGTGCTTTGAATGCTC
     TTGGTTTCAAGATTACCAGCATTACTGACGTTACCCCGTTGCCTCATAACGGTTGCCGTC
     CGCCTAAAAAACGTCGTATTTAATATTGGAGTGATTTGAAACATGGCACGTTATATTGGC
     CCTAAATGTAAGTTGGCACGTCGCGAAGGTACGGATTTGTTTTTGAAGAGTGCGCGCCGC
 35  TCTTTGGATTCTAAATGTAAAATTGATTCCGCTCCTGGTCAGCATGGTGCAAAAAAACCG
     CGTTTGTCAGACTATGGTTTGCAGTTGCGTGAAAAACAAAAAATCCGCCGTATTTATGGC
     GTATTAGAACGTCAGTTCCGTCGTTATTTCGCAGAAGCTGATCGTCGTAAAGGTTCTACC
     GGCGAGTTGCTGTTGCAGTTGCTGGAATCTCGTTTGGATAATGTCGTTTATCGTATGGGT
     TTCGGTTCTACCCGAGCTGAAGCAAGACAGCTTGTTTCTCATAAGGCGATAGTTGTGAAT
 40  GGACAAGTTGTCAATATTCCTTCTTTCCAAGTGAAAGCTGGTGATGTTGTCTCAGTTCGT
     GAAAAAGCCAAAAAACAGGTACGTATTCAAGAAGCATTGGGTTTGGCAACTCAAATCGGC
     TTGCCGGGTTGGGTTTCTGTAGATGCGGATAAACTTGAGGGTGTGTTCAAAAACATGCCG
     GATCGCTCGGAATTGACCGGTGATATTAATGAACAGCTGGTGGTAGAGTTCTACTCTAAA
     TAATGCTAGCTCAGTGAGGGACAGTTAAATGCAGAATAGCACAACCGAATTTTTGAAACC
 45  TCGTCAAATTGATGTAAATACTTTTTCTGCAACTCGTGCAAAGTATCTATGCAGCCATT
     TGAACGTGGTTTCGGTCATACCTTAGGTAATGCTTTGCGCCGTATCTTACTGTCATCCAT
     GAATGGTTTTGCTCCTACTGAAGTAGCTATTGCCGGTGTATTACACGAATATTCTACTGT
     TGATGGTATTCAGGAAGATGTTGTTGACATTTTGCTGAATATTAAAGGTATTGTGTTTAA
     ACTCCATGGTCGTAGCCAAGTTCAACTTGTGTTGAAGAAATCAGGTTCAGGTGTCGTATC
 50  TGCCGGTGATATTGAGTTGCCGCATGATGTAGAAATTCTGAATCCTGGTCATGTCATTTG
     TCATTTGGCTGATAACGGTCAAATTGAGATGGAAATTAAAGTAGAGCAAGGTCGTGGTTA
     TCAATCTGTTTCAGGTCGTCGTAGGTAGTTCGTGATGAGAACCGTCAGATTGGTGCAATCCA
     GTTGGATGCGGAGCTTTTCGCCCCATCAGCCGTGTTAGCTTTGAGGTTGAACCTGCACGTGT
     AGAGCAGCGGACGGATCTTGATAAGTTGGTTTTGGATATCGAAACCGACGGTTCTATTGA
 55  TCCTGAGGAAGCTGTACGCAGTGCGGCACGTATTTTGATTGATCAGATGTCTATTTTTGC
     TGATTTGCAGGGTACGCCTGTGGAGGAGGTTGAAGAAAAAGCACCTCCTATCGACCCTGT
     TCTTTTGCGTCCGGTGGATGATCTGGAATTGACAGTACGTTCAGCTAATTGTTTGAAAGC
```

```
    TGAGGATATTTATTATATTGGCGATTTGATTCAACGCACTGAAACCGAGCTTCTTAAAAC
    GCCGAATTTGGGACGTAAATCTTTGAATGAGATTAAGGAAGTATTGGCATCTAAAGGTTT
    GACACTGGGTTCTAAGTTGGAAGCATGGCCACCTGTAGGCTTGGAAAAGCCTTAATGAAG
    AATTAAAGGATAATTGATATGCGTCATCGTAATGGCAATCGCAAATTAAACCGTACCAGC
 5  AGTCATCGTGCTGCAATGCTGCGTAATATGGCGAATTCATTATTGACTCACGAAGCTATT
    GTAACAACTCTGCCTAAGGCCAAGGAATTGCGCCGTGTAGTAGAGCCGTTGATTACATTG
    GGTAAAAAGCCGTCATTGGCAAACCGCCGTTTGGCATTTGACCGTACTCGCGACCGTGAT
    GTTGTAGTAAAACTGTTTGGCGATTTGGGTCCTCGTTTTACTGCTCGTAACGGTGGTTAT
    GTTCGGGTGTTGAAATACGGATTCCGTAAAGGTGATAATGCACCTCTGGCACTGGTTGAA
10  TTGGTTGACAAACCGGCTGCTGAGTAATTTTAGTCATATAACGCCATCTGCCGAAAAGCA
    GGTGGCGTTATTTTTGCAATATCTGATAGGTAATAGGGTATTGGCTATCATGTTTAAAAT
    ATTAATTGAATAGCTAAGGTTTGCGCGGTAAACTTACATCATTAAAAAATTCTATGATGG
    TTTATATAATGAATGCTTTCGATATAAAGTCGACAAAGATGGACGTATTGTCTATATCTT
    TGCATACGTCAGACTTGTTTGATTTGGAAGATGTGCTGGTCAAATTGGGCAAGAAGTTTC
15  AAGAGTCTGGTGTTGTTCCATTTGTGCTGGATGTTCAAGAGTTTGATTATCCCGAGTCTT
    TGGATCTTGCTGCATTGGTTTCGTTGTTTTCAAGGCATGGTATGCAAATTTTGGGTCTGA
    AGCATTCTAATGAACGTTGGGCTGCTGCGGCTATGAAGTATCATTTGCTGTTTTGTCTGT
    CTCATTCGGAAAATGTTAAAGAACTGGGTCAGGTTGAGGTGCAGAAAACGGAGGATGGTC
    AGAAAGCAAGGAAAACAGTATTGATTACATCCCCTGTCCGTACCGGTCAGCAGGTTTATG
20  CCGAAGATGGCGATTGATTGTTACGGGGGCGGTCAGCCAGGGGCGGAATTGATTGCGG
    ATGGCAATATACATATTTATGCGCCGATGAGGGGGCGTGCTTTGGCCGGTGCCAAGGGTG
    ATACTTCTGCCCGCATATTTATCCACTCCATGCAGGCAGAACTGGTTTCTGTGGCGGGTA
    TTTACCGTAATTTTGAACAGGATTTGCCGAACCATCTGCACAAGCAGCCGGTACAGATAT
    TGTTGCAGGATAACCGATTGGTTATCAGTGCAATTGGCTCAGAGTAATTGTTTGATATTT
25  AAAAAGGAAATATTGTGGCAAAAATTATTGTAGTAACTTCAGGTAAGGGCGGTGTCGGTA
    AAACGACTACCAGTGCCAGTATTGCGACAGGTTTGGCATTACGCGGATATAAAACTGCGG
    TAATTGATTTTGATGTGGGTTTGCGTAACCTCGACCTCATTATGGGTTGCGAGCGTCGTG
    TCGTTTATGACCTGATCAATGTCATTCAGGGGGAGGCGACGCTCAACCAAGCTTTGATTA
    AAGATAAAAATTGTGAAAACCTGTTTATTTTGCCGGCTTCCCAGACTCGGGATAAAGACG
30  CTTTGACACGCGAGGGCGTAGAAAAAGTGATGCAGGAGCTGTCCGGCAAGAAAATGGGCT
    TTGAGTATATTATTTGCGACTCTCCTGCCGGTATTGAGCAGGGTGCATTGATGGCGTTGT
    ATTTTGCTGATGAAGCCATTGTAACGACCAATCCTGAGGTTTCCAGTGTGCGTGACTCCG
    ACAGGATTTTGGGAATTTTGCAAAGCAAATCCCATAAGGCAGAGCAAGGCGGTTCGGTTA
    AGAACATCTGTTGATTACGCGTTATTCTCCCGAACGTGTGGCAAAAGGCGAAATGCTGT
35  CTGTACAGGATATTTGCGATATTCTGCATATTCCTTTGCTGGGTGTGATTCCTGAATCCC
    AAAACGTCTTGCAGGCATCCAATTCCGGAGAACCGGTCATCCATCAGGACAGCGTGGCGG
    CTTCCGAGGCATATAAGGACGTTATTGCCCGTCTTTTGGGCGAGAACCGTGAAATGCGTT
    TCTTGGAAGCTGAGAAAAAAGCTTCTTCAAACGTCTGTTTGGAGGATAAGGTATGTCAT
    TAATCGAATTTTTATTCGGCAGAAAGCAGAAAACGGCAACCGTTGCCCGCGACCGCCTTC
40  AAATCATCATTGCCCAAGAGCGCGCCCAAGAAGGTCAGGCTCCGGATTACCTGCCGACTT
    TACGTAAAGAGTTGATGGAAGTCCTGTCCAAATATGTGAATGTTTCATTAGACAATATCC
    GTATTTCCCAAGAAAAGCAGGATGGTATGGATGTGCTTGAGTTGAACATTACTTTGCCGG
    AACAGAAAAAGGTATAGGACATGACCTTAACCGAATTGCGGTACATCGTCGCAGTCGCCC
    AAGAACGTCATTTCGGCAGGGCGGCGCGGCGTTGTTTTGTCAGCCAGCCCACTTTGTCTA
45  TTGCCATTAAGAAATTGGAAGAAGAGCTTGCCGTCTCTTTGTTTGACCGGAGCAGTAACG
    ATATTATTACGACCGAGGCGGGGGAACGTATCGTTGCACAGGCGCGTAAGGTATTGGAAG
    AGGCGGAGCTTATCAGGCATTTGGCAAATGAAGAACAAAACGAGCTGGAGGGTGCGTTCA
    AACTCGGGCTGATTTTTACGGTTGCGCCGTACCTGCTGCCGAAACTGATTGTTTCGTTGC
    GCCGTACTGCACCGAAAATGCCTTTGATGTTGGAAGAGAATTACACGCATACTTTGACCG
50  AGTCGCTCAAACGCGGGGACGTTGATGCGATTATCGTTGCCGAACCGTTTCAAGAGCCGG
    GCATTGTTACCGAACCCTTGTATGACGAACCGTTTTTCGTGATTGTCCCGAAAGGGCATT
    CATTTGAGGAACTGGATGCCGTTTCGCCCCGGATGCTGGGTGAGGAGCAGGTTTTGCTGC
    TGACGGAAGGCAACTGTATGCGGGATCAGGTACTCTCAAGCTGTTCCGAATTGGCGGCGA
    AACAACGTATACAGGGGTTGACCAATACATTGCAGGGCAGCTCGATTAATACAATCCGCC
55  ATATGGTTGCCAGCGGTTTGGCAATCAGCGTGTTGCCGGCAACCGCACTGACCGAAAACG
    ATCATATGCTGTTCAGCATTATTCCGTTTGAGGGTACGCCGCCAAGCCGGCGGGTCGTAT
    TGGCGTACCGCCGCAATTTTGTCCGTCCGAAGGCGTTGTCGGCGATGAAGGCGGCGATTA
```

-219-

```
TGCAGTCGCAGCTTCACGGGGGTAAGTTTTATCTGCGACTAGGCGCAGGCATTGTTTTCAA
AACGCCATTTCCCTGAGCCGACAACACGGTATGCCAAGATATTGCCGTCATCATCGATTT
TGAGTATAGCATCGCCACGGAAACTGCCGTCCTGAAGATATTCGACTTTTGCATCACTGT
GAATGTTTTCATCAGTGCCGATGCAATGCCATGTATAGTGGATTAACAAAAACCAGTACG
GCGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGAT
TTTTGTTAATCCACTATAAAAGAGGCCGTCTGAAAAACATTTTTCAGACGGCCTTGTTTA
TTCAATCAAATCAGTCTTTCAACTTCGCCAACTGATTTTGAACTTTTGCCATTTTGTCTT
CCAATTCCGCCAAATCGGCTTTGTCTTTTTCCACCAGATGCGCAGGGGCTTTTTCGGTGT
AGCCGGGTTTGGAGAGTTTGGCGTTGAGTTTGTCCAAGGCTTTTTGCAGCTTCTCGGCTT
CTTTGCTCAAACGGGCGGTTTCGGCGGCTTTGTCGATTTCGACTTTCAACATCAGGCGCG
CGCCGTTGCAGACGGCGACGGGCGCGTCTTCGCTTTCGGGTAGGGCGGCGACTTGCTGTG
CTTCGGTCAGGCGGGTCATCATCGGCAGGTATTTGAGGTAGTCCGCCAAGTCGTCCGTGC
TTTCGACAAACAGCGGGGCTTTTACGTTGGGCTGGATGCCCATTTCGCCGCGCAGGTTGC
GGACTGCGCCAATCAAATCCTGCAACACGGTCATTTGCTCGAATGCCGTCTGAACAATCT
CGCCGCTGTCGGCTTCGGGGAAGCGGGCGAGCATGATGCTGTCGGCGGTTTTCGCGTCGC
ACATAGGAGCGACGGTTTGCCACAGTTCTTCGGTGATGAACGGGATAATCGGGTGCAGCA
GGCGCAGGGCGGCTTCGAGTACGCGCAATAAGGTATGGCGTGTGGCGCGTTGGCGGCTGG
CGCAGCCGGTTTGAAGCTGCACTTTGGCGAGTTCCAAATACCAGTCGCAATAGTCGTTCC
ATACGAAGCTGTACAGGGTTTCCGCCGCCAAATCAAAGCGGTAGGTTTCGTAGGCTTGCG
TAACCTGTTCGATGGTCTGATTCAGACGGCCTACAATCCACATATCGGGGAAGGAGTAGC
CGCGCGGTTCGGCAGCGGTTGCGCCGTAACCGCAGTCTTGGTTTTCGGTGTTCATCAAGA
CGAAGTTGGTGGCGTTCCAGATTTGTTGCAGAAGTTGCGGTAGCCTTCGGCGCGTTTGA
AGTCGAAGTTGACCGAACGCCCCAAGCTGGCGTAGCTCGCCATAGTGAAGCGCAAAGCGT
CCGCGCCCATACTCGGAATGCCTTCGGGGAAGAGTTTTTTCGTGGCTTCTTCCACTTTCG
GCGCGGTTTCGGGTTTGCGCAGGCCGGTGGTGCGTTTTACCAGCAGTTTTTCCAAGCCGA
TGCCGTCGATCAAATCCACAGGGTCAATGACGTTGCCTTCGGATTTGGACATTTTTTTGC
CTTCGTGGTCGCGCACGATGCCGTGGATGTACACGTCTTTAAACGGTACTTTGCCGGTGA
AGTGGGTGGTCATCATAATCATACGCGCCACCCAGAAGAAGATGATTTCGTAGCCGGTTA
CTAAGACATTGGACGGCAGGAAGGCTTTGAGTTCGTCGGTTTCAGACGGCCAGCCGAGTG
TGGAGAACGGCACAAGCGCGGAGGAGAACCATGTATCCAATACGTCTTCTTCGCGAGTCA
AGCCTGTTTTGCCGGCTTGTTTTTCGGCTTCTTCCTGATTGCGGGCAACATACACATTGC
CTTCGTTGTCGTACCATGCAGGGATTTGATGGCCCCACCACAGTTGGCGTGAGATACACC
AGTCTTGGATGTTGTTCATCCATTGGTTGTAAGTGTTGACCCAGTTTTCAGGGATAAAGC
GTACCGCGCCGCTATCAACGGCTTTTTTGGCTTTATCGGCGAGGCTCAAGCCTTTGAACT
CGCTGTCCGGCTCGCCGCCGTTTGGGGTGGCGGACATGGCGACAAACCATTGGCTGGTCA
GCATAGGTTCAATCACCGAACCTGTACGGTCGCCTTTCGGCGTCATCAGCGTGTGTGGTT
TGATTTCGACCAAGAAACCTTGTTCCTGCAAATCGGCAACCATTTGTTTGCGCGCGGCAA
AGCGGTCTAAGCCTGCGTATTTTTCAGGCAGGGCAAAGCCTAGTTGCGCTTCGCCTTTGA
AGTTGAACACTTCGGCGTTTGCCAGCACTTTGGCTTCCAAGTTGAACACATTAATCAGGC
GCGTGTCGTGGCGTTTGCCGACTTCGTAGTCGTTGAAGTCGTGTGCAGGCGTGATTTTCA
CGCAGCCTGTGCCGAAGTCTTTTTCAACGTATTCGTCGGCAATCACGGGGATAGTACGGC
CGGTCAGCGGCAGGATTAATTCCTTGCCGATTAAGTGGGTATAACGTTCGTCTTCAGGAT
TGACGGCAACGGCAACGTCGCCCAGCAGCGTTTCAGGACGGGTGGTCGCCACGATAACGG
CTTCGGCGGGATTGTCCGCCAGCGGATAGCGGATGTGCCACATAGAGCCTTGTTCTTCCA
CGCTTTCCACTTCCAAATCCGATACCGCCGTGCCAAGCACGGGATCCCAGTTCACCAAGC
GTTTGCCGCGGTAAATCAAGCCTTGCTCATACAGGCGCACGAACACTTCGGTTACGGTTT
CGGCGCGCACGTCGTCCATCGTGAAATACTCGCGCGTCCAGTCGGCAGAGCAGCCCACGC
GGCGCATTTGTTGGGTAATCGTGCCGCCGGAAACTTCTTTCCATTCCCACACTTTCTCCA
AAAATTTTTCGCGACCCAAGTCATGGCGGGACACGTTTTGCGCAGCAAGCTGACGCTCAA
CCACAATCTGCGTGGCGATGCCCGCGTGGTCTGTGCCGGGAATCCAGGCGGTGTTGCAGC
CTTTCATGCGGTAGTAGCGGGTCAGACCGTCCATAATGGTTTGGTTGAAGGCATGACCCA
TGTGCAGCGTGCCGGTTACGTTGGGCGGCGGCAGTTGGATGGAGAAAGACGGTTTCGTCA
AATCCATATCAGGTTGGAAATAGCCCTGCTCTTCCCAGTTTTGATAATGTTTGGATTCGA
TTTCGGCTGGATTGTATTTGTCTAACATGATGGAACTTTGTGAAATTAAGGTTATTTTTG
ATGTGCGGATTATAACGCAAAAAGGCCGTCTGAATCATTTCAGACGGCCTTTGGCATACA
GGTTTTAAAAATGGAACAATACCAGGCTGACGGCAATCACCGCCATACCCGTTGTCAGGC
CGTAAACGGTTTCATGGCCGTCTGAATAGCGTTTGGCAGCCGGCAGCAGCTCGTCCAACG
```

-220-

```
CCAAAAACACCATCACACCGGCTATCACGCCGAATACCGAACCAAACACGGCAGGCGACA
AAAACGGCTGCAAAACCAAATAGCCCAAAGCCGCCCCCAACGGCTCGGCCAAGCCGGATA
GCAGACACGCCCACACCGTTTTCTTACGGCTGCGGGTGGCAAAATAAACCGGCGCGGCGA
TGGAAATGCCCTCCGGAATATTATGGATGGCAATCGCCAAGGCCAAAGGCATCCCGACTG
CTGGATTTTCCAATGTGGCAAAAAACGTCGCCAAGCCTTCGGGGAAATTGTGCGCAGTAA
TCGCAAACGCCGCCATCATGCCGACTCGCGCGATATGGCGGCGTTTGCTTTCTTGAAACG
ACGGGTCTTGCGCGTCTAAAGTTTCATGCGGGTTCGGCACCAGACGGTCAATCAGCGCAA
TGCCGCCCATCCCGGCCAAAAATGCCATGGTCGCCGCCGCAAACGCGTGGTCTTTATCAT
AAATTTCAGCGAACGCCTCGCTGGACTTACTGAAAATCTCCGTCAGGGAAACATATACCA
TCGCACCGCCGGCAAACGCCAAACCAAACGACAACACACGCGGATTGGGCGTTTTGGAAA
ACATCACCAAGCCACTGCCTAATACGGTAAACAAACCGGCAGCCAATGTGATGGAAAAGG
CAACGGCCAAATTGGACATCGAAAAATCGGGCATGAGAAAACCTGCGCTAAAAGCTGGGA
CAGGTTCAGACTAACACTTTTTAATGTATATGATAATAGTTATTATTTATTTTATTGATT
GGATACACGGATTTTGAAACAAAAGGCCGTCTGAAAAATGATTTTCAGACGGCCTTTAAA
TTTGAAATGCCGCTAAACCTTAGTGCTTTCCAGCTTAAGCCTGATAACGCGACAGGCTCA
AATCGTCGCTGCGGATTTCGGTGTCTTTGCCGCTCACGATATCGGCGGTTAATTTTGCCG
AACCCAGCGACATGGTCCAGCCTAAAGTACCGTGGCCGGTATTCAGAAACAGGTTGTCAA
AGCGGGTGCGACCGATTAACGGCGTGCTGTCGGGCGTCATCGGTCTGAGGCCGCTCCAGA
ACGATGCTTGGCTCAAATCGCCGCCTTCCGGGAACAAGTCGTTGACGACCAAAGCCAAGG
TTTCGCGGCGTTTTTCGGGCAGTTTGATTTCGTAGCCCGACAATTCCGCCATACCGCCGA
CGCGGATTCTGTTGTCAAAGCGCGTGATGGCGACTTTGTAGCTTTCATCTAAAACGGTGG
ACACCGGTGCGCCGTCTGAATTGGTGACCGGCAGGGTCAAGGAATAGCCTTTGACGGGAT
AAATGGGCAGATTGAGATCCAACTGCGCCAAAACCGTCCTGCTGAAGCAACCGAGCGCGC
AGACAACGGCATCTGCTTCAAACCGCCCTGTTTCGGTTTCAACGGTTTTGATGCGCAGCC
CGTTGTGGTCGATGCGGCTGATGTTTTGGTTGAAATGAAACCGTACGCCCTTTTCCTGAC
ACAATTTGTATAGGTTTTCAGTGAAGAGGCGGCAGTCGCCGGTCGCATCTGCAGGCAGGT
GCAGGCCGCCGGCAATTTTGGCGGTAACGCGTGCCAGCGCAGGCTCAAATTCTGCACATT
CTTCGGGTTTCAGACGGCGGTACGGCACGCCGTAGCGTTCCAAAACGGCAATGTCTTGTT
TTGCCGCTTCGACTTCTTTGGTTTGGCGGAAAATCTGCAACGTCCCTTTTTTGCGTCCCT
CAAAATTCATGCCGGTTTGCGCTTCAAAACGGCGGAACATTTCACGGCTGTATTCGGAAA
TCCTGACCATGCGCTCTTTATTGGTTTGATAGTGCGCTGCCGTGCAGTTTTGCAGCATTT
GCCACAGCCATTCGATTTGATACAGGCTGCCGTCGGGGCGAAACAGCAAAGGCGGATGGC
TTTTAAACAGCCATTTCAGCGCTTTGGTCGGGATACCGGGTGCAGCCCAAGGCGTGGTAT
AGCCGTAAGAAAGCTGGCCTGCGTTGGCAAAACTGGTTTCCATCGCCACACCCTCGGCGC
GGTCGATGACCGTTACTTCATGTCCGGCCTCTGCCAGATACCACGCGGAAGACACGCCGG
CAACACCCGCACCTAAAACAAGCACTTTCATGTTTCTCCCTCCGGCTTTTTCAAAACAGA
CTTAATATGCCGTGCCGTCTGAATATTCGGATTCAGACGGCCTCGGATATTAATGCGGCA
ATTCGCCGTTTGTGATTTTTTGTTTGAAGTCGCGCGTTTCATTGACGATGACTTTCGCCA
TCAATAAAAGTGCAATCAGGTTGGGCAATGCCATCAAGCCGTTGAATGTGTCCGAAGCCA
GCCACACCAAATCAAGGCTCAACACGGTACCCAGCATAACGGAAGAAACATAACCCACGC
GGTACAAACCGGCAAATTTCTCGCCGAAAACATACACCGCGCATTTTTCGCCGTAATAGC
ACCAGCCCAAAATGGTTGAGTAGGCAAAGAAAATCAGGCCGATGGTAACAATCCAGCCGC
CGATGCCGGGCAGCATTTTTTGGAATGTGACGGTTGTCAGTGCCGCGCCGCTCACTTCAG
GTTTGACAAACTCGCCGCCCGCGCCGAGCAGTCCCATTACCAACACGATGCCGGTAATCG
AGCAAACGACGATGGTATCTAAAAGGGTACC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 19>:

gnm_19

```
CCGCAATGCCAAACGTGCATCATCAACGATGTGTGCGAATATCCCGCCAAAGCCTGACTG
CCGCCGCCTGTCAAAATGAAACGCTTGAAAGTTCGGACGGACGTTGTAGAATTTCAACGT
ATACCGTCTGAAGCCGACAAAATGCGCTTCAGACGGCATTAAAGCCGGTACCGGCATCCG
ACAAAGGACAAAACGTGTTCAAAAAATACCAATACCTCGCTTTGGCAGCACTGTGTGCCG
CCTCGCTGGCAGGCTGCGACAAGGCAGGCAGCTTTTTCGGTGCGGACAAAAAAGAAGCAT
```

```
CCTTCGTAGAACGCATCGAACACACCAAAGACGACGGCAGCGTCAGTATGCTGCTGCCCG
ACTTTGCCCAACTGGTTCAAAGTGAAGGTCCGGCAGTCGTCAATATTCAGGCAGCCCCCG
CCCCGCGCACCCAAAACGGCAGCGGCAATGCCGAAAACGATTCCGACCCGATTGCCGACA
ACGACCCGTTCTACGAATTTTTCAAACGCCTCGTCCCGAATATGCCCGAAATCCCCCAAG
AAGAAGCAGATGACGGCGGATTGAACTTCGGTTCGGGCTTCATCATCAGCAAAGACGGCT
ACATCCTGACCAATACCCACGTCGTTACCGGCATGGGCAGTATCAAAGTCCTGCTCAACG
ACAAGCGCGAATATACCGCCAAACTCATCGGTTCGGATGTCCAATCCGATGTCGCCCTTC
TGAAAATCGACGCAACGGAAGAGCTGCCCGTCGTCAAAATCGGCAATCCCAAAGATTTGA
AACCGGGCGAATGGGTCGCCGCCATCGGCGCGCCCTTCGGCTTCGACAACAGCGTGACCG
CCGGCATCGTGTCCGCCAAAGGCAGAAGCCTGCCCAACGAAAGCTACACACCCTTCATCC
AAACCGACGTTGCCATCAATCCGGGCAACTCCGGCGGCCCGCTGTTCAACTTAAAAGGAC
AGGTCGTCGGCATCAACTCGCAAATATACAGCCGCAGCGGCGGATTCATGGGCATTTCCT
TCGCCATCCCGATTGACGTTGCCATGAATGTCGCCGAACAGCTGAAAAACACCGGCAAAG
TCCAACGCGGACAACTGGGCGTGATTATTCAAGAAGTATCCTACGGTTTGGCACAATCGT
TCGGTTTGGACAAAGCCGGCGGCGCACTGATTGCCAAAATCCTGCCCGGCAGCCCCGCAG
AACGTGCCGGCCTGCAGGCGGGCGACATCGTCCTCAGCCTCGACGGCGGAGAAATACGTT
CTTCCGGCGACCTTCCCGTTATGGTCGGCGCCATTACGCCGGGAAAAGAAGTCAGCCTCG
GCGTATGGCGCAAAGGCGAAGAAATCACAATCAAAGTCAAGCTGGGCAACGCCGCCGAGC
ATATCGGCGCATCATCCAAAACAGATGAAGCCCCCTACACCGAACAGCAATCCGGTACGT
TCTCGGTCGAATCCGCAGGCATTACCCTTCAGACACATACCGACAGCAGCGGCGGACACC
TCGTCGTCGTACGGGTTTCCGACGCGGCAGAACGCGCAGGCTTGAGGCGCGGCGACGAAA
TTCTTGCCGTCGGGCAAGTCCCCGTCAATGACGAAGCCGGTTTCCGCAAAGCTATGGACA
AGGCAGGCAAAAACGTCCCCCTGCTGATCATGCGCCGTGGCAACACGCTGTTTATCGCAT
TAAACCTGCAATAACACACATAATTTAACCAAAATATTTTTTAAATGATAAAATGCCCGT
CAATACCGATTAACGGGCATTTTACAAAAATCAGTTGGTTGATTTAAACAAATATTTTT
TACGACAAAAAATATTTCCGCCCATTTTGCCAACAAAACCCAAACCGGAGGCGGACAGAT
ACGCTCCCATCCGGACGCTTAACACCCCCATAACCATGCAGCTGATCGACTATTCACATT
CATTTTTCTCGGTTGTGCCACCCTTTTTGGCACTGGCACTTGCCGTCATTACCCGCCGCG
TACTGCTGTCTTTAGGCATCGGTATTCTGGTCGGCGTTGCCTTTTTGGTCGGCGGCAACC
CCGTCGACGGTCTGACACACCTGAAAGACATGGTCGTCGGCTTGGCTTGGTCAGACGGCG
ATTGGTCGCTGGGCAAACCAAAAATCTTGGTTTTCCTGATACTTTTGGGTATTTTTACTT
CCCTGCTGACCTACTCCGGCAGCAATCAGGCGTTTGCCGACTGGGCAAAACGGCACATTA
AAAACCGGCGCGGCGCGAAAATGCTGACCGCCTGCCTCGTGTTCGTAACCTTTATCGACG
ACTATTTCCACAGTCTCGCCGTCGGTGCGATTGCCCGCCCCGTTACCGACAAGTTTAAAG
TTTCCCGCACCAAACTCGCCTACATCCTCGACTCCACTGCCGCTCCTATGTGCGTGCTGA
TGCCCGTTTCAAGCTGGGGCGCGTCGATTATCGCCACGCTTGCCGGACTGCTCGTTACCT
ACAAAATCACCGAATACACGCCGATGGGGACGTTTGTCGCCATGAGCCTGATGAACTATT
ACGCACTGTTTGCCCTGATTATGGTGTTCGTCGTCGCATGGTTTTCCTTCGACATCGGCT
CGATGGCACGTTTCGAACAAGCCGCGTTGAACGAAGCCCACGATGAAACTGCCGTTTCAG
ACGCTACCAAAGGTCGTGTTTACGCACTGATTATTCCCGTTTTGGCCTTAATCGCCTCAA
CGGTTTCCGCCATGATCTACACCGGCGCGCAGGCAAGCGAAACCTTCAGCATTTTGGGGG
CATTTGAAAACACGGACGTAAACACTTCGCTGGTATTCGGCGGCACTTGCGGCGTCCTTG
CCGTCGTTCTCTGCACGCTCGGCACGATTAAAAACCGCCGACTATCCCAAAGCCGTTTGGC
AGGGTGCGAAATCTATGTTCGGCGCAATCGCCATTTTAATCCTCGCTTGGCTCATCAGTA
CGGTTGTCGGCGAAATGCACACCGGCGATTACCTCTCCACACTGGTTGCGGGCAACATCC
ATCCCGGCTTCCTGCCCGTCATCCTCTTCCTGCTCGCCAGCGTGATGGCGTTTGCCACAG
GCACAAGCTGGGGGACGTTCGGCATTATGCTGCCGATTGCCGCCGCCATGGCGGTCAAAG
TCGAACCCGCGCTGATTATCCCGTGTATGTCCGCAGTAATGGCGGGGGCGGTATGCGGCG
ACCACTGCTCGCCCATTTCCGACACGACCATCCTGTCGTCCACCGGCGCGCGCTGCAACC
ACATCGACCACGTTACCTCGCAACTGCCTTACGCCTTAACCGTTGCCGCCGCCGCCGCAT
CGGGCTACCTCGCATTGGGTCTGACAAAATCCGCGCTGTTGGGCTTTGGCACGACAGGCA
TTGTATTGGCGGTGCTGATTTTTCTGTTGAAAGATAAAAAACGCGCCAACGCCTGACCCC
TTTCCCTGTTCAGACGGCATATGCCGTCTGAAGCTTTTTGGAGCAAACCGCAATGACCGT
CCCCCATATTCCGCGCGGCCCCGTCATGGCAGACATTGCCGCCTTCCGCCTGACCGAAGA
GGAAAAGCAACGCCTGCTCGATCCCGCCGTAGGCGGCATCATCCTCTTCCGCCGCAACTT
CCAAAACATCGAACAACTCAAAACACTCACCGCCGAAATCAAAGCCCTGCGCACACCCGA
ACTCATTATCGCCGTCGATCACGAAGGCGGCAGGGTGCAACGTTTCATCGAAGGCTTCAC
```

-222-

CCGCCTGCCCGCAATGAGTACGCTCGGCGAGATTTGGGACAAAGACGGCGCGTCCGCCGC
CGAAACCGCCGCCGGACAAGTCGGCCGGGTTTTGGCAACCGAGCTTTCCGCCTGCGGCAT
CGATTTGTCCTTCACGCCCGTCTTAGATTTGGACTGGGGAAACTGCCCCGTCATCGGCAA
CCGCAGTTTCCACCGCAATCCCGAAGCGGTCGCCCGCCTCGCCCTCGCCCTTCAAAAAGG
5   TTTGACAAAAGGCGGTATGAAATCCTGCGGCAAACATTTTCCCGGACACGGATTTGTCGA
AGGAGACAGCCATCTGGTCTTGCCGGAAGACTGGCGCAGCCTGTCCGAACTCGAAACCGC
CGACCTCGCCCCCTTCCGCATTATGAGCCGCGAAGGTATGGCGGCGGTTATGCCCGCCCA
CGTCGTTTATCCACAAGTGGACACAAAGCCCGCAGGGTTTTCCGAAATCTGGCTCAAACA
AATTTTGCGCCGCGACATCGGGTTCAAAGGCGTGATTTTCTCGGACGATTTGACTATGGA
10 GGGCGCGTGCGGGGCAGGCGGCATCAAAGAACGCGCCCGCATTTCCTTTGAGGCAGGTTG
CGACATCGTCCTCGTCTGCAACCGTCCCGACCTTGTGGATGAACTGCGCGAAGATTTCCG
CATTCCTGACAATCCCACTTTGGCGCAACGTTGGCAATATATGGCCAACACGCTCGGCAG
TGCCGCCGCGCAAGCCGTGATGCAGACGGCGGATTTCCAAGCGGCGCAAGCCTTTGTTGC
CGGCCTTGCCTCGCCGCAGGACACGGCGGGCGGCGTGAAAGTCGGCGAAGCCTTTTAAAC
15 CGGCTGCGTTTCAACAATCTGCCGATTTCATCAACCGTTTGTCAGGGAAAGGCAATGATT
TTTTCGGTCAGGTAGAAAGTTATCTTATTGAATTACTTAAAGATAATGATGATTATCAAC
ACTGTATTCAAACACAACGTTTTAAATCCGCCCGACACGCGGCAAAAAGGCAAAACGGTA
TAGGCACGCCGCACTTTTTGCGCTATAATCACGCCTTACTTAATTCGGAATGTAGCGCAG
CCCGGTAGCGCACTTCGTTCGGGACGAAGGGGGCGGAGGTTCGAATCCTCTCATTCCGAC
20 CATATTCAAACCGCCTCGGCATCCATTGCCGAGGCGGTTTTTCCTTTTGGCGGCAACAGA
AAAATGCCGTCTGAAACAGAATGCTGTTTCAGACGGCATTTCGTTTTCCCTAACCCTGCC
ATTTGCGCGCACTGGCACAGAGTATCGGCAAGGTTCAAAAGACCATCGGAATTTAGGAAG
CCGAGCTTGTACCCAACGGCAGCATCTTATTCAGTAAGGCTCCGTCCTGATTGGGCGGTG
GAAATGCCGGCATTTCCACGCAGAAGCGGCACACTTTCCCCGTATGTCAAACATCGGTAA
25 AACCGTACGCCGTCCCTTTGAGTTACACTGCTTAAACTACTCTATTCCCGCCCATTTGTG
CGTCTGCACGCTCAACTGCCAATGCACGGATGCGTCGGGGCGACTGTTTAAAATACCGAT
TTGGCGGATGGTGTCGTAGATGTTCATCGCACCGTCTTGCTCACAGGGCGAAAGGTAGTA
ATGATGTGCGCGGATTTTGCGTTCCATGTTTTCGCAGAACGCAAGGACATCACCATCGGC
AACAATCCGCACTTCGTCGGCTGTTTCGATACAGCTATTTTCATATTTGGCGGCGTAGCA
30 GGCTTTGGGGCTGGTGGCGACGTAGTCGATTTGCGGCGGCGCGGGATTGAGTCCGTTGGT
TTCGAGACAGAGGAAATAGCCTTCCGCCTTGAGCGTGTCCAGCAGCATATCGAGATGCGG
CTGTATGGTCGGCTCGCCGCCGGTGATGATGATGTTGCGGGCGGCGTAGGTTTTCAGACG
GCCTAAGATATCGGACAAGCCCATCATACCGAATGTCAAATAATCGGTATCACACCAGCC
GCACGCCAGATTGCATTTGCCCAAGCGGACGAAAACGGCGGGCATGCCCGTGTTCCAGCC
35 TTCGCCTTGCAGGCTCTCGAAAATTTCGACGATACGGTATTGCGGATTTTCGGGGGCAAC
ATTGATTTTTTTCATACCGCCAACACCGCTGCCGCCGCCAGCATCGCGGGCAGTCCTTGT
TTGACGAGTATGCCTTTGTTGCCGGACGAAAACGCGCCCCACGCGGCGGCAATCAATACG
AAACCGAGAAACAGAGTCGTCGCGCCGTAAACGGCGTTGTCCGGCGCGGCAAACCGCGAC
CACACCAGCCCGATGCCGAGAAAGCCGTTATACAGCCCTTGATTACTGAACAAGGTCTGC
40 ACTTGCTTTTGTTCCATAAATTCATAAGGCAGCTTGAATATTTCCGCCGCTTTTTCGCTG
GGAATCTGTGTCATTTCAAGCCAGGCGATGTAGAAATGTTCGACGGCGACGAAGAGGACT
AGGAGGATGAAGAGGAGTTTCATGGGTATTCCTTTTAATGGGTGTATTTGATATGGAAGG
TCGTCTGAAAAAACGGGGAATCCGTACAGGAGAAAAAACCGTTTTACGGTAAATTCAAAT
AAGGACGCTCTAAACCGTCCTTTCCGCGCAGGCGGGAATCCAGAGAGTTGGAATTGCTGC
45 AATTTTTAAATATTCCTGATAAATCAAGGTCTGGATTCCCGCCTGCGCGGGAATGACGCG
GTTGGGCATGTCTTATTGGAATTTACTATATCGATACGTTCAAGATATTCCCTACTCCCC
TTCATACTCCGCACACGATGTCGGCGTTTCCCACAATTTCACGCGGCACACGTTCAGCCC
CGCGTTTTTCAGACGGCCGTACATTTCGACCGCCATATTTTCGGCAGTGGTGCGGCAGGG
CAGGCGCAGGGTTTTCATGTTCCAGCCCTCCAAAAGCGCGGCGATTTGGCATTCGCGGCT
50 GTTGCCGCCGTGGTAGATGAAGGCGTGGTCGAAGGGGTCGGTAATGTGTTGTTTGACAAT
GGCTTTCAAGTCGGTAAAGTCCATCACCATACCGTCTTTCGCGCCGCCTTTGATAATGCC
GTCTGAAACGGTGATTTCGAGTTTGTAGGTATGTCCGTGCAGGTTTTGGCATTTGCCGTC
ATGCCCGTCGAGCATATGCGAGGAGTCGAAGGTGAAGATTTTGGTGATTTTCATGGGTTC
TCAAATGGGCAAATAGCCTTGAAAGCCGATTTCGGCGGGTTTGCCGTGCGGATTCGGGGT
55 CAGGCGGATATGGAAATTGCCGATGCGGTCGAGCGCAAGCAGGTTGTCCACGTCTTTTAA
GTTGTCTTTATGCTGCTGAACATAGCTGTCGGTCAACAGGGTTTGCAGGGCTTTTTGTTT
GGCTTCGGCAGGCGTGGCGGCGGCGAACAGCCCGAAAGCGTGTGCCTCGGCAAGCTGACC

-223-

CGCGCGATAACCGCCGACATTGGCGAAATACAGGCGCGGGGCGTGTTCAGACGGCATTTT
CGTTTTGGGCGTTTCGGATACGGCGATGTCGTAACCGTCCGCCCATTCGACAATCTGCCA
GCCGTCGATGTGGATTTTGTCCGCATCGCCGAACCACGCGGCTTTGAGCGCGGGGACGGC
CTCGCGGTAGTTGTCGCACACGGCAAATTGGATGTCGTGCACTTCGATATTCGACCTGCC
GGCATTGCCGCCGAGGTAAAACATATGGAGCTTGGGCATATCGTATTCCTTATGGTTTGC
GCGTGTTCAGACGGCCTTTTTACTTTCCAGATATTCCGCCAGCCCGCGTTCGCGCAAGAT
ACAGCTCGGGCATTCGCGGCAGCCGCCGACGATGCCGTTATAGCAGGTGTGGGTTTGCTC
GCGGATATAGTCCAGCACGCCCATTTCGTCCGCCAACGCCCACGTTTGCGCCTTGGTCAG
ATACATCAGCGGCGTGTGGATTTGAAAATCATAGTCCATCGCCAAATTAAGGGTAACGTT
CATCGATTTGACAAACACGTCGCGGCAGTCGGGATAGCCGGAGAAGTCGGTTTCGCACAC
GCCCGCGATGATGTGCCGTATCCCCTGCCCTTTGGCGTAAATCGCGGCATAGAGCAGGAA
AAGCGCGTTGCGGCCGTCTACAAAGGTATTCGGAACGCCGTTTTCGGCAGTTTCGATGGC
GGCGGTGTCGTCCATCAGGGCATTGTGCGTAATCTGCCGCATCAGGCTCAAGTCGAGTAC
GGTTTGTTTGACGCCCAAATCCTGCGCAATCCAGCGGGCACGTTCCAGCTCGACGGCATG
GCGTTGCCCGTATTGGAAAGTAATGGCTTGGACGTTTTCGCGCCCGTAGGTTTGGATTGC
CTGAATCAGGCAGGTGGTCGAATCCTGACCGCCCGAAAAGATGACCAAGGCTTGTTGGTT
TGACATATCGAATCCTAGTTTTGGTAACGCGGGAGGTTTGCGAACCGCGAAGTTGGACAG
TAAAGATGCGGATTATACAGGCAAACGTGTTCAGACGGCATCTGAACGCCATGCCGTCTG
AACACGCGGCTTATGCCGACTTGACGGCGAGTTCCGCCAAGCGTTTGCTTTGTGCGAAGG
CGATATTGTTTTCTTCGGCGGTCAGGACGGGAGCCGCTGTCGGGAATATCTTTTTTGACG
GCTTCGCAGACGGCGGAGACTTTGGGGACGGTGCGCAATACGGCTTCGCAACCTTCAACG
CTGTCGATGCCGCGAGCGATTCGGAGTGCGGGATTGCGGGTGCTGCCGTTTTGGAAATAG
TAGAGGACGAGGATTTTGAGGGGGATTTGGGTTCATGGGCGGATTCCGTTAAAATGGTTC
GGTCTTCAGACGGCATAACAGTTGTTCCGATGCCGTCTGAAACAGCCGCAGTTCAGGCAT
TTGTTCCTGACGGCAAAATTGGCTATAACATCGGGCATCAATGCCCAACTTACTGACCGG
GCAAGAAATTATGACCTTTTTACAACGTTTGCAAGGTTTGGCAGACAATAAAÀTCTGTGC
GTTTGCATGGTTCGTCGTCCGCCGCTTTGATGAAGAACGCGTACCGCAGGCGGCGGCAAG
CATGACGTTTACGACGCTGCTGGCACTCGTCCCCGTGCTGACCGTGATGGTGGCGGTCGC
TTCGATTTTCCCCGTGTTCGACCGCTGGTCGGATTCGTTCGTCTCCTTCGTCAACCAAAC
CATTGTGCCGCAGGGCGCGGACATGGTGTTCGACTATATCAATGCGTTCCGCGAGCAGGC
GAACCGGCTGACGGCAATCGGCAGCGTGATGCTGGTCGTTACCTCGCTGATGCTGATTCG
GACGATAGACAATACGTTCAACCGCATCTGGCGGGTCAATTCCCAGCGTCCGTGGATGAT
GCAGTTTCTCGTCTATTGGGCTTTACTGACGTTCGGGCCGCTGTCTTTGGGCGTGGGCAT
TTCCTTTATGGTCGGCTCGGTACAGGATGCCGCGCTTGCCTCAGGTGCGCCGCAGTGGTC
GGGCGCGTTGCGAACGGCGGCGACGCTGACCTTCATGACGCTTTTGCTGTGGGGGCTGTA
CCGCTTCGTGCCAAACCGCTTCGTTCCCGCGCGGCAGGCGTTTGTCGGGGCTTTGGCAAC
AGCGTTTTGTCTGGAAACCGCGCGCTCCCTCTTCACTTGGTATATGGGCAATTCGACGG
CTACCGCTCGATTTACGGCGCGTTTGCCGCCGTGCCGTTTTTTCTGTTGTGGCTGAACCT
GTTGTGGACGCTGGTCTTGGGCGGCGCGGTGCTGACTTCTTCACTCTCCTACTGGCAGGG
AGAAGCGTTCCGCAGGGGCTTCGACTCGCGCGGACGGTTTGACGACGTGTTGAAAATCCT
GCTGCTTCTGGATGCGGCGCAAAAAGAAGGCAAAGCCTTGCCTGTTCAGGAGTTCAGACG
GCATATCAATATGGGCTACGACGAGTTGGGCGAGCTTTTGGAAAAGCTGGCGCGGCACGG
CTACATCTATTCCGGCAGACAGGGTTGGGTGTTGAAAACGGGGGCGGATTCGATTGAGTT
GAACGAACTCTTCAAGCTCTTCGTTTACCGTCCGTTGCCTGTGGAAAGGGATCATGTGAA
CCAAGCTGTCGATGCGGTAATGACACCGTGTTTGCAGACTTTGAACATGACGCTGGCAGA
GTTTGACGCTCAGGCGAAAAAACGGCAGTAGTCTTGAGTATTTTTGAAACTGTATTTTTA
TCCTAAAGACATTTTCCTATCTGCTGATTCCACCGTTTCCTTTCTGTGTGCCGCCATAAT
TTTTATGATAGACAAGCCATTCAAGTTTGCATTGACTGCTTTTTCATTGGCAATATCCAA
ATGGCTGGTCGCTGCATCTAAAAATAGGATTTTCGGTTCGCAATATTAAGGCCCGCGCCA
ATACGATGCGTTGTTTTTGTCCGCCTGACAGTGCGCTGCCCATATCGCCGATCAAGGTTT
CATAGCCCATAGGCATGGCGGAGATTTCTTCGTGAATCATAGCAAGGCAGGCGCAATGTT
CGATTTTTCCTCTATCCGGTTCCGTATCGAAAAAACAAGGGGCTGTACTAGATTAGCCCT
AAATCCCACACCAATCCCGCAGGATTTTAAGCTGTTGAGACGGTGTGCCGAAGTTAAATC
GAAATTCGCATTCTTTCAAGAACAGCGGGAAAGATTTACGATCGATTCCGTTGTATTTTC
GCAAGACGCGTTTAGTCTAGAGTCTGTATATTACATTTATTTTTAGGGTCTGCTAGCCAA
TTTCTTGTTCCCTTCATTATTTTATCTTCTGAAAGAAAATTATTTTTTTCCATGCTATTA
ATATTAATGATATGATTTTTATTTAAAATAATTTTTCCATATAAAATTTCCGGTTTGTAA

```
     TAGCAAGAGTCTGAAGCAAATCCTTGCCCGTCAATATAAGAAAAATAAATGTTATCATCC
     TCCTTATAATATTCTAAAACCAATCCGGATATTATTTTATCAAAATTCCCTTCATTTCCA
     TCTTTCATGACTAAAATATAATTAGCAGGCCAACCTTTATCGTAAACATATTCAAACTGA
     TAGTTCCCGAAACTCTCGATATCCGAACTAAAAAAGAAGAAAAGCAAATTAATAGCCAAT
  5  ACAAAAACAAATAAGAACAAAAATAGCAAAATTTTCAACTTAGTTAACAATATTTACCTC
     TCCTTTAAATTCAATCCTGAAAGGTACCCCTTACCCTGGGCTACCAATTATAGTTTCCAT
     ATTTCTAAATATTGTTTTTACATTACTTTTTTCTCCCCCCAAAGGAATGCATTTTAAAAT
     CATGCTTTTCAGGTGCTAATCGATACTTACCATTAACATCTTTAATCACAGATATATTTC
     CATGTATAGCCCAACGTGAAAAATCTGAGTATTATATACAGTTATACCTTACTGAAACAA
 10  AGCTAGCTGTACATATCTGTACCATATTTTTACTAAAAACAAAAAATATTTATAATTATT
     AAGGATAAGATAAAAACCCCCAACGCCAGATTAATTCTTAATAATTTCAAATAAAAAATA
     TTTGAGATTTTTTATTTTCCAAATAATATATTGAAATATTTAAAGTTAAGGTAGCTTGAT
     TTAATTAGAAAATCAAAAAAACCATTAATTAATTTTTCTTCTTTAAATATTTTATATGAT
     ATTATAAAATTAAATAACATTGCGAAAACATATGAAATCATCAAAATACCAAATATATAG
 15  TGGGAATGCATTATTATTTAGCTCCTTCTTTTGGCTTTGACAAATTGACAGTCCATTGAT
     ATCCAATGCTTGCATTTGCAATTGCTGACGCACCTGCCCCTGTTTTCCCTGTTAGTATCA
     ATGGTTCTTTTCTTGCAAGATGTGCACCTGCACAACCACCTAATACTAAACCACCACCTA
     TTGTAAATCCTTCCTGTTGTATCTCTAATGATAACATTTCTTCTCGTGCCGCCCTTAAT
     ACAGATTGTGGAATTGGATTGACCTGAGCAGGAACTTCTAAAATAAGTTTTCCTGTAAGT
 20  TTTCTTCCTCTTAGCGGAGCAGGTGTACTTGGAACATTGGAAATGACAAAGTGAGTACGC
     AAACCACCTGAAGGCGATGTGTTTGAACCTGAGACCTTTGCAAAAATAGTCTGTTAACGA
     AATTTGACGCATAAAAATGCGCCAAAAAATTTTCAATTGCCTAAAACCTTCCTAATATTG
     AGCAAAAAGTAGGAAAAATCAGAAAAGTTTTGCATTTTGAAAATGAGATTGAGCATAAAA
     TTTTAGTAACCTATGTTATTGCAAAGGTCTCAACCTGTTGAAGGCCGCCAACAGGCTAAG
 25  TGCGCCCGCGCCGCCTAAAAGGCAGCCCGGATGCCTGATTATCGGGTATCCGGGGAGGAT
     TAAGGGGATATTTGGGTAAAATTAGGAGGTATTTGGTACGAAAACAGCCGAAATCCTGTG
     TTTGGGTTTCGGATGTCGGGGAAGGGCTTTTTTGCAAAGGTCTCAACTCATGTTATTGCA
     AAGATCTCATGCCTTGTTTTGCCAGCAGGTTGAGTTCTTCTCCGGCAATCAGCGTGGTAA
     AGCCTCGCCACAACACAGATCTATGTACTATGGAAGGGCTTCAATTTATAGCTTTCGAAA
 30  ATCTTTCAGCTTTAAGACGGCCTAAAGTTGTAATCTATAAAACAGGAGCTCAGAGTTTTA
     CGGCTCACTCTCGCTTCGCGTTACCAAATACCAGCTTATCGGTTTTGAACGTATAGTAAT
     CTATCCAATCCTGCAGATATTCATACGGATAAGACAAGTCATACTGTTTCATAAAATCGA
     AGATGTCTTGATATTCGTCTGCCGGCAGCGGATCGTAAACAGTCAAATCCCTCGGCGCGA
     TTTCGTGGTCTATGCCCAAATCGAAACCGTGCATGGATGCGATTTTGGCGTAGGTAACGA
 35  TTTGCGGCTGCAGGTAGAAATCGAAATAGGACAATGTTTCTTTGGCAGCCATACGCGCGG
     TTTTTTTATCAAAAAGCGGCTCTAAGGCGGCCTTCATCGCCTCGGCATCCTGTTCGGCGA
     AAGCGAGGAAGAAGCGGTAATCGTACAACCGCTTTTGCAGCCATTTGCTAGGGGTGGGAT
     GCGCCAAGACTTTCTCGCTACGTTGTTTCAACCGATCAAGCTGCTTACCCTCCACCATCA
     GCAGAGTATTGTAAATCATATGACGGTTGAGGTCGTATCGGTTTACGAAGGCTTCTGTAT
 40  CGTTGGCGATGTTGTCGATATTGCGCACCAAAAACTCGCGCAGCTGCGGGCTGTCGCTCA
     TCAGCATCAGAAACATCGGATCTTGAATGTTGAGCATGTCGCAGGGAAAGAAGAAGGGTT
     CGGGGTCTTCATCATCTACACTCTGCAAAATACCCAACTTTCCTGCAACATAAGCATATT
     GCTTGAATTTCTTAAGATCATGTTCAAATAGATAGGCATGGGAAGCCGCAGCTTCAGTGT
     ACATTAAAATGTATTTCATCGCTGCAAGCGGCACGCCTTTTTTTTCATCTACATAATCTA
 45  TAGATTCGGGGCAACCGCTATTGAAATTAGCAGTATTGCCTATGATTACATTAGTAATAT
     GTTCATACCATTTTTGGGTGGTCATCATATTGTGCCCCATTGTTATCTCCTTATATTGGT
     TTTAGAAGGAACTTTGACAGAAAGAATAACGGCCTTACCTGTTTGACGATCAACGCCTGC
     TATTGCCGTTTTTAATTTGCCGTTCTGATTTGCTTTTAAGACAACTGCCTTAGCAGGACT
     ACCATCAGGTAAACTTTTTACAACTTGTTTAATCCATTCACGACTCATCTGCGTATATCC
 50  ACCCGCACCATTCGGATTCAGCTGTACCGTACCGTTCCTAATCTGCTTACTTTCTACAAT
     CAAAACAACACTACCATCGGCAGCCTGCCATACATGATCAAAACCGTTATTTCCGCCGTA
     TTTGCCGCCCGAAAGCACTCTGAAGCCATTTTGTTTAGCTAAAGAGTCAAATAACTGCTC
     GGTCATTTTACCTGTCGTGTCCTTCCTTCGCCAATAGCTTTCAGCAATTGTTTGTCAGTT
     GCTGCAGTAACCCTTAATTCAGTTTGACCGATTTTGATTTTGGTTTTACTGACATAGCCC
 55  TGTGCAGTGGCAACGGTTGCTGCCTTGTCCAAGGCTTTTTTCATGCCTTGTAAATTTTTT
     GCCGCTTTCGCTACTTTATAGGCCTGTATCGATTCACCGATACCCGGAACCACACCCAGC
     AAAGCAAACAGGTGATCGGCAGCGGTCTGTGCTTGTACAAAACTCTGTATATCACCGATA
```

ATTGGAATAAATCCTGTCTGAAAAAGCTGTTTTTCAGACGGGATTTATTCCAAACATTGG
TATTTTATCCCGCCCAGTATTCGCTACCGTCTTCGGGATCTATCCATACGGCGTAGGCAG
GAGCCTCGACCGTAAGCCACATTCCAATATCAAATGGGGCATAGCCGGGAAGTGGATTGG
GTTCGATTTCATATTCAGGCCATACTTCCCTAAATATTTGTTCCCATTCTTCGGGCGTAT
GCCCGATAATTTGCCCGTCGCGTTGCAGTTTCAGATGACCTCTGCGCAGCAGCTCTTTGA
AAAGAATAAAGAACGCTTCAGTTTTTTCCTCAAAATCGCTGGAAAAGTCTTTGATGGTTG
ACCACAAACAACTCAAAGGAAGCTCATAGTTGATAGTGAACTCTACATCCTCTTCTAAAC
GATCTTGATACCGTTTATGAACATCGTGATTATTCAATTTTCTCATTTGAATTTTATTTC
CCTATAACCTATTCTTGCTTACTTAATTAGAATCAGCGCAAAGATTTTCAGGGTATCCCC
ATACTAAAATAAATTTATTAATTTCAGGGTATATATTGATTGATATAGACTCTCCTTTTC
TACATAGAAAACCATGTCCATAGCCGTCAAGTGGTAAATAATTATCTTTTTTCAGGTCAT
TTATGAAATTTAAAAAAGTAGTATTACTATATTCTGAAAAAATAAATTTATATTTTGTAT
ATCCTCCTCGCATGTATTTATCTTTACTCTCTAAGCGAAATTTTTCTTTTTGGGCATATA
GCAAGATATTTGATATAGATTTCTTTTCTAATTCAGCATATTGCCTTATTTGATAATAGT
CATAAAATGTCCCAATTATTAGTATGACTAACACCCAACTCATTAATTCAAATGTTTTTT
TTAGAAAACTAATCATATATTTCATACTAACTCCTATTTTTTATGTTTGCACTAATAAA
TTTATCAATATCTTTTATGTTACCTATGTATATTGTTTTTTCTACTCCTGCAGCAACACC
ACTTCCCAAACCGATTTCCCCAATAATTTTTGAATCTTTAAAAGGAGATTTAGATTTAGA
TATTGTTGAACTTACCGAAAAGCAGGCTCTTGTCAGACAAAGACTACCACCAACACTCTC
ACCTACCAAAGTCTGGGAAATCATTTCTGCATAGGCTTTATTTTGATTACTATTTCTGAA
ATCATTCATAGATGCTTCTTTTAAATAATCATTAGGGGAAACATTTAAAACCCAACCGAC
AGATACCCCACTTATATTTGATTTGTTGATTTTACAGTACTCCATATTTTACCTACAGA
GAAATATACATTGCCATTTCTAGTGTTAATAATTAATTTTCCATTAACCATACGATTCCC
GAATTTATTAGGTAATTTCATTTCTCCTGAAACACTTACAAAGTGTGGCAAGCCCAGTGG
TCGATAAGACTCACAAAAGCTTTCTGCTCCTCCTGCACTCATACATAAAGCATAATTTCC
ACTCAACAAACGATCCTGTATATCATTTAAAGAATTATTCTCTACCGCCACAGCAGCCGC
ATTCGCCGCCGTACTCACATCCCCCTTACTCAACGCCGCAACCGCCCCTGCTGCCAGCTT
CGCCTTAGCAATGATTTTTGCCCTGTCCTTCACATTCAGGCTGCCAGGGTCTCTGCCGTC
CAGTAGGGTTTCGCCAAGGATTTCACCGACCGCCGCACCGATCGCACCATCTTGACACTT
GCCCTTATTCGCCGCCGCTGCCGCACAGCCCGCTATGGCATGGGCAATCTTATGGGCAAT
GTAGTGCTGATCCAACTGTTTGATTTTACTTGCTGCCTCTCCATGCGCAGTATTCACCAA
AGCCGCAAGGATATTCGCTTCCAGATTGTCTTTCAGGCTGCCGCCGTTGACAGCGGTATT
AATCAGTGCGGCACTGCCCGCATTGGCCAGGTTGACGGTCAGGTTGTTGATCCACTGCTT
ATCGCTGACATTGTTCAGTGCCGAAGCACCGATTTTGTCGGCTACGCCTGCGGTAGCGAC
GGCAACCATCAGATTTTTCACCGTGCTGCTTCTGCCCAGCTCTTTCAGGGTGTTACCGAT
ATTGCCTTTGTTGTTGATGAACGATACGGAAGCCTGGCTGGCCAAAGAGGCAAATGCTGC
ATCGGTTGCGGCGGCGGCCGCACCGTTTAATCCCAATACGGCTCCGGTTCCTGCGCCTGA
GGTGACCACGGTAACGGCCAGTGCGATAATTGCGGCTCCGGCTCCGGTTAGGCCTTCCTG
TTTATAGTCCCATTTGTCGTAAGCGAGCTGTACTTGGTTCCAGTTCACGTCCTTGACCGT
CTGAAGCTGTTTCAGATAGGCATATTCGGGCTGTTTGGCCAGCTTTTCGATTTCGGTTTT
GAGGTTGCCTTTGGGGATGTCGGCGATATAGCCGCCGGGAGCGGTCAGCTTAGGCAGTGC
CGGCCCTTCAAAGCTCGGTAGCTTCAGCGTTTCAACCGTGCTGCCGCTTCCGGCCTGCTT
TTGCCATACGGTCGAGTTGGATTCCAGCTTTTCTTCGGTTTGGATGCGGTTAACGATGCC
TTTTAGGATAATTTTCGCATCGGCTCGGGCTTTTTCACCCACCCCTGCCTGTATGTCGGC
TCCGGAAAGGGTGGTTTTGAATTCGGTGCCTTCGAGTACGGTATCCCAGCCGGAACGGGT
TTTGGCTGTTTGGGCGATAACGCGTACGGGCAGTTTGGTTTCGTTCAGCTCGTTTTTGCT
GTAATTGCTTTTACCCACTTTGATGCCGATGAAACGGGTACTTTTCTGAACATTCAATTG
GTGTTGGTGAATGCCTTCGGCTGCCAGCAGTTGCATTGAGGCCGTCTGAAAAACGGATAT
TCAGACGGCCTATTGCTACTTTAAATAATATTTGGGTTTAAAATATCATCGTATTTCCCA
AATTCGGGGAACAGAAAATCAATTATTTAAATTTTTCATCCTCATAATATGGGTGATCAA
AAAGCTCTCCTTCCCACATATTTATTTCTTCTATGCCTTTATCTTTCATAAACTCATGAT
AATCATAAAAATCTTTTCCATATTGTCCGTAAAAAATTTTCATATCCCCAAGCCACATAG
CATAACATTCATCGCATAAAATGACCTCCCCAGAGAAATATTTAGGCTTTGCATGATAAA
GGTAGCCTTGCTCACATCTTGGGCAAATTTTAATTTCTTTATCCATAAGAGATTCCTTTC
TTAATTATTTCTGAGGATATGCAGAAATGATTTTATTTGTTCCTTTTTGCACAACAATCC
GCACTTTTGTTTCTCCTTTTGTTCCAATAGGTTTCTTCATATCTACAAGATATACGGATG
AATCATTTGGCAAAGGATTTCCTTTCATTCTCCAAGCTTCATCAACCAAAGGCAAAACTT

```
    CTTTACGGGACACATTAAAAACAGAATGAACAGGTTTGTTTGGATTTGGAATTGTATGGG
    CTAAAACATGTTTAATCCTATTACCATGCTTAGCATCTAACCCATAATCTAACCCCGCCG
    GTGTTGTCCAAACCTTATTAACCTTATCATAAGTAAGCTTGATTCCGGTCTGCTTCTGAA
    TTTCCTGTATGGCTTTAGCCGTATCAACTGCTTCGTCTCCCGCCTTCAGAACATAAGCCC
5   CGCCTCGGCTGATTTTAGTCGCACCTGCCGGAACAAAGGGAACGGCAGCTGCGGCGGCAT
    CCACACCAAAATCAATCGCCGCTTCTCGAGCCATCTGCTTATCGCCAATAGATTTGGCGT
    AAATCCATTTACCGCCGTCCCATACGAGGTTGCCAATATCCCAAATAATATCTAATGCAT
    TATTTTTAACAGCTGTTTCGGAAGCATTTGCCGCCACATCAACATTGCCTCCTGTAACAC
    CTACAGTCGCTCCGGCTACCAATTTTGCATACGCAGTAATATTCGCTTTAGCTTTTTCAA
10  TTTCAGAAGCAGTCATACCGCTGAAATCGGTATTCTTAACCAAAGCCTCCCCGACAATCT
    CCCCCACGACCGCACCAATCGCGCCGTCCTGACACTTGCCCTTATTCGCCGCCGCTGCCG
    CACAGCCCGCTATGGCATGGGCAATCTTGTGGGTGGTATATCGCTGCCAGCCCTCTCTGT
    TGATAATCTTGCGTATGATTACGCCGTTTGATGGCTAATCGTACCTACGCAGGCTTAAAA
    TTTCCATCAATCCATATCATTTGAGTTTTCATCTTCATAATATGGATGATCAAACAAATC
15  TCCTTCCCAAATACATTCACTCGTTATACCTTGGGATTCCATGAAAGGAACATAAGAATA
    AAAATCTTTTTCATATTCTCCATAAAATATATTCATACCTTTGAGCCATACTGCATCGCA
    TTCATCACACAGAATAATTTCATCATGAAGATATTTAGGTTTCGAATGGTAGAGATAGCC
    TTGTTGACAAGCAGGACACATTTTCATTCTCTTATTCATGATTACTCCATATAATCGATT
    TATTTTTGTGGGTAAGCAGTAGTGATTTGATTGCTGCCTTTAGTCTGTACAACAATACGT
20  ATATAGCAACCTGATAATTTCCTGGTTTTTATCAGCTTTATCCTCAGATTCCAAACCCAA
    TAATAAAAGCCGTCTGAAATTTTTTCAGACGGCCTTAAAACTCAATTAAATAATGTCCGG
    ATTTAACACCAAATCATATTCGCCAAACTTTGGAAATAGAATTACCTTATCTTTTTGGGA
    ATATAATTCTGTTTTTTCATATCGCTCATTATTAATAAAATCCTCTTTCAAAACATAGCA
    ATCATCCGTATTTTCATTGAAGAAATAAGTATATCCTTCTGCTAAGTCATGAGATTCCAA
25  AGTTATATAATCTCTCCATACAGCCATAGAAAGAAAATAATAATTCGAATTGGAATATTT
    TTGAAATTGATGGGTTAAATAATCCCTTCCAAATTTATCGAAAAAATGTACCGAAAAAAA
    ACCTACTTCCTCTCGCAAGGTAATTACATATTCAGGTTGTGTCGCCGAACCTATTACGGC
    AGTATATAACTCCCCTTTAAGATGTTTTTCCTCAGCTTGTTTCTCAGAAAAAGGCTTATG
    AAGTTTCTTATAACCATAAGACCACTGCTCACAATAAAAAATATCTTTCTTCATTTGTAA
30  ATCCTTCCTGTTGTATCTCTAATGATAACATTTTCTTCTTGTGCCGCCCTTAATACAGAT
    TGTGGAATTGGATTGACCTGAGCAGGAACTTCTAAAATAAGTTTTCCTTCAAGCTTTCTT
    CCTCTTATCGTAGTAGGTGTACTTGGAACATTGGAAATGACAGCACCAGGGCTATATTTT
    CTAACAGCCTCCTTGATATAACCAATCCCCGTACTTTCTTGGATTTGAGAAAATTGGGTA
    AATTTTCTTGAAATAATTTCCTCTGTCGCAGGATTATACGAATCTACCCTAAATACCCC
35  GTCGCCGATTTAGGATTGGCTACATAAAGCTCATTATAAGGGTATTTTGATGACATGATA
    CGGTTAAATTCATTGCCGTTGTTTATCCTGATTCTATAAATTGGGTCAACAGCAAAGCCT
    CTGGATTCCCTTAATTGATTATAATATTGCCTGTATGTTTGTACATCATGTCTTGTCCAC
    GGCTCTCTAGGATTCCTCATAATAGCAATCCCGTTAAATTTCGGATCCAGCCTTCGGATT
    TGATTGGTAATGGCCTGGATTTCAAGAATGGCATATTCATGTTCCAATTCTTGTCGCGAA
40  GTCCAACGTATATTTACCCTCCTGCGAGCTAAAAGACTATTATTCTCCACTGCCACAGTA
    GCCGCATTCGCCGCCGTATTCACATCCCCTTTAACCAATGCCACTGCGCTGCCTGCGATA
    ATCTGCGAGTAGGCTATGACTTTTTGGCGTTCTTGGGGTGACAGTTTGCCTACATCGCGT
    CCGTCCAACAGGGTTTCTCCCACCATCTCGCCGACTGCCGCGCCGATTGCGCCGTCCCGA
    CATTTGCCTTTATTTGCTACCGCCGATGCACAGCCTGCTACGGCATGGCTATCTTGTGG
45  GCAATGTAGTCTTCGCTGAGATTAAATTTGATTTTGCTCGCTACTTCTCCGTGTACGGTA
    CTGACTATCGCACCCAGTGCGGCATCGCCCAAGTTGTCTTTCAGGCTGCCGCCGTTGATG
    GCGGTATGGACACTTGCGGCAGCGGTGCTGTTGATCAGGTTAGCGGTCAGTTGCCTGCT
    GCGGGACTGTGAAAATGTTTGCTGACGGCTTCGGCTGCTTGGGTGTTCAGCCCGCTTATG
    CCCTGCAGTACGCCTGCGGTTACGGCGGCGGTGGCGGCCTGTCTGACGGTGCTGCTTTTG
50  CCCAGTTCTTTCAGGGTATGGTTTATGTCTCCTTTGTTGTTGATGAGGGAAACTGCGGCT
    TGGCTGGCGAGACTGGCCAGTGCGGCTTTGCCTGCGGCTGTGGTGATAGCTGCAGCTGAT
    GTGCCTGCTGCTACTCCGGTTGTGGCTGCCGTTCCTGCTGCTACTCCAGTTCCGGCTGCC
    GTTCCTGCTGCGGCTCCTCCCGCTCCTGCGCCTGCCGCGCCCGCCGTTCCGCGGCTGCC
    GGGGCGGACAGTGCGCCGTAGGTCAATACGGTTACGACGATAACGACGACAGCTGCTGCT
55  GCGGGTGTCATGCCCTCCTGTTTGTAGTCCCATTTATCGTAAGCAAGCTGCACCTGATTC
    CAGTTGATGTTTTTCGCAACTTGAAGTTGTTTCAAATAAGCATACTCGGGCTGCTTGGTG
    AGGGTTTCGATTTGGGTTTTCAGATTGCCTTTCGGAATATCGACAATGTAACCGCCGGGT
```

```
      GCGGACAGTACGGGCGCAACGGGACCGGTGAAACTCGGCAATTGCAAGGTTTCGATGTTA
      CTGCCCCGTCCTGCCTGTTTTTGCCATAGAGTAGATTTGCTGCTGCTCACGGTTTCTGTG
      TGGATGCTGCTTTTGATCCCTTCGAGGATAATCTTGGCATCGGCCCGTGCCTGCTCGCCT
      ACGCCTGCGCGTATGGTTGCGCCACCCAGTGTGGTTTCAAACTGTGTGCCTTGCAGTTTG
    5 GTATCCCAACCTGATTGCAGATTGGCAGATTCTGCAACTACCCTTGAGGGCAGCGCGGTT
      TTCATGACTTGGGTGGTGGTGTCGTGTGCTTTGCTGTAGCTGATGCCGAGAAATCTGCGC
      CTTTTTTGGCTGTCAAGTTTGTCGTAGTTGAGCTCTTCTACGGCATAGAGTGTCAATTTC
      CGCCCGGCTTCGATGTTAATGCTGCCTTTGGGGCATCGAATGCGGTGGCGTAGGCGTCG
      ATGCTGCCACCAGATTTGATGTCGATGCCTTGGGATGCGCTGAGGGTTACTGCGTCGGGC
   10 TTGGCGTTTTGTGTTCTTTGACTTCGGTAATGTGTTTGCGGTTGTACCATTTGCCAGTT
      TTGTAGCTGCGGCGTTCAAAGGTATAGAGTTCGCTCTGTCTCGCATAGTAATATTGGTCA
      CCGTAAGATTGAATTTTGATTTTGCCGTTTTCCGAACTGATATCCGTGGTGCTGAGCAGG
      ATGCGACTGTTCTCATTGGCATACGGTGCGCTAATGCTCACACCGGTTTTACCCGAAAGT
      TCTGCAGCAAGCGTAGGGGGTGTCTTCAGCACGCACGCGTCTGGGCAGTATATAGGGAAT
   15 CTGAATATTTACTTGCATAACAAATGCCGTCTGAAAAATTGTGAGCTTTTCAGACGGCAT
      TGAGCCGTAAATCATGGAACGCGTGCGTGCTGAAGCACACACCTTACGCATGGATTTTAG
      GTTTCATGCAGGCTACAGTTTGTTTGAGAATATGTTTTTTGTATTTCTTTACACTTTTTT
      TGATATTCAGGGTGAGCTATTAAGAAATCAGATATTGCAATATTAAAGTAATGATATGCT
      AAATTAATAGGTATAATTAATTCTTCAGGATTGAAATCATCTCCAACTGAAAAATAAATA
   20 GAAGGAGCTTTATCAATATACTCAAATCCATTTACCTCTTCATAATCTCCAATCCATCTG
      GTAGCATCTATTTTTTCATATTGAGCACCTATTACTCCAAAATGTCCGGTAGTTGTAATA
      TTTTTAAAACACTCTAAAAGCGTATCTTTAGTTTCAAATTGGTAAATTGTTTCAAAAAAA
      ATCGAAATAACAAAATGGTTGTTATTTATAGATTTTTTATTTAAGTTTAGAAAAATATTA
      TTTTTCATAATTTTTCCTTTAAATTATTCTGGGTGAATGTTTGTAATTCTTCCTGTATTT
   25 ACATCAAAATATGATCTAAATTTGATTCCGTCAAAGGTTTCTGAGAATTGAATGACATTT
      TTTCTTTCCGATATTGATTTAGTTCTTTCATTTTGAGCAATTTTAGAGGCTTTTGAATAT
      CCTTGTGAAGCAGCATTTTGAGCCATTTGAAGTATTTTATCATCAGAAAATTTTTTAGGA
      TTATAAACAGTTTTTATACTTGAAATTTCCTTAAATCCACCATCAGGTTTACCTGTCCTG
      TCTAGTGTAGGAATCTCATATTTAATTCGGGTAATGCCTTCAATATCAGTTTGGGTTTCA
   30 GATTTTACGCGTCCTCCTCGTGAATTTAGTTCTGCCATAAAATTGGTGCGGTTATGGGCT
      CCTTTAATGCCCTGTTTTTGACTAAAACCATCAGCATTTGCCAGATGTCTTTTTAGGTTTT
      GTATCGAAACTGATGCCTTCCGGGTATTTGACATTAGTAATAGGTGTATTTTGTTTTACA
      AACCCTCTTGGTATTGGAATGAATCTAGGATTAACTCCTGAAATAAGTGTATAACCTTGG
      TCGGACATCCATTCGGATAAAGGCTTTGTATTGCCCGATTGAAGCCAAGATTTAGCAGCA
   35 GTATTCAAATGATAAGACTGTAAAGCCAAATCTGCTTGGGTGTAAGATTTGCTGAATAAT
      TTATACCATTCATCATCTTTACCAATTAGACCTGCTTCCCAAGATGAATGAAGGCTTCTA
      CTATCGATCAAATGTTGTTTTCTGATTGTTCTACATTCAGTACTACGGGATATATCCGTA
      CATATTGCAATCGAAGCAGCAAGTCTTTTATCAGCAACATTTTGATACTTTTTTACAGTA
      TTTTTTCTGCACAGTTGAGGATTATTCTGTTGGCGCATGCAGTCATTTCGTTATCAAAT
   40 TCTCTACCCTCTTTGTCGCTAAGCTGATTATTTTTCACCGCTACCTCAGCCGCATTCGCC
      GCCGCATTTACATCGCCGCCGACCACACCGCTTACCGTACCGGCAACCAGTTTGCTGTAT
      GCCAAAATCTGTTCGCGTTCTTTAGCTGTCAAAGTGTCAGGATTTTTGCCGTTTGTCAAA
      GCCTCCCCGACTATCTCGCCCACAGCCGCACCTATCGCACCATCCTGACACTTGCCCTTA
      TTCGCCGCCGCAGCCGCACAGCCCGCTATGGCATGGGCAATCTTGTGGGTAATGTAGTGC
   45 TGATCCAACTGTTTGATTTTACTGGCTGCTTCTCCATGCGCAGTATTCACCAAAGCCGCA
      AGGATATTCGCTTCCAGATTGTCTTTCAGGCTGCCGCCGTTGACAGCGGTATTAATCAGT
      GCGGCACTGCCCGCATTGGCCAGGTTGACGGTCAGGTTGTTGATCCACTGCTTATCGCTG
      ACATTGTTCAGTGCCGAAGCACCGATTTTGTCGGCTACGCCTGCGGTAGCGACGGCAACC
      ATCAGATTTTTCACCGTGCTGCTTCTGCCCAGCTCTTTCAGGGTGTTACCGATATTGCCT
   50 TTGTTGTTGATGAGCGATACGGAAGCCTGGCTGGCCAGCGAGGCGAATGCGGCATCGGTT
      GCCGCTGCGGCCGCGCCGTTTAAGCCCAGTGCGGCTCCGGCTCCCGCGCCCGCAGTAACC
      ACGGTAACAGCCAGCGCAATAATCGCTGCTCCGGCTCCGGTTAAGCCTTCCTGTTTATAG
      TCCCATTTGTCGTACGCCAGTTGTACCTGGTTCCAGTTGACGTCTTTGGTGACTTGGAGC
      TGTTTCAAATAGCAAGCGTAGGGGGTGTCTTCAGCACGCACGCATCTGGGCAGTATATAG
   55 GGAATCTGAATATTTACTTGCATAACAAATGCCGTCTGAAAAATTGTGAGCTTTTCAGAC
      GGCATTGAGCCGTAAATCATGGAACGCGTGCGTGCTGAAGCACACACCTTACGCATGGAT
      TTTAGGTTTCATGCAGGCTACAGCTTGCTGCTATTCATCAAATTGCGGCCATTGAAAGTC
```

```
TGTTGTTTTACTTTCACCTCTCAACAGTCTAATCATATCGCTTTTGAGAAACTCAAAAAA
ATTTTTAATATTACCAACATAGAGCATAGCTTCACATAGTGAACTACATGCAGATTTAAT
GTCTTCATTGTCAATAGCATATTGATATTCCTTCATATGCTGAAAAAAGAATCAAAGTC
TTCTTCTAATTCATCATTCCAATCAGATGAATAGTTAGAAAGCCATTGTAAGTCAAGAGG
ATCTTCACTATTCAATTTTTCAGTTGTGGCTTTCTCATAAAGATCAAATCCTTGTTTAAT
TCCTAACTCTCTTAAACTTTCTTTTACTACATTAAAATTTTTCATCTGAATCACCTTATT
TAAGATTCAATTTTCGCCCTTGCCCTGCTAATGTCTTAGCTTAATTTTGAGCGAGTTTTA
GGTTTCATGCAGACTACAGCTTACTCAGCACACACGAGTCTAAACAGTATACAGGGAATC
TAAATATTTACTTTCATAACAAATGCCGTCTGAAAAAAATTGAGCTTTTCAGACGGCATAT
GGCCGTAAATCATGGAACGCGTATACTGAAGCCCACACCTTATGCATGGGTTTTAGATTT
CATGCAGGCTACAACTTGCTTTCTATTCATCAAGAGATGGCCATGAAAAACTATTCTTTT
TATACTCAGCACTCAATAATGTTGATATATCAGTTTTTATTGAATCAAATATAAGAGATA
GATTACCTGCGTAAATCATAGCCATAAATAAAGAATTACTGGCAATTTTGAAATTTTTAT
CGTTTAGGGCTAATTGGCATACTTCCATATAATCTAAAAAGTTTTTTAAATCCTCCTTAA
ATTCATTATCCCAATTCCCGTCTGAAGTATAATCTTTAATCCATTTCATATTAGCTGTTT
CATGATTAACTTCTTCTGATACTTTTGGATCTGTCAAATCAAACCCTTGATAAAGCCCCA
CATTAATCAAGATTTTTTTTATATCATTCAATGTTTCCATAAAATTTCCTATTTTAAGTT
TAATTTACGACCTTTTGCTGCCCCAGTTTTCATTTGGTTAAGCGAACCATCCATATTTAG
AACAAACTTAAAGTTCCCATTTTTATCAAAAACCTCTAAATGATTTTTATGTTGGCCATC
TAAATAAAACCTATCACCGGTTTTTAATAACCCTTGGTTTCTTTTTACCAAGAAGACAGA
CTGCCCTTGCTGCGTCGGAAGCGTTGTCTTTTCTGAAATTTGAGCCAGCTGTTTTCCAAA
AGGATTATTTTTCATGTATGTACTCATATTCGGTACAGCACCTTTATTAGGGATATAAGG
ACGATTTTTTTCTAAAACTTCCTTGACCTTTTGTGCCGCTTCCCCTTTATTAGCGCGATT
CAGCTCTGTTCCGACGACAATATCAATAACGGCTTTGGCATCGTTCCAATCCAATGTTTC
GTCGAATAAGGTGGTCAGGTTGTCGGCTAAATTATAACCTTCGTCTTTCAACGTCTGTTT
TAAATCTCTAACGTTGATTTTCCCGTTTTTTAATCCTTTTCTGGCTACCTTATAAACCAC
TTTTGCAGCAGTTACAACAGCTTTAACCGCATTATTTTCTACCGCGTTTTGTGCGGTTTG
TGCAGCAGTATTGACATCTCCTCCCGTTACGCCTGCAACTGTACCTGCCGCAAGTTTGGC
ATAGGCGGTAATTTTCTTAACTTCCAGATCTAATTGTTCCGGGTCATATCGCTAAAATC
GGTATTTTTAACCAAAGCCTCCCCGACAATCTCACCCACAGCCGCACCGATCGCGCCGTC
CTGACATTTGCCCTTATTCGCCGCTGCAGCCGCACAGCCCGCTACGGCATGAGCGATTTT
GTGGGCGACATAGTGCTGATCCAGTCCTTTGATCTTACTCGCCGCCTCCCCATGCGCGGT
ATTCACCAATGCCGCCAGGATATTTGCCTCCAGATTGTCTTTCAGGCTGCCGCCGTTAAC
AGCGGTGTTGATCAGCGCGGCACTGCCCGCATTGGCCAGGTTAACGTTGAGGTTGTTTAC
CCAAGGGGTTTCGCTCCAAGTGGCAAGGGAAGAGGCACCGAGTTTGTTGGATACGCCTGC
CGTTGCCGCCGCTACAACCAGATTTTTTACCGTGCGGCTTCTGCCCAGTTCCTTCAGGGT
TTTGCCGACATCGCCTTTATTGTTGATGAGCGATACGGAAGCCTGAGAAGCGAGTGAGGC
AAAGGCGGCATCGGCCGCTGCTGCGGCTGCGCCGTTTAAGCCTAGTGCGGCTCCGACTCC
CGCGCCCGCAGTAACCACGGTAACAGCCAGCGCGATAATCGCTGCACCGGCTCTGGTTAA
GCCTTCCTGCTTATAGTCCCATTTATCGTAAGCCAGTTGCACCTGGTTCCAGTTGACGTT
TTTCGCTACTTGGAGCTGTTTCAGATAGGCATACTCGGGCTGTTTGGCCAGCTTTTCGAT
TTCGGTTTTCAGATTGCCTTTGGGGATGTCGACAATGTAGCCGCCGGGAGCAGAGAGCTT
GGGCACAACGGGGTCGGTGAAGCTCGGCAGGAGCCGCGGAGCTTCAAACAAGGGGGGCTT
AACACTCCCGCGTCTGTACAGCATACAGGGAATCTGAATATTTACTTGCATAACAAATGC
CGTCTGAAAAATTGTGAGCTTTTCAGACGGCATTGAGCCGTAAATCATGGAACGCATGCG
TGCTGGCGCACACACGCTACACGTGGATTTTAGGGTTCATGCAGGCTACGGCTTGTTTAT
TTAAATTCATCACGTTTCATTGGAATGGTTAAAGGGGTTTTTAATAAAAATTGTGAATTA
TCGTTATAAAAAGCACATCCACATTGAGTACAGAGATACACCGTTTCATGCGTATTTTGT
TCTTCTAATTTTTGCATTTCACCCCATTCGCAGTAAGGACAGACTCTTTCAATATGTTCA
ATAAATAAATATTCTAAAATATCTCTAATATTGTACAAAGTATTGAAATTTAAAATTT
CCTGATGATATTTTACGATAAATATTGTTTTTGAGATAAATAATTTCCTCTCTATTCAAT
ATAGATTTTTCAACCGGATAGTCATCGGGATTCATTTCGATATATTTACTAAAGTCATAA
CCTAAAATTTTAAATTTATCAATGACAATATCGTTTGATAACCATGAAATCAAAACTTTC
AATAAATCAAATGAGGTAGAGTTATGATTTAAATGGCTTAAAGCATCATTTAATTCTAAA
ATATATTTTTTTTCAAAGTTACTCATATTTAGTTAGTTTCCTTTTACTGGGTATGTAGTA
ATCAAATTTCCTGACTTATCTGTAAATACTTTAATTGTAGTTGTGGGTTGTCCACCTTCT
TTAATAGAAGTAGTACCAATAACTTTTCCTACATCGACAGTCCGCATATATTGGCCATCA
```

```
GGAGTCATCGATACGGGAGAAGAAACTACTTTATTACTTTGAAGTATAACCTTCAATTCA
TTTGGGGAGATGGTAAAAACTGAACGGTTATTCGCAATAGGCCTATGGAAGTGCCCCTCA
AGAACATGCTCAAAGCCAGCAGATACCGGTTGTCCCGTTTGTCTCATTGGTGTATATCGA
GTAGTACTATTCGCTATATTAATTCGTGTATTTACAGCACCTATATTTTTTGATTCTTGT
AGTAAGCCATCAAGTTCTTTAACTGTCTGGGTTGGTATAGCCTGCTTGGCCGCCTTCGCT
TTCGACAACGCCCCCACAGGCGCTTCCCAAGCGTTGCCTACCGTTACCGCACCCGTGGCG
ATTCCCGCGCCCGCTTCGGCAGCCTGAGTGACCATGACAGTACAACCAGAAGGATTAGCC
ATGCAGGTGCTGATAGCTAATTTACCCGCTGTACCGATCAGCGGAGCTGTCCAACCTGCA
GCATAAACCCCATAGCTGGTAATCACAATCGGGCCTGTGATGCCATTACGGATATTGCTT
ATCCAAATGGCAGCATCCTTATCCTGCGGATTAGTCATCGCACCTGCTGCATGTGCAGGC
ATAATACCTTGGATAATTTTTTCCAGTGCGGTTTTGTCGGGCTTCTGCGGTTGATGCTTT
TTCGCATTGGTAGGGGTACTGTCAAAATTCAAAGCATTATTCACTACCGCCACCTCAGCC
GCATTCGCCGCAGTATTCACATCGCCGCCGTTGAGTGCCGCCACGCTGCCGGCAATAATC
TTCGAGTAACTGATAACCTTATGCTTTTCCGCATCGCTGAGTGTAGCAGGGTTTCTGCCG
CCAAGCATGGAGTCGGCTACGATTTCCCCAACTGCTGCGCCAATTGCCCCGTCTTTACAT
TTTCCTTGTACCAATCCGCTAACACACCCAGCCAAAGCGTGGGCGAACTGTTTGGCAACA
TAATCGTCGCTGAAGGTTGTTTTGATTTTGCTGGCGGCTTCTCCTTGGAAGCTATTAACC
AATGCTCCTAATGCGGCATTGCCTAAGTTGTCTTTCAGGCTGCCGCCGTTGACGGCGGTA
TTGATACCAGCTGAGATACCTGCATTACTGAGATTGGTAGCCAGTCTGCCTCCAAGGTTG
GCAATAGTTTGATTGCCCGTACTGCTGAACAGTTCGGTTCTTACCTTGCTGTTCAATTGG
GCAATATCTGCGCCCATCTGATTTAATGCACCCGCCGTCAGGGCAGAAGTGACAATCTGC
TTGACCGTATCACTGGTGCCGAGATCTTTCAACGCTTTGCCGACATCACCTTTATTATTG
ATGATGGATACAGCTGCTTGGCTATACAAGGAGGCTAAAGCAGCGGTTTGCATGGCAGTC
GCTGTAGAAACGGTAGTAGCTGCTGCTGTCGTTGTGGCGGCTGTTCCGGCAGCTGCGGCT
GTACTACTTCCTGAAGCGGCTACACCGCCCGCTGCGGTTGCGCCGTATCCATAAGTCAGT
GCGGTTACGATTATGGTAACAATCGCTGCACCGGCTCTGGTTAAGCCTTCCTGCTTATAG
TCCCATTTATCGTAAGCCAGTTGCACCTGGTTCCAGTTGACGTTTTTCGCTACTTGGAGC
TGTTTCAGATAGGCATACTCGGGCTGTTTGGCCAGCTTTTCGATTTCGGTTTTCAAATTG
CCTTTCGGAATGTCGACGATATAGCCACCGGGGGCGGTCAGTTTGGGCGGAGTAGGGCTT
TCGAAGCTGGGCAGTTTCAGCGTTTCGATAGTGCTGCCGCGTCCGGCCTGTTTCTGCCAT
ACGGTTGAGTTGGTTTCTAATTTTTCTTCCGACTGGATACGGTTCACAATGCCTTTGAGG
ATAATTTTCGCATCGGCACGGGCTTTTTCGCCTACACCTGCCTGAATGTCCGCACCGGCC
AGCGTGGTTTTGAATTCGGTACCTTCGAGCACGGTATCCCAGCCTGAACGGGTGGCTGCA
GTTTGGGCGACGACGCGGACAGGCAATTTGGTTTCGTTCAGTTCGTTTTTACTGTAATTG
CTCTTGCCTACCTTGATGCCGATAAAGCGGCGGCTTTTTTGGACATCCAACTCGTGCTTG
TGGATGCCTTCTTCTGCCAGCAGTTGCAGCTCTTCACCCGCAACCAGGGTAACTTTACCT
GCAGGGGCATTGAAGCGGGTGGTATTAGCTTCGATGTTGCCGCCTGCCTGAAGCGTTATG
CCGTTGGCGGTCAGCTCGACGGGGGCTGGCATAATCAGGTGGTCGCGGGTGCTGGTAAAC
TTGGTTTTTCTGATGATTTTGCCGCTTTTACCTTTGGTTTTAAGAAGGTATAGGCATCG
TTTTGTCCAGCCTCCAGTACAATATCACTATGGGCTTTGATGTCTATGCTGCCTGAGGGA
GCTTTGATTTCGGATGCACCGATAATAATACGTGCATCATCGAGTGCCGCAGCTGCATGA
ATACTTACCCCTGTACGTCCGGTCAAACGTGAAGGCTTGTTCAGAGCAGCTTTGTCGTAG
TGACTCTTGTAGGTGGGCTTGCCAATTTCATATTGGTCGGTTATGCCGTCAATCAGAATA
GCAGCCGCCTCTGAATCTGCTGCCTTTGGCAATACGCCTGCGGCGTGAAGGTTCAGTTTT
TTGGAAGCGGTAATATCGGAACCGCTGATTTCGATGCCTTGTGCGGAAATCAAGTCAATA
TTTTGTGCAGAAAGCTTGGCTTGCAGGTATTCTTTGCCTTTGGGTTTTTTACCTTTAACT
TCCTTGTTGATGGCTTGAATATAGAAAGCGAGACGGTCGCGTTCTTCTTGCAGGGTTGGA
ATCAGCTTGCTTTTAGGCGAGCTTTTTTCAACTGCGCAATCTGCTGTTCCAATTCTTTG
GATTTTTGGTTGAGTTCAGCCGCTTTTTGTGTAGGAAATAATTGCTGAATGAGTTGTTT
ACGGCTTCGATATTCAACTTGCCTTTGGTGGTGGCGACAACCAAGTTTTTACCGGCTGTA
ATTTTAGAACCTCTTAAATCTGTTTCTCCTGTAACCAGACGGATATTGCCTTTTGCTTCC
AATGAGGAAACTTGAGCACTAGGCGCACCTGCATTTCCTCCTTTTGCAGACAACAGCAAT
TTTCCGCCTGTTTTGATGCTCAGGTCGGTATGCGCACTGATGCGGTTGGCAGGTTCGATG
GTTAATGTGCCGCTACCTGCTTCAATATTCAGCCGTCCGGCCAATGGTTTTAATTCGGCA
TTATCTTCCAAAGTTTTGGTCGAAACGGTACTCCAATTGATGTTGCCGCGCTTGACTAGG
GCGGTACCGGCAGTAAGGTTGATTGCACCCGCTCTCAGCGTGGTGTTGTCGGCAATTTGG
GAATAGCGCGCATTGAGTGCCAATACACCGTTAGCCACCAGCTTGTTGGCAGAAGGCAGT
```

```
     TTGTCGTTTTGCCAAATCTGGCTGCCGGTAATGCTTAGATGACGGTGTGCGTAGGCATCT
     ACTTGGTTGAGCGTTACCCGCTCGTGTTGTGCATTAAGATGCGTATTATGGGTAGACTCC
     AGCTTGGTATTTTCTATGCTCAATGCCCGGTCGGAATGAATGTTCAATGCCCCGCTTTTG
     GCATGGACGTTAAGGTTTTTTAAGTCGGCATTACCACCGTTGTTTTTGATGCTGATGTGT
  5  TTTCCGTTGATTGAATTGCGTTGTTTTCCGTCACCAAGCTGAATACCGTTGCCGGCAACC
     AACGTAATATCTCCTGAAGATGAAGTGATATTGGTATTGTCTGCTTTCAGACGGCCTTTA
     CCAACCGATCCTGCATTGACATCGGCCTTGGCTGTCAGGGTATTGTGACCGGTAAAGTCG
     GCATTACCGTTGGCCAATAAGGATACATGACCGTCTGCAGAAACAGCATGAAGGCCGTCT
     GAAACGATATTGCCCTGCAATGCGGTGGTTTCGAGAGCCTTGGCTGCGTTCAGCTTGGTA
  10 TTGCGAAGCTGAATATTGCCTTTGGCTGCCTGAATGTGCAGATTACCCGAGTTGGTACGC
     AGATTGGTATTGGTAACATTCAGCGAGCCTGCCTCCACACCCATGTCTTTTGAGGCAGTG
     AGGGTTTTACTGGTGCCGGTAATATGGGCAGCGTTATCCGATTTCAAATGGATGCTGGCG
     GCAGACAAATCTTTATCAACATTCAAATTCAGATCTTTACCTGTATGAACATACAGATTG
     CCGGGAGTATTCAGATTGGTAGTTTTGGCAGTAATGTTATCGTCTGCCAGTAAGCAAGC
  15 TGCTTGCCGCCCTTGATACTGCCTCCGTTTAAGCGGATATCGGAGGTAACTGTTGAAGCT
     TCCAAAGAAAGCGGTTTGCCTGCTTCGATGTGTGCGGTGTCTTTGGCATCTATTACGGCG
     GAACTGCTGATGGTGCCGTTGGATAATACGGTAACATCTGCCCCGGTAATGCGTGTGTTA
     TTGCCTAATTCGGCGTTGCCTTTGCTGGAACTGTATACGGTAGTGCCAGTCTGAATACTG
     GCCTCCTTGATGACGGTACGGCCGTCGGCCGACAGAGTAGCCGGGCCTTTGCCATTGTTC
  20 ACATTAGTTTTGCTCTCAATCACCAAATTATGACCAGCATTTAATACCGTGGTAGCTGGG
     CGACTGCCGTTATTCTGCACCACGGCTCCGTTACGCAAGCTGATATCTTCTCCCGTCTCA
     ATAACCAATAAGCCTTTGCTCTCGATCCGACCACCATTGGAGATAAATGTGCCTGCCGCT
     CCTTTTTCGGTGGTTTCGATGGAGAGATAAGTCGGTGAAGCTTCGGTGCCGTCGGCAGTG
     GTGGCGATGCGGCCGCTGTTTTCAATGCGGCCTGACGAAGTCACAATCAATTGCTTGGCC
  25 GCTTCGAGTGTGCCGGCATTTTTGACGCCTACGCCTTTTTCATTGGCAATCAGTGTGATG
     CTGTCGGCGTACATACCGCCCAGTGCGGCAGTATCAAGGGCAATAGTCGGTTTCGTACCC
     GCTGCCGTACCTGCACTGATTTCGCCGCTGGCGTAATCTACTTTCTGAGGACCGGTAGAA
     ACCGCCAGGTTTTTACCCTGTAATTTCCCCTGCAAAGCAACTGCACGAGCAAGTACCCCG
     GTGTAGTCGGCTCCGCCTTTATCATTCCAACCTGCTGCTCCTACGGTCAATGTGCCTTGA
  30 CGCACATCAAATCCTGTCAGTGCACCGTCTTTGCCGATTTGGGGCGCACCGGTAGTTAAG
     ATGCCCCGACCGACATTTTTAAAGCCGCCGCCATTAACGGTAATGCCGTTGGGGTTGGCA
     ATAATCACGTCGGCCTTTTGACCGCCTACGGTAACGATGCCGTTGAGTTTGCTAGCCGTA
     CCGCGTACCTCGTTCAAAATCAATTGCGCACTGCCTTTGACCACAAACGGATTATTGTTA
     CGGTCGTTGTTTAACACTGCCCCCTTTGTTGTCAACATCAAACTGCGTATAGCGGTTGTGG
  35 CTCAATCCGCGTCCATTCGGAGTTTGGATATTCACCAAGGGGGCACCAGTGTTGGTTTTA
     AGGATAACGACCTGCTGGTTTTTAGGTGCTGATTTGTCGGTGGTAATTTGGGCATGGGCA
     GGCAATACCATACTCAGGGAAACCAAAGAGCAGACCAAAGTTTTAAGGGTGGTTTTGAGT
     TTGCCGCAAAGGTCGCCTGAAGTTTTCAGTGAAACAGAAACCGAACTGCCTGCCTGTTTA
     CCTTTGCCCTGGCTGTTGGCAGTTTCGGCTACTGCAACCATGGTGCTGTGCTTTTTACTA
  40 AAGATAATGCGATGTAAACCTTTATTCATGTCTATTCCATTTTGAAGATGAACGTACTGC
     GCGCCAAGTACGTAGGTAAAGTTTGACGGTCTGAGGATAAGGAAAGACCGTCTAAATATC
     AGTAAAAAATTCAGAGGTTAGAAACTGTAATTCAAGTTGAAGCCGTAAACGGTGTTGGTC
     GTCTGAAAGCCTTTGGGTTTATGAAGCGGCTTGCCGGCAAACAGATCATAAGCAAACATA
     CCGCCTACTTTATGCCCTCCTCTGAAGCCGACCACTGCACCCATCAGCTGCTTGCCCGAT
  45 ACATATTGTGCACTTTCGCCAGATACGCGGCCATAGTCCGCACCGAGATAGAACTGATGG
     TTCGGATGAAAATACCAAGTTAAAGTATTCTGCCAGTAGAAACCTCGCTCTCCGAAAAGA
     CTCTGCTCCCCATCAAATCCGCGAACGGTGTAGCGGCTGCCGATTGACAATTATCTTGG
     GCAACCAACGGCGTTTTGTTCCATTGAGCTTGAATGGCGGTTGCGTAGAAAACTGCTGT
     TTGCCTAAAATAAATGGGGCGGCTTGCGTCCAAACTGGCAGTAATGATTTTCATACGAGAT
  50 GTACCTGGAAGAATATCGCCGCCGTTTTCTTCCGGTGCAGGCATACTTTGGCGCATGCCG
     GTCCCGCGTTTGTAAGACAACTTGCCGTCAAGCTGCCAACGGTTGAGGTAAGCACGGTGG
     CGCAATTCGGCTTCCCAGCCTGCAGAGCGGCGGCGTTGTACTTCGATTTCGGCATCGTCG
     ATGTATTTATAGGTTTGGCGTGTCCATAATTTCATTCCGACTGAAGTTTTATGAAGTCTG
     TTACGCCAAAGCATGCGCTCGGCGGCCAGGCTGCTCTGATATTGTTTGCCTTGTAATCG
  55 TAATTGACGGAATAGCCTTCGGTTGCTTCGTGGTAACGATGTCCATTGTGATTAAAAGAA
     AACAGCCATTTTTTTACGGGCACCGAATAATGCACGCTGTAACTTCTGGATCCGCTTTCA
     GTTTCCGTACCGGTGGCATCAGTCAAGTCCGTTTTGTGCGCCAAACCGCGTCCATATGAA
```

```
     ACATAAAACAAATCGCTTAAGCCCAAAGGGTTATCGAACGATAAAGCGACATTTCCTTGA
     TATTTGCCGGTCGTTTTGCCGCCCGCATCATCTATACCGATACTGAACCGTATGGGTTTA
     TTCTGCTGCCATTTGATCTGTAAATCGCTTTTGCCTTCTTCTTCGGACGGTATAATCTGA
     ATATCTGTTTTAACACTCGGCAAACGACGCAGGTTTTCCAAGCCCTGCTCTACATCGCGA
5    AGATTGAGAATTTTGTTCCTATATAAGGGAAATTTGTTATTGAATGCACTAATACTGCCC
     TCGGCAGACTTCCCATCCCGTTTTTCTTCATAGCGGATATCCCCTATTTCGCCTGCTGAT
     ACCCGTAATTTCAGAATTCCCGAATCCATATTCTGTGGTTGGATAATAGCTTGGGAAGTG
     AGGTAGCCACGCACGATCAGTATCTGTTGCGCGGCTTTTTGTAGCCTGCTCAAATTATTG
     GAACCTAAACACATCCCAGTTTTAAAAGCTGTTTCTTTCATGAGCACAGAAGGAAGAAAA
10   GAAAATTTGCGCACCGTCTTATCATCTAAACTAATGTAATTTACCCGAGTACACGGTGTT
     TCATCTTCACTCAGGACATAATTGTTCTTCTCCAATGGTTGCTCGAAACGGACATTTGCA
     TCAGTTAACAATTCAGCATCTATGTGCTGCTGACGCTGCATGGAACGGATAAGTTCTGCA
     TCGTTAATAATTTCCATACCAACCGTAATACGGCGTATAAGGCTTTGAAAGATGCCTGTA
     ACAACCTTTTTGAACGCCAATTCAGTTTTATCGAAAAAACACCAAAAGGGGAAAAGGTAG
15   TACGGACAAGGTGGGTATCTCAAGTCGCCTATATTGAACAACAGGCAACGGTAGAGTTAG
     TTTTTGCACCAAATGTTGCCCCTTTGATTACGATGCTAGAAAAAAACTTCACAAGCTACG
     AGCTTGATCAGGTCTCATCGTTGAGCAGTAAATACGCGGTGCGGCTCTACGAAATTATTA
     TTTCATGGCGTGCAGCCGGTAAGACACCGATGTTCAGTACAATGGAGTTGCGCGAACGTT
     TGGGTATGATGCCTGACGAGTATCAAAAAATGGAGCTATTCAAACGTAAGGTTTTGGATT
20   TCGCCGTCAAGCAGATCAATGATAAAACGGATATTTCCATTACCTACGAGCAGCATAAAG
     AAGGACGAAAAATTGTAGGTTTTACATTCTCAATCCTACATAAAATAGGGTCGAAAGACA
     TCCCTCTTGAAAATCAATCGGAACTTTTTGCCGGAATGACTGATTTGGAAGCCGGAACGA
     TACGGGTCAGGGCGGAAGCATATATCGCTTCGCTCATTGCAAAAGGTCAGAACGTGACTA
     AAGCCCATAGGCTGAATATTCTGAAAAAAGCCGTAGAGGAACGTTGGGGATTTGAAGATG
25   TGGCTAAAGATAATGGGGCCAAAAATCCTGAAAACAAAAATGCAAAGTCGTTTTAAACG
     AATGGGAAAGATTTCTAATGGCACACGTTTTAAGGACAAGGATGGAACAATTTGGGTTA
     AAGATTCAGGTATGCTTAGGACTGAAGGGACAAACAGGTGGATAGCCGATTCTCAGATTG
     CCAAATTATTTCCTATGTTAACTGTGATGGTTGAGGAAGGTATTTAACCCGGCAACTCGC
     GTATTCTACCTGTTTTGCGGTACGGAAACCAATTGAACCTGCTTTACGCTACAATAGAAG
30   ATTGCAATTTTGTCGGATGTACCATGAACGATTACACAGCCATGCCGTCTGAAGACGGAG
     GAATCGGCTCATTATCGCTTCCGCCGCACTCAATGGAGGCGGAACAATCCGTTTTGGGCG
     GGTTGATGCTGGAAAATCCGGCTTGGGACAGGATTGCCGATGTGGTTTCGGGAGAGGATT
     TCTACCGCCACGAACACCGCCTGATTTTCCGATCCATTGCCAAACTGATCAATGAGAGCC
     GTCCTGCCGATGTCATCACGGTTCAGGAAGATTTGCAGCGGAACGAAGAGCTGGAAGCGG
35   CGGGGGGATTCGAATATCTGATTACGCTGGCGCAAAATACTCCGTCTGCCGCCAACATCC
     GGCGCCATGCCGAAATCGTGCGCGAGCGTTCCATTATGCGCCAACTCGCCGAAGTGGGAA
     CGGAAATTGCCCGCAGCGCCATACCCAAATATCGGCAGCGGAACGGGCGGTAGCTTGGA
     GTACGAAAAATTCAAGCAGTTTCTTTTGAACTCTATTGTTTAATTTACAATTGGTTATCT
     TTATTTTCGTAGCCTGGCATAACTGTTAATCTACGTCAGCCCCTAAAAATTAATCTAATT
40   TACGATTATAAAAATATTATTAAGAAAGCCCTTACTATGAACCGCACCCTGTACAAAGTT
     GTATTTAACAAACATCGAAACTGCATGATAGCCGTTGCTGAAAATGCCAAACGCGAGGGC
     AAAAACACAGCCGACACCCAAGCTGTAGGTATTTTGCCAAATGATATTGCGGGCTTTGCG
     GGTTTTATCCATTCTATCTCTGTTATCTCATTCTCCCTTTCATTACTGCTCGGTTCTGCC
     CTTATCCTGACTTCTTCTTCTGCTACTGCCCAAGGTATCGTTGCCGACAAATCCGCACCT
45   GCACAGCAACAGCCTACCATCCTGCAAACAGGTAACGGCATACCGCAAGTCAATATTCAA
     ACCCCTACTTCGGCAGGGGTTTCTGTTAATCAATACGCCCAGTTTGATGTGGGTAATCGC
     GGGGCGATTTTAAACAACAGTCGCAGCAACACCCAAACACAGCTAGGCGGTTGGATTCAA
     GGCAATCCTTGGTTGGCAAGGGGCGAAGCACGTGTGGTTGTAAACCAAATCAACAGCAGC
     CATTCTTCACAACTGAATGGCTATATTGAAGTGGGCGGACGACGTGCAGAAGTCGTTATT
50   GCCAATCCGGCAGGGATTGCAGTCAATGGTGGTGGTTTTATCAATGCTTCCCGTGCCACT
     TTGACGACAGCCCAACCGCAATATCAAGCAGGAGACCTTAGCGGCTTTAAGATAAGGCAA
     GGCAATGTTGTAATCGCCGGACACGGTTTGGATGCACGTGATACCGATTACACACGTATT
     CTCAGTTATCATTCCAAAATTGATGCACCCGTATGGGGACAAGATGTTCGTGTCGTCGCG
     GGACAAAACGATGTGGCCGCAACAGGTGATGCACATTCGCCTATTCTCAATAATGCTGCT
55   GCCAATACGTCAAACAATACAGCCAACAACGGCACACATATCCCTTTATTTGCGATTGAT
     ACAGGCAAATTAGGAGGTATGTATGCCAACAAAATCACCTTGATCAGTACGGTCGAGCAA
     GCAGGCATTCGTAATCAAGGGCAATGGTTTGCCTCAGCCGGCAATGTGGCAGTGAATGCT
```

-232-

```
GAGGGTAAACTGGTCAACACGGGCATGATTGCAGCGACGGGAGAAAATCATGCGGTTTCA
CTTCATGCCCGCAATGTTCATAATAGCGGTACGGTTGCCTCACAGGATGATGCCAATATT
CACAGCCAGACGCTGGACAATTCAGGTACGGTCTTATCCTCAGGTCGATTGACTGTTCGT
AATTTAGGCCGTCTGAAAAACCAAAACAACGGTACGATCCAGGCTGCCCGCTTAGATATG
TCAACAGGTGGTTTGGATAACACAGGTAATATTACTCAAACAGGTTCACAAGCATTGGAT
TTGGTATCTGCCGGCAAATTCGATAACAGTGGCAAGATTGGTGTAAGTGACGTTCCACAG
ACCGGTTTGAATCCCAATCCATCAGTCATACCACAGATTCCGAGTACTGCAACAGGTTCA
GGCAGCAGCACTGTCTCGGTATCTAAGCCTGGTTCAAACAATCCCGTTTCACCTACAGCA
CCTGCAAAAAACTACGCCGTAGGACGCATTCAAACAACAGGAGCATTTGACAATGCAGGA
TCAATTAATGCGGGTGGGCAAATTGACATTGCCGCCCAAAACGGTTTGGGAAATTCGGGT
AGTCTGAATGCGGCTAAACTACGAGTATCAGGCGATTCATTTAACAATACGGTAAAAGGC
AAACTCCAGGCACACGATCTGGCTGTTAACACTCAAACTGCTAAAAACAGCGGTCACTTA
TTAACTCAAACCGGCAAGATTGATAACCGTGAACTGCATAATGCCGGAGAAATTGCCGCC
AACAATCTGACACTCATTCATTCGGGCCGCTTGAGCAATGATAAAAAAGGCAATATTCGA
GCTGCACATTTACAGCTTGATACCGCCGGTTTACATAATGCAGGTAACATTCTTGCCGAT
AGTGGAACCGTTACCACCAAGAATAATCTTCGCAATACAGGAAAAGTTTCTGTTGCACGA
CTGAATACCGAAGGTCAGACTCTAGATAATACGCGCGGACGTATAGAGGCTGAAACGGTT
AACATCCAAAGTCAGCAACTGACTAACCAAAGCGGCCATATTACTGCTACCGAACAACTG
ACTATCAATAGTCGAAATGTAGACAACCAAAACGGCAAACTCCTATCTGCAAACCAAGCA
CAATTAGCTGTTTCAGACGGCCTATACAACCAACATGGTGAAATTGCCACCAACCGGCAG
TTGTCTATTCACGATAAAAATCAAAACACTTTGGCGTTAAACAATGCGGATGGCACGATT
CAATCTGCCGGTAATGTATCGCTACAAGCCAAATCACTCGCCAACAATGGCACATTAACA
GCCGGTAACAAACTGGATATTGCTTTGACGGACGATTTCGTCGTAGAGCGCGACCTCACT
GCAGGCAAACAATTAAATCTAAGCATAAAAGGCCGTCTGAAAAATACCCATACCCTACAA
GCAGGCCATACGCTCAAACTCAATGCCGGCAATATAGATAACCAAGTTACAGGCAAAATT
ATTGGTGGAGAACAAACGGACATCACATCCGAACAGCATGTTGACAACAGGGGCTTGATC
AACAGCGACGGTTTGACCCACATCGGTGCAGGTCAAACCCTGACCAACACCGGGACAGGC
AAAATCTATGGCAACCATATTGCCCTGGACGCGCAAATACTGCTTAACCGGGAAGAAACG
ACGGAAGGCAGTACCAAAGCGGGGGGCAATAGCTGCAAGGAAACGTTTGGATATTGGAGCG
AAAGAGATTCATAACCAAGAAGGTGCCCTACTATCCAGCGAAGGTATTTTTGCCGTAGGT
AATCGACTGGATGAACAACATCATGCGGCAGGCATGGCCGATACCTTTGTTAATGGCAGT
GCCGGTTTGGAAGTACAAGGTGATGCATTGATGTCCGTTCGGAATATGCAGAATATCAAT
AATCACTTTAAAACAGAGACATACTTAGCCAAAGCGGAAAAGCAAGTCCGCGACTACACC
GTACTGGGGCAAAATACCTACTATCAGGCGGGAAAAGACGGTTTATTCGACAACTCGCAA
GGACAAAAAGACCAAACTACTGCTACGTTCCATTTAAAAAATGGTTCTCGTATTGAGGCC
AACCAATGGCATGTCCGAGACTACCACATCGAGACTTATAAAGAACGCATCATCGAAAAC
CGGCCGGCACACATTACTGTGGGCGGTGATTTGACTGCCTCAGGTCAAAATTGGCTGAAC
AAAGACAGCCGGATTGTAGTAGGCGGGCGTATTATCACTGATGATTTAAACCAGAAAGAA
ATTACCAATCAAAGTACAACAGGCAAAGGTCGCACAGATGCTGTCGGCACACAGTGGGAT
TCAGTTACAAAAAAAGGATGGTACAGCGGTAGAAAAGACAACGCCGTACTGAAAGAAAC
CATACTCCTTACCATGATACCCAACTATTTACCCACGACTTCGACACGCCCTGTATCCGTC
ATCCAACAGAATGCCGCCTCCCCTTCCTTTCAACCCGCCGCATCTGCAATCAAACTGATT
GACGGAGTATCCACGGCAGCCGTCAATGGTCAGCGCATCCATACCGGTAATGTGGTCTCG
TTAAATAACGCTACTGTTACTCTGCCTAACAGCAGCCTCTATACCACCCATCCTGACAAT
AAAGGCTGGTTGGTTGAAACCGATCCTCAATTTGCAGACTACCGCCGCTGGTTGGGCAGC
GACTACATGTTGCAACAACTGCAATTGGACACCAATCATCTACACAAACGGCTTGGCGAC
GGCTACTACGAACAAAAACTTGTTAATGAACAAATCCATCAGTTAACAGGCTACCGCCGA
CTCGACGGCTACAGGAGTGATGAAGAACAATTCAAAGCTCTGATGGACAACGGCCTTACT
GCTGCCAAAACATTCGGTCTCACCCCAGGTATCGCCTTGAGTGCAGAGCAAGTTGCCCGC
TTAACTTCAGATATCGTTTGGATGGAAAATCAAACCGTCACCCTGTCTGACGGTTCGACT
CAAACCGTACTGGTTCCTAAAGTCTATGCCCTGGCGCGCAAAGGTGATCTCAATACCTCC
GGTGGCCTGATTAGTGCCGAACAAGTCTTACTTAAACTGCAAAACGGCAACCTGACTAAC
AGCGGTACCATTGCGGGGCGACAGGCCGTACTCATCCAGGCACGGAATATTAACAGCAAC
GGTAACATTCAAGCCGACCAAATCGGCTTAAAAGCTGAAAAAAGTATCAATATCGACGGC
GGGCAGGTACAAGCAGGCAGACTGCTGACTGCCCAAGCGCAAAATATCAACCTTAACGGT
ACAACCCAAACTTCCGGTAATGAACGTAACGGCAATACCGCCATCGATCGTATGGCCGGC
ATTAACGTGGTCGGAAGCCATACTGAACAAGTAGATAACAGAACTTCAGACGGCATCCTA
```

```
     TCCCTGCATGCCAGCAACGATATCAACCTCAATGCGGCCACCGTCTCTAACCAAGTTAAA
     GACGGCACTACCCAAATTACCGCCGGCAATAATCTCAACCTCGGCACCATCCGTACCGAA
     CATCGCGAAGCCTATGGTACATTAGATGACGAGAACCATCGCCATGTCCGCCAAAGTACC
     GAAGTCGGCAGCAGTATCCGCACGCAAAACGGCGCACTGCTTAGAGCCGGTAACGACTTA
  5  AAAATCCGCCAAGGCGAACTGGAGGCCGAAGAAGGCAAAACCGTCCTTGCCGCAGGACGT
     GATGTCACTATCAGCGAAGGACGCCAAATAACCGAACTGGATACCTCGGTAAGCGGAAAA
     AGCAAAGGCATCCTTTCCAGTACCAAAACACACGACCGCTACCGCTTCAGTCATGATGAA
     GCAGTCGGCAGCAACATCGGCGGCGGCAAAATGATTGTTGCAGCCGGGCAGGATATCAAT
     GTACGCGGCAGCAACCTTATTTCTGATAAGGGCATTGTTTTAAAAGCAGGACACGACATC
 10  GATATTTCTACTGCCCATAATCGCTATACCGGCAATGAATACCACGAGAGCAAAAAATCA
     GGCGTCATGGGTACTGGCGGATTGGGCTTTACTATCGGTAACCGGAAAACTACCGATGAC
     ACTGATCGTACCAATATTGTCCATACAGGCAGCATTATAGGCAGCCTGAATGGAGACACC
     GTTACAGTTGCAGGAAACCGCTACCGACAAACCGGCAGTACCGTCTCCAGCCCCGAGGGG
     CGCAATACCGTCACAGCCAAAAGCATAGATGTAGAGTTCGCAAACAACCGGTATGCCACT
 15  GACTACGCCCATACCCAGGAACAAAAAGGCCTTACCGTCGCCCTCAATGTCCCGGTTGTC
     CAAGCTGCACAAAACTTCATACAAGCAGCCCAAAATGTGGGCAAAAGTAAAAATAAACGC
     GTTAATGCCATGGCTGCAGCCAATGCTGCATGGCAGAGTTATCAAGCAACCCAACAAATG
     CAACAATTTGCTCCAAGCAGCAGTGCGGGACAAGGTCAAAACAACAATCAAAGCCCCAGT
     ATCAGTGTGTCCATTACCTACGGCGAACAGAAAGTCGTAACGAGCAAAAAGACATTAC
 20  ACCGAAGCGGCAGCAAGTCAAATTATCGGCAAAGGGCAAACCACACTTGCGGCAACAGGA
     AGTGGGGAGCAGTCCAATATCAATATTACAGGTTCCGATGTCATCGGCCATGCAGGTACT
     GCCCTCATTGCCGACAACCATATCAGACTCCAATCTGCCAAACAGGACGGCAGCGAGCAA
     AGCAAAAACAAAAGCAGTGGTTGGAATGCAGGCGTAGCCGTCAAAATAGGCAACGGCATC
     AGGTTTGGAATTACCGCCGGAGGAAATATCGGTAAAGGTAAAGAGCAAGGGGGAAGTACT
 25  ACCCACCGCCACACCCATGTCGGCAGCACAACCGGCAAAACTACCATCCGAAGCGGCGGG
     GATACCACCCTCAAAGGTGTGCAGCTCATCGGCAAAGGCATACAGGCAGATACGCGCAAC
     CTGCATATAGAAAGTGTTCAAGATACTGAAACCTATCAGAGCAAACAGCAAAACGGCAAT
     GTCCAAGTTACTGTCGGTTACGGATTCAGTGCAAGCGGCAGTTACCGCCAAAGCAAAGTC
     AAAGCAGACCATGCCTCCGTAACCGGGCAAAGCGGTATTTATGCCGGAGAAGACGGCTAT
 30  CAAATCAAAGTCAGAGACAACACAGACCTCAAGGGCGGTATCATCACGTCTAGCCAAAGC
     GCAGAAGATAAGGGCAAAAACCTTTTTCAGACGGCCACCCTTACTGCCAGCGACATTCAA
     AACCACAGCCGCTACGAAGGCAGAAGCTTCGGCATAGGCGGCAGTTTCGACCTGAACGGC
     GGCTGGGACGGCACGGTTACCGACAAACAAGGCAGGCCTACCGACAGGATAAGCCCGGCA
     GCCGGCTACGGCAGCGACGGAGACAGCAAAAACAGCACCACCCGCAGCGGCGTCAACACC
 35  CACAACATACACATCACCGACGAAGCGGGACAACTTGCCCGAACAGGCAGGACTGCAAAA
     GAAACCGAAGCGCGTATCTACACCGGCATCGACACCGAAACTGCGGATCAACACTCAGGC
     CATCTGAAAAACAGCTTCGACAAAGACGCGGTCGCCAAAGAGATCAACCTGCAAAGGGAA
     GTAACGAAGGAGTTCGGCAGAAACGCCGCCCAAGCCGTAGCGGCCGTTGCCGACAAACTC
     GGCAATACCCAAAGTTACGAACGGTATCAGGAAGCCCGAACCCTGCTGGAGGCCGAACTG
 40  CAAAACACGGACAGCGAAGCCGAAAAAGCCGCCTTCCGCGCATCCCTCGGCCAAGTAAAC
     GCCTATCTTGCCGAAAACCAAAGCCGCTACGACACCTGGAAAGAAGGCGGCATAGGCAGG
     AGCATACTGCACGGGGCGGCAGGCGGACTGACGACCGGCAGCCTCGGCGGCATACTGGCC
     GGCGGCGGCACTTCCCTTGCCGCACCGTATTTGGACAAAGCGGCGGAAAAACCTCGGTCCG
     GCGGGCAAAGCGGCGGTCAACGCACTGGGCGGTGCGGCCATCGGCTATGCAACTGGTGGT
 45  AGTGGTGGTGCTGTGGTGGGTGCGAATGTAGATTGGAACAATAGGCAGCTGCATCCGAAA
     GAAATGGCGTTGGCCGACAAATATGCCGAAGCCCTCAAGCGCGAAGTTGAAAAACGCGAA
     GGCAGAAAAATCAGCAGCCAAGAAGCGGCAATGAGAATCCGCAGGCAGATACTGCGTTGG
     GTGGACAAAGGTTCCCAAGACGGCTATACCGACCAAAGCGTCATATCCCTTATCGGAATG
     AAAGGCGAAGACAAAGCCTTGGGTTATACTTGGGACTACCGCGACTACGGCGCAAGAAAT
 50  CCGCAAACCTACAACGATCCGAAGCTGTTTGAGGAATACCGCCGACAGGACAAACCCGAA
     TACCGCAACCTGACCTGGCTGCACAGCGGGACGAAAGACACCAAAATCAGGCAGGGAGAG
     CGGAAAAACGAAGAGTTTGCACTGAACGTTGCCGAAGGACTGACGAGCCTTGTCAACCCC
     AATCCGAGGATAAAAGTCCCGATTCTTGCAGGCATCCGCAACCTGAAAAACATCAAGCCG
     ACAGTTACCGGCAGCGATCCCTTATTGGCGGGTGCGGGGAATATCCGTATCCCTGCAAAC
 55  GGCAATGTTGCGAAGGGGGACAGGATTCCGGATACGGCATTGGCTAGCAAGGGAATCAAA
     CATAAAAATCGTAAAGATCAACTGGAAAAAAATAAAAAATCTGGTGAGGATTTTGAGATG
     GAAATTTATCAGAAGAAAGTTAAACAAGGCTTTAAACCGCAAAGACAGATTACAGTTAAA
```

```
ACAAAAAGTGGTGTAAAAACyAGGCTTGATATTATTTCGAAAGAAGGTGGTCTTGATGTT
TGTACAGAGTGTAAGGCTTCAATAACTGCGCCACTTACTAAAAATCAGAAAAAAGCTTTT
CCTGAAATTGAAAGAACGGGAGCAACAGTGGTCGGTAAGGGAAAACCGGGCTATCCAAAG
GGGACCAAAATTGAACCTACTAAAGTTATAATTGAAAGGAAAAGATAATGTCTATTTTGG
AAGAGAATGTAATTGATTCAGCCTCTATTGAAAACGGAATACTCATATTAACTATTTCTG
ATCACTTAAAATGGGATAACGAGCATTTGTTTTTGTTGCAAGAAAAAATAAATTCATATA
TTCAATATATTGAATCAGGTCAAATTTTTGAAGATTTTGGAGAAAGTAGCTATGAGACTA
TTGAAATACAGCTTATATATAAATATAAACCAAATGAAAATTATAGAAAATTTTTATATC
GCCTAGAAGGTGCTTTATTAAAACTTAAATTACGGTTTTCCCATGGAACTATCTCATATT
TTTATAGTTGAAAAGTAAATACTCTCTTTATCACTTCGAGCCCAGGCAAGCCATAACTTA
TATAAACCCTGAAATCAAAGAAGCAACTCGTAACACGCGGCGTCATATCCTTTAAGTCA
TACTTATACTGAAATATATAAGCCTGAGGAATTTACGCTATGGTTAAGAAAGTAAATATA
TTGAATATTGCAGAAAATTTTTTATGAGAGTGAAAAATAAAATTTAGATATAGTCGTTAT
CTGTCTGCCGATGGAACAAAATGGATAAGACATGGTTTGTTCTATGCATCTTACGAAAAT
GGTAATATTGTTTAGGCAAAAAAATTATGGCAATTTTTTATTTTAGTTCAAAAAAAATAG
AAAGAAATATTATCTCATCAAATCTGAATCGAAACAAGTTCGTGCAATATTTAGTTCTG
ATGTACAAGAAATTTATAAGTCATCATACTCTCGGGTTCCTATGGATGTTTTTCCCGAAT
TGAATATCCATTGTTTTATGATGATAAAAATCAGCTTGAAGCGATAGAGATATTTGAAC
CAAATAAGTTTTTTTTAGAAGATATTTCTTTTAATTGGCTTGGAAAAATTAATGATGAAA
TAATAAGCTATCTTTATAAGAGTGGAATTAATGATTTTGAAATTGATGATTTGGGTATTA
GGCTTCTTAATATTCCTGTTTCAACTATAATCAATTCAATAGGTAAAGTAGAATGTTGTT
ATTTAGATTTTTCAAATAGAGACACGAAATTTTATGTAAAACAAGTGTAGGTTTGAGGTC
AAGACCCAATCTACGCTTACTCCGGTATCAGCGTCTCCATCATCTACGACGAACAAAAAA
TCCGCCATCTGACCAAGTAAACGCCTACCTTGCCGAAAACCAAAGCCGCGGCCACACCTG
GAAAAAAGACGGCATAGCAAGCCGTAGCTCATGTGAAACCTAAACTCAATACGTAGGATG
TGCGGAACGCACATATGTAGTTTTCAAGGTTTGAGCCAGGAGGCTGTCTGAAACAACAAA
TACGTTTCAGACAGCCTTTCTTTCAACAAGCCACCACAGCAATCAGACAAAAGCAACCCA
CCGCCACACCCATGTCGGCAGCACAACCGGTAAAACTACCATTCGAAGCGGCGGGGATAC
CACCCTCAAAGGTGCGCAGCTCATCGGCAAAGGCATACAGGCAGATACGCGCAACCTGCA
TATAGAAAGTGTTCAAGATACTGAAACCTATCAAAGCAAACAACAAAACGCCAGTGCACA
AGTGACCGTAGGTTATGGCTTCAGTGCCAGTGGCGATTACAGCCAAAGCAAAATCCGAGC
CGACCATGCTTCGGTAACCGAGCAAAGCGGTATTTATGCCGGAGAAGACGGCTATCAAAT
CAAAGTCAGAGACAACACAGACCTCAAGGGCGGTATCATCACGTCTAGCCAAAGCGCAGA
AGATAAGGGCAAAAACCTTTTTCAGACGGCCACCCTCACCCATAGCGACATTCAAAACCA
CAGCCGCTACGAAGGCAAAAGCTTCGGCATAGGCGGCAGTTTCGACCTGAACGGCGGCTG
GGACGGCACGGTTACCGACAAACAAGGCAGACCTACCGACAGGATAAGCCTGGCAGCCGG
CTACGGCAGCGACAGCGACAGTCAAAGCAGCATCACGAAAAGCGGCATCAACACCCGCAA
CATACACATCACCGACGAAGCGGGACAACTTGCCCGAACAGGCAGGACTGCAAAGAAAC
CGAAGCGCGTATCTACACCGGCATCGACACCGAAACTGCGGATCAACACTCAGGCCGTCT
GAAAAACAGCTTCGACAAAGACGCGGTCGCCAAAGAGATCAACCTGCAAAGGGAAGTAAC
GAAGGAGTTCGGCAGAAACGCCACCCAAGCCGTAGCGGCCGTTGCCGACAAACTCGGCAA
TACCCAAAGTTACGAACGGTATCAGGAAGCCCGAACCCTGCTGGAGGCCGAACTGCAAAA
CACGGACAGCGAAGCCGAAAAAGCCGCCTTCCGCGCATCCCTCGGCCAAGTAAACGCCTA
TCTTGCCGAAAACCAAAGCCGCTACGACACCTGGAAAGAAGGCGGCATAGGCAGGAGCAT
ACTGCACGGGCGGGGCGGCAATCGGCTATGCGGCGGGCGGGAATGTCGGTACGGCGGCA
GTAGGGGCGAATGTCGATTGGAACAATAGGCAGCTGCATCCGAAAGAAACACAAATCCTT
AACAAACTGTCAAAAGGCAAATCGGCTGAAGAACAGTACCGCCTAAAAGCCGCTGCATGT
GCATTAACCCGGTGCGCGGAAGGCGTACCTGACTTCGACCCTCTTTATAAAGGACTAAAA
AACCTCCAAGATGCCGGTAAACAGTTTGTAGCGGAACAAAACGTATTGATGCGGACGGAT
GCATTTAAATATGGAACATGGAACAGCCTGAATGATATACGCAGCAGTTACGACCGTGCT
GCCACCAAAATTAAGGGTGCGGGCAATATGGGATTGGGTGCAACGACTTTTGTCGGTTCG
GGTGCTATAGGCGGAGGTCTGTGCAGTACCGGGATTGGCTGTGCGGCCGGTGGACTTATT
GCAACGGCAGGTATGACCGGTGGTTATACACAGGCCTCAGAAGGAAGCCGCCAATTGTTT
GGCACTTACCAGTCCGATTTTGGTAAAAAAGTTGTCCTATCTTTGGGTACACCAATAGAA
TACGAATCGCCGTTAGTATCTGATGCGAAAAATCTAGCCGTATGGGGATTGGAAACGCTG
ATTACGCGCAAATTGGGAAACTTGGCAACGGGTGTGAAAACTTCCTTGACTCCGAAAACT
GCTGACGTACAGCGAAATATCCTGTCCCAATCCGAAGTCGGTATCAAGTGGGGCAAGGGG
```

```
ATTGAAGGACAGGGAATGCCTTGGGAGGATTATGTCGGTAAGGGCTTGTCTGCCAATGCA
AGGTTACCTAAAAATTTTAAAACATTTGATTATTTTGATCGTGGTACAGGCACGGCAATC
AGTGCCAAAACTCTGGATACGCAAACTACGGCACGCCTGTCCAAACCCGAACAGCTTTAC
AGTACCATGAAAGGGTACATCGATAAGACGGCAAATTTCAAAAGTTATGAATTATCAGAA
```
5
```
GTACCGTTAAGGGCAGACATGATCAAACAGCGCGAAATCCATCTGGCCATACCCGCACAA
ACTAATAAGGAGCAAAGATTGCAGTTGCAACGTGTGGTAGAGTATGGCAAAAGTCAAAAC
ATTACAGTCAAAATTACGGAGATCGAATAAATGACTTTCAATCAAGAACAAGATTATTGG
GCTGGCTATAAGGCAAATGAAAGAGCCTTGATTATTCAAACATGGTCAGGATTTGGGCGA
TATGCTCCAGACCACCTATATCCCCCCCATATCCTGCCATTGGATACCGACAATGAAACT
```
10
```
TTAGGCACAACGGTCTTGCAAGCATTGGCAAACAGCAGGACTTTCGTTTATGACAGTCCA
GAAGACCAAGATTTTTTTGATACCGAAAAAATTCGGCAACGCTATGAGGATTGGGTTGCC
AAGCTATGCGGGAACTTGGGCTATAAAACCAGACGCGCCCTATTTAAAAACATGATGAGC
GTAGATATTTGGCTGCACAACGGCTGCCTGAAAATCAGCCCGAGCCGCCATGTCAAGCTG
GAAGCGTGGGATGCCATTGATGCAGACGATGTAATTTTATCATTGGATAACAGCCCTGAA
```
15
```
GAAATCGGAGCAGGTTTAAAGTTGGCATTGAGCCGCTGCCGATAATATTACAAAAGGTCG
TCTGAAAGCCGGAAACTTTTTTCATTAGATAATAAATTAAGCACGCATGCGGTTCTCAAG
GTCTAAGCCAAGAGGCCGTCTAAAAACAGAAAAACCGTTTCAGACGGCCTTATATATTGC
GTCCCTAAGAAGGGACGATTAACAAAAATTAACGTCCTTTACTTTCTACAAGTAACAGGG
CTTTTTTTTGCCCGTTTTTGAGGATTCGCACCATGGAAGATAAGCAAGGGATGACAAAGG
```
20
```
CGGTTGCCGGCGTGATGACGGACGCGCTAGCGGACGGCAGGAAGCCGACAACCGCTTCAA
ATCTTCCCCCCTTATCTAACAGGGGGGGACAGAAACCGAAACGGCAGGCAGGGTTCAGGA
AGTCTTCGAATGTTACGAAACGTACATAACGGACGGTAAAGGAAACCTGTTAGGCGTTCC
TCTTCGGCGCGGTGTATCAGATTCGGCTTTCATTGATCAAATTAGCTTTTCATTTCATGA
AAAAACCTTTTTCGATAAATACGGCGTTCGTGTAAGTCTTTTGGAAGACGAAGATTTTAT
```
25
```
TCGCGCCGCGTCCATGCTCGCCGAAGAAGTTTTCGGTTTCGGTATCTACAAAGAATCCAA
AGGTTCGGGCGGTCGTTTCTATGAGCGCTGTTGGTTGATGGGTTCGGAAGACGCCCTATA
CGGTCGCGTCCATTTTGGCGGCCAACAAAATACCATTCTTTTCGAACTGACCGGCACCGG
TTGCGGCGTCGCAAAAGAAGGCTGGGAATCACGACTTTTCGCATTCCTGACTAATGCAAT
CCGCCCAAAAATCACACGCGTTGACATCGCAAAAGACTTTTTTCAACGGCGAAT
```
30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 20>:

gnm_20

```
TGTTAACTGTTTAATCCTAACGTCAAATATGCCGTCTGAAAAGCCGAAGCCGCGCACAAA
sGCAAAAACGGCACGGATAAACCGTGCCGCAGCAACCGGGGCGTGTTCAGACTTTGCGGT
```
35
```
AGGGATTTTCCAAACCTTCAATCAGCGCGAGCAGGTAATCGCGCAACTGACGTTCGCCGC
AACCCATCAGCAGCGCGTCTTCAAACGCGTCTTGTGCCGTCTGATACAGCTCGGCCATAT
TTTCGGACATCACTTTGACCTTTTCGGTACAGGACACGATCTGTCCGTCATCGTCGTACC
ATTTGGGCATTTCGGGCATACTCATTGCGTATTCCTTGGGAAATCAGTTCAGAAAGCGGG
ACGGGTCGTTTTTCTTGACCCGGCGGGCGAACGCGTATTTGCCGCTCCAATATTTGTGGC
```
40
```
TCAGGCTGGTGATTTCGATATTTTTCCCCGTGCGCGGCGCGTGGATGAAGCGGTTGTTGC
CGATATAAAGTCCGACATGGGAAATGCGGCTGCCGCCGAGCGTGCGGAAAAACACCATAT
CTCCGGGCTGCAATTCGCTTCGGGCAACCGGCGTACCCATCCGTGCCTGTTCTGCCGACG
TGCGCGGCAGGTTGATGCCCATGGCGCGTTTGAAGATGTGCTGCATGAAGCCGCTGCAGT
CAAAACCGGTAGAAACCGATGTGCCGCCGTAGCGGTAGGCAATACCCAAAAGTCCCATCG
```
45
```
CGTTGCCGATGAGTTCGTCGGCATTGCCCGCCCGCCGGGCGGGGGCTCGGTTGACGGGTA
AAACGGGCTGTTCGTTAAGCCCCATCGCGTTGCCGATGAGTTCGTCGGCATTGCCCGCCC
GCCGGGCGGGGACTCGGTTGACGGGTAAAACGGGCTGTTCGTTAAGCCCCATCGCGCTGC
CGATGAGTTCGTCGGCATTGCCCGCCCGCCGGGCGGGGGCTCGGTTGATGGGTAAAACGG
GCTGTTCGTCTTCGGCAAACTGTCTGAGAATCTGCTCGCGGCTGCTGAGCArGTTGGTCA
```
50
```
ACTCGTCGGCAAGGGCGGGGCGGACGGCAAACATCAGCCACAAAACCGCCCAAACTGCCG
GTTTGAAAAAGAATCCATATCGGTGTTTCCGCGCAGGAGGCATCGTGCCGCCGTGCGAT
GTTATGCTGTATCAGTCGAAAATATCTTGTTGATTGTATATAAAAAAACGGCTGTTTGGC
AAAAAACGGCTTGTTAGATTGAGTTAATATGTTGATTTTTATATAATTTATTGATAATTT
```

```
GGGAAGCGCATCCGCCGTCCGTCTTGTTTTCGCGCCGACCGCAACCATATAGCCGCCATC
CGAACAATCAGTCAGAGAAAATCATGAATCAAACCGCCATCAACCGCGCCGATGTGCGTA
CCCGCTTTATCTTCGACGATATGCCCGTGCGCGGGCTGCACGTCCGTCTGGAAAACGTGT
GGCAGCACATTGTAAAACAGAAAAACTATCCCGCCGCCATCCGCCGCGCTTTGGGTGAGT
TGTTGGCGGCGGGTGTGTTGCTGTCGGGCAACCTCAAAAACGAAGGCACGCTGATTGTGC
AGGTTCAGGGGCGGGGGCGGCTGAAAATGCTGGTTGCGGAAGCGGCTTCCGACCGTACCG
TCCGTGCAACCGCGCGTTGGGACGAAACCGCAGAAATAGCCGATGACGAAAGCCTCGGCG
ACCTTTTGGGCGAGGGCGGCGTATTCGTGCTGACGCTGCAGCCCAAAGACGGCGAACCCT
GGCAGGGCGTAGTGCCTTTGGAAGGCGGCGGTATCGCGCAAATGTTGGTGAACTATATGA
AACGTTCCGAACAGCTTGATACGCACATCGTCCTGTCTGCAAGCGACGAAGCGGCGGGCG
GTCTGCTGGTGCAGCGTCTGCCTGAAGAGGTATTGGATGAAGAGGCATGGGAACACGTCA
GTACGCTGGCGCGCACGCTGACGGCGGAGGAGCTGGCAGGACTGGACGCGCAACACGTTT
TATACCGCCTGTTCCACGAAACGCCGCCGCGCGTGTTCGAGCCGGAAACGTTTGAATTTT
CATGCACCTGTTCGCGCGGCAAAGTCAGCGATATGCTGTTGATGCTGGGCGGGGAAGAAG
TCGGCGGCGTGGTGGTGGAACAAGGCAGCATCGAAGTCGATTGCGATTTCTGCCACAGCA
AATATGTGTTTGACGAAACCGATGTCAACGCGCTGTTCGGGGAGGATGTGGTCGGCGTTG
CCAAAGGGCTGCCCCGGCATACCGTCCAATAATCTTGTGCAACAAGGATAAATAGTCAAA
TGCCGTCTGAAGCAGCTTCCGCTTCAGACGGCATTTTTGCGCGGGTTCAGACGGCATTTA
AAGCAGGAATAGGGTGGCGAGCCCCAAGAAAATCAGGAAGCCGCCGGAGTCGGTAACGGC
GGTAATCAGCACCGAGCTGCCCAGTGCGGGATCGCGTCCGAACTTTTCCATTACCACGGG
AATTAATACGCCGACGGTTGCCGCCAGCAGGAGGTTGAGCGTCATCGCGGCAATCATAAC
CAGCCCGATGCCGAGGCTGCCGTAAAGCAGCCAAGATACTGCGCCCATGACCGTTCCCCA
AATGATGCCGTTGACCAAGGCGACACCGACTTCTTTTTTCAGCAAACGCCCCGCCTGCAT
ATCCGTCAGCTGCCCCATCGCCATCGCGCGGACAATCATGGTAATCGTCTGGTTGCCCGA
GTTACCGCCTATGCCGGCGACGATGGGCATCAGCGCGGCGAGTGCGACGATTTTTTCGAT
GCTGCCTTCAAACGCGCCGATAACACGGCTGGCGAGGAAGGCGGTGCAGAGGTTGACGGC
GAGCCACATCCAGCGGTTTTTCACCGAATCCCACACGGGGGCGAACAGGTCTTCCTCTTC
CTGCAAACCCGCCATATTCAGCATATCCGCTTCCGATTCTTCGCGGATCACGTCCACCAT
CTCGTCGATGGTAATCCTGCCGATGAGCTTTTTGTTTTCATCGACGACGGGCGCGGTAAC
CAAGTCGTAGCGTTCAAACGCCTGCGCCGCTTCTTCCACGTCATCTTCGGCGCGGAAACG
CACGACATCTTTCGCCATCACGTTTTCCACCAAGTCTTCGGGATCGGCGACCAAAAGTTT
GCGGATGGGCAGCACGCCCTGCAGTACGTCGTTTTCATCGACCACAAAAATCTTGTCGGT
ATGGTCGGGCAGGCTGTCGAAGCGGCGCAGATAGCGCAGCACCACTTCACAGGCGACATC
GGCGCGGATGCTGACCAACTCGAAGTCCATAATCGCACCGACTTGGTTGTCTTCGTAGGA
CATTGCCGCTTTGACTTGGGCGCGTTCTTCCTCATCGCGGGTTTGTAGCGCTTCGTAAAC
CACTTGGTGCGGCAAATCGTCTGCCAGTTCCGCCAATTCGTCCGCGTCCAAATCATCGAC
CGCTGCCAACAATTCGTCTTTGTCCATCGACTCGATCAGCGTTTCGCGCACCGCGTCGGA
TACTTCCAGCAATACTTCGCCGTCGTCTTCCGGTTTGACCAGAATCCAGACGATATTGCG
TTCGCGCGGCGGTAGCGATTCCAATACCGCCGCCACGTCGGCAGGGTGCAGCTCGCTCAA
GAGGACGGTCAGCTCGGTCAGCTTGTCGCGCAGCGGCGCGTCTTCGAGCGGTGTACCGTT
TTCGATTTGTTCAAAAGCAGGTTCGAGGATTTCGCAGAGGGAGTGGACACGGTCGAAATC
GGCGGAAACGCGTTCTACATCGTTTTCGATACCGTCGTTTTCAAGGTTCGGAGGGGTTGG
TTCGATGCTCATAAATGCTCCGCCCGCCGTGTGCGGGAGGCATTCCGGCGGGATGGTTA
TTGCGGGTTTGAATCGGATGGGGTGTTCAGTAAAAACGAACTGGGAAGGTCCATAATAAA
AGCCTGACGGTACAGGCGCAGGGTTGGAAACGGCACTATTCTACTCCCTTTTGGAACGGT
TTACTATTTTTAACGCAAATGCCGTCTGAAACGCGGGTTCCAGACGGCATTTTTATCGGC
TTGTTACCAGTTGTAGCCTATTTTGATTCCTGCCTGTTTGTGGCGGGCGGTGTTGCTGTC
TTTGCCGTAAGCGGCATGAAGTTTGGCGTTCCAGCCTTTGTATCCGGCGTCGATTTGCAG
GGTATGCAGTGTGCCGTGGGCGGCTTGCTGCAGTAAGGTACGGTCGTTGACGCTGAGGGC
GGAACCGCTGTTTTGGCGGGTATGGTAGTAATCGCTGCTGAAGGCGGGGGTCAGCTTGGC
TTGACCCAGTTCGACGGTTTTATCGAGACGGATGCCGGCATGCCATGTGGTTTGGATTTG
CGCCGGGCTGTTTATCTCTGCGCCGTCGAGTACGTACCGGTTGCCGTTGCTGCGGTTTAT
ACGGATGCCGGCATAGGGTCTGAGGTTGATGCCGGTATCGATTTTGATGCCGGTGTTGAT
GCCTGCATCCCATGCGTGGCGGCGGACGGCAGCCCCGTCATAATCGGTAAATCGGGTACG
GCTGTTGCTGTAGCCTAAATCTGCCGCGGCAAAGAGTGCGCCGTTTTCCCCTTTGACGAA
CAGATGTGCGCCGTTGCTGCGGTTTCGGGCGGATACGCCTTCATCAAAACGGTTGTTTGT
GCGCTCATCGGTTAAAATCGTACCGACACTGAGACGGTCGGTGATGCCGGTTTGGATGCC
```

```
GATATGTGCATAGTTGGTAGTTTGTTGGTAGGGACGGTGTGTGCCGCTATGGTAGTCGGT
TTGTTGCGTACCGGTTTCCAGCCAGATGTTTGCTGCTGCGGATCGGTAAGGTGGCGGTC
GATGCGGCGTCCCGCCTGTTGCCGGCCGGTATTGTAGGCGGCCTGTTCGGAAACGGCGGT
GTTGGCCGACCGGCTGATCAGTTCGGCCAGGTTCGGCATACGGATGCCGGCAACGCCGGT
TTTCAAACTGTGGATTTGTCGGGACAGACGGTTGAGTGCGTTCAGGTAGGCGTGCCGGGC
TGTTTCGACGGCTTGCGCATCGCCGCCTTGCCGTGCTTTGTCAAGTTCGGATTCGGCCAT
TTCTACACGTTCTATATACGTATCCAGTTCGGTTTCGAAGAGTGTCAGGTCGTTCGTGTC
GGCGGCTTTGGCAACCTGACGGCAGATATCGGCACTGTATCCTTGTGCGGCACACAGGTT
TTGGGCACGCGTCAGAATGCCGGTCAGCGGGTCTGTCTGTTTCAATTGGGCGGACAGATA
TTGGACTTGGCTGTCGATGCGGGCAAGTTCGGTTTGACTGTTCTGCCAGGCCTGTAGTGC
CTGCCTGGTCGCGTCAGAGTCATGTTGAACCTGTCTGCTGATGTCGGTTGCCTGTAATTG
GTTGTATGCCTGTTGGTTGCGCTCATGTTCCGCACGCGTGGCTTCAATTTGAAGTTCGGC
CTCTTTGAGCGGGTTGTACAGGCTGTATCCGTTGTTGTTTTTGCGGAGGATGTAGCGGTA
GGCACCCAAATCGGCATAGCCGTTTTGGAGGGTGAATCGGGCTTGGTGGCTGTGTTTCGG
ATTGAGGCTCACAAGTGCAAGCGATTCGGTTGTTTGAGGTTCTTGTCCGGTGTTTTTGAC
GTGGATTTGGAATGCGCCGCGGCTGTCCCCTTCCAGTTTGAGGGGGGGGGGCATTTTGTTT
TCGGACGATGCCGGTCAGGAATCGGAATGTGCCGAACCCGTCAAGTGTGCCGTTGACGGT
CAGTGTGTTGAAGCGGTTGTTGTGTGTATTATTGGCGAAATCGGGGTTCAGGGTAATTTG
TGCGCCGTCAAGCGTCAGTGCGCCGGTGTGGCTGGACTGGGAAAGTGTCCAGTTGCTGTC
TGCTTCCATGCGGACTGCGGTGTCTTTGCCGGCACGGATGCTGCCGTACAGGTGTGCTTT
GCCCAGGCGGAGCTCTGAACGGTCGTTAAGGGTAATGTCGCCGCGTACTTGCGTTGCAGG
TAGTGCACGATAGTTTTCGGCTTTTAAAACGGCGTTGGGTGTGCAGTGGGTGCTGCCGCT
ATGGTAGGAGCGGTAGCATTCCGGTGTTTTGCCTTGGGTAAAGCCGAGGTCGATGCCGGA
CAGATCGTATGCGGTTATGTCGCCGTCCAGATGCGCGGTATTGCGCCCTGCCGTCAGTCG
GGCATGGTTTCGCAGGGTGAACCGTGCAGCCTTGAAGCTGCCGTCGGTCCATTCGTTTTC
AAGAACGGGTTCGCGTTTGGCCTGGTGGTCGTAGGCATGGGGTACGGGCCTGCCTGACAC
AATCATATTGCCGCCCTCAATCAAGACTTCCCCGTTAAGGTTCATGCCGCCGTTGAGCAA
CAGCGTGCTGTCGGTGCGTTTGGGACGATAGTGCAGGTTGAGTGCGCCGTTGTAACGGTA
TTCGGGCCGGCCGTATACGGCGGCATTTGCGATATGGCGGGTTTTTTCTATGGCTGCTTC
ATTGGTTTTGCTGTAACTCGGCGCGGCTTTGCCCGTTTGCGCGTTTTCACCCAAGTATCC
GCCGAAGGTAATCAGGTCGGGGCGGGCATTTTCGGCTTGGGCGACTTGTTCGGCGGCCTG
TTGCCTGTTGTTGCCGATAAATTGCCAGCTTGTTGAGTTTTTCATATTTAACGGGAAAAA
TTCGCGCGGGTTGCCGCCGGGTTTGAGTATGAAGTAGTCGGTCCGACGGTTGCGGTGCGG
GTTGATGTATTCGTAAACCGCCGCGTTGCCTTGCGGACGGTTGCCCCATTGCACCCACTC
GACATGCTCGGGACTGAGGACGGGGTTGCCGGTCAGCGTCAGTGTCGCGGCTTGGTCAGG
GTTGTGATTGACGATTTGCGCGCCGCCGTCCGCATGGCGGATATGGGTAAAGGCAAGGTT
GTTGCCGTTGAGGTCGAGCCGTCCGCCCCTGAAGCCGAAATAGAGGTTTTCGGGTTTGAT
TTGCTGGCTGTCGGCGAGGACGGCCGTGCCCCTGCCGCTGGTGATGCCGACTTGGTTGAA
TGCTTGTTTGCTGCCGTCTGAAGCAGCTTTTTGGGCGAGTACGACAGTGCCTTCCCCGAT
GCTGATGTCGCCCTGGTTGATGCCTTGTCCGTTGGCGATAAGCGTGCCTGCGCCCAGTTT
GGAGAGCCGGTCGCCTTTGGGGTTGCTGACTTGCCAGAAGACGCGTTTGCCGTCGGCTAC
GATAACGCCTGCACCTTGCCATGTGTGGTTTTTACCGACGACGGTGAAGTTGCTGTCGAA
CTGCAATGCGCCTGCGCCTTGGTTGATATTGTCTGCCAGCATCAGTGTTTTGTTGTCGAA
CCTGCTGGATAGGATGAGCGTTTTGCCGGCATCTTCAGACGGCATGTGCCTGCTGTCGTT
TTGTGGGGCAAGCGAAGGGTTTGCAATGGGCAGGGTGATGCGTTCGTTGAGCCCTTGCAG
GGTGCTGTTGCCATTACCGTTGTCGCGCCATATGAGTTCGTTGGTGGTCAGCCCGACATC
CAGCCGGGTTTCGTATTGGCGGATGGTGGAACGGATGAATTCGGGTTGCGTGACGATGTA
TTTGTTGAAGAAATTATCGAAGCCGGCGTAGGTGCTGAGTACGCCCGCAAGCACCCAGCG
GTTTTCATGCTTGTCGAAGGCAAACAGGGGGGAACCGCTGTCTCCGGCGATTGCGTAGGT
GTTAAGGGGTTGGTCGGTCAGGCTGCCGCCGACGAGTAAGCCGTGGTTTTGGAACCCCAA
TACTTTCAGCGGCGTGCCGCCGGTCAGGTATTGGTATGCCGGGGCGGTTCGTGTACGCGT
GCCGTCTGCTTTGCGGACTTGTTGCGTGCCTGAGCCGAGTCGTACAAAGTAGGGGAAGCG
GTCGGTATCGAGGTAGGCATTGGCCTTTGGCTGGCCGTTTCCAAGCAAGGGTACGCTGCT
GAGTGCGGTAGGTGAGATTTCGGTAACCAGTTTGTTGAGGCGGGGAAGGTGGTAGTCGTA
GTCCGGGTGCGGGTTGCGTGATACGAGGCGGTAGGTATAGGCTTGTTCTTCTGGATTTTG
GGTGTCGTTGCCGAATTGTATGGAACCGTAGCCGACGTTGTGTTTGACACTGTTGACGTA
TTGGGGGTGAACCAGGGTGGCGATGGCGGTTTGGCGGTTGCTGACGCGGAACTCGGGCAT
```

```
GGGGATGCCGTTGAGAACCCTGCCTAATATTTTGCCTTGCTTGTCTTGGATGGAAATATT
GCTTGCACCTACGGTGAACGCGCCTTTATTTTCGGCAAAGTCGCGAAAATATTGGTAATC
GACATCGTTGCGGACAATGGATGAGTAAGCAGGGGAAACGGCAAAAAGACCGAGGGTGGA
CAATACGGAACAAAATGGGGTGGTGTGTGTGAAGCGCATGATGATTATCCGTGTAATAGA
GAAAATCAACGATTCTTGCGGACAAGAATCACCGATCCCGTTTTGTGCTGGATTTATATA
GTGGATTAACAATATAGTGGATTAACAAAAACCAGTACAGCGTTGCCTCGCCTTGCCGTA
CTATCTGCGGCTTCGTCGCCTTGTCCTGATTTAAATTCAATCCACTATATTATATATTTT
GTTTTTGTTTGATTATAAGGCAACGGTGTCCTTTCGTCTATTGGCGATGATTGTATGATT
TTATTTAAGATTTTAATAAAAATCCTAGGAATGGCTGCGTTTTCCCGTTGTTTTATTTCG
TCCGGTATTGGTTTTTAAGTTCACGCAGCGCGACAAAGGTATCGAGGCTGCTGTTTAACG
TTTTCCCGCTCAATGCCTCGGCGCGGTCTCTGACGTGCGGCAGGTCGACGCGCAAAAACG
GATTGACGCGGCGTTCGTGCGCGAGGGTAACGGGCAGGGTAGGCGTATGCGCCGCCGCTT
TCAGTGCCGTCTGAATGTCGGCGTTGTCCGGCTCGATATGGGCGGCGAAACGCAGGTTGG
CGGCGGTGTATTCGTGCGCCGGATAGAACAGGGTGTTTTCAGGCAGGCGGTTGAAGCGTT
GGAAGCTGTCGTAAAGCTGTTCGATTGTGCCGGTAAACACGCGTCCGCAGCCGGCGGAAA
AAAGGGTGTCGCCGCAAAAGACGTGTATGCCGTCTGAAGTTTCGAGAAGGTAGCTGGTGT
GGCGGTCTGTGTGGCCGGGTGTTGCCCAAACGGTAACCTGTCCGTCGCCGAAGGTGAATT
GGGTGCCGGCGGTTACGGTGTGGGTTGCTGCTTCGATGTCGGATTCGCCGTAAACGGGCG
ATTCCATGTAGCCGCGCCAGAGTGCCGCCGCACCGCCCTCGTGGTCGGGATGGGGGTGAG
TTACCCATGTTTGGGCAAGCATGAGGCGGTTGCGGACGAGGAATTCCAAGACGGGCGAGG
GTTCGGAAGGGTCGACGCAGACGGCATGGTTGCCGTGCTGTATCATCCAGATGTAGTTGT
CGGTTAGGGCTTTGACGGGGGTGATTTTCATGAGTGTTCCTCGGTGGACGGATACCGTTT
AAAGGATGGTATGCCGGAACGCCGTCTGAAATATTCTTCAGACGGCATTGGTTTGAGTAG
GGCGGTTAGCCCAAGGCTTTACGTGCGCCGGCAAAGAGGCGGTACCAGCCGGACAGTTCC
GTCCAGCCTTCCGGTTTCCAGCTCATTTGCGCGGCACGGTACACGCGTTCGGGGTGGGGC
ATCATGATGGTGATGCGGCCGTCGGCGTTAGTAACGCCGGCGATGCCTTGAGGCGAGCCG
TTGGGGTTGAGCGGATAAGTTTGGGTCACTTGGTTTTGTCCGTCGATGTATTGCAGCGCA
ATGCCCAAATCGGCGGAAATATTGCCGCCGTGAAGCGCGAAGTCGGCGCGGCCTTCGCCG
TGGCTGACCACGACAGGCAGGCTGGAGCCTTGCATTTCGTTCAGAATCAGCGACGCTGAT
TTCGGAACGTGAACCATGCTCAGGCGTGCTTCAAACTGTTCGCTCAGGTTGCGTTTGAAC
TTCGGCCAGCCTGCCGTGCCGGGGATGATTTCGGCAAGGTTGCTGACCATTTGGCAGCCG
TTGCACACGCCCAATGTCAGCGTGTCCGGGTCGGCGAAGAAGGCGGCAAACTGGTCGCGC
AGAGCAGGGTGGAACAGAATCGATTTCGCCCAGCCTTCGCCCGCGCCGAGTACGTCGCCG
TAGCTGAAGCCGCCGCACGCCGCCAGCATTTTGAAGTCGGCGAGGTGGATGCGGCCTGCC
ATCAGGTCGGACATATGCACGTCGTAAGCATCGAATCCGGCGCGGGTAAAGGCGGCGGCC
ATTTCGATTTGCCCGTTTACGCCCTGTTCGCGCAGGATGGCGATTTTGGGTTTCGCGCCG
CTGTTGATAAACGGCGCGGCGATGTCTTCGTTCACGTCGAACTTCACGTCGGCAAACAAT
GCGCTGCGTTCGTTGTCGCCAATCAGTGCGAACTCGCTGTCGGCGCAGGCAGGGTTGTCG
CGCAGGCGTTGGATTTGATGGCTGGTTTCTTGCCAGGTTTGTTGCAGTTTGATTAGGTTG
TCAGAAATAAGGTGCGTTTGCCCGTCGCGGATGATTAACGTGTTCTCATCAGTTAACGTA
CCGATTTCAAAGACATTATGATGCAGCTGTTGTTGATAGAATAAATTGATAATATCGGCA
ACATCTTGTTTTCTAACTTGGATAACAGCACCCAACTCTTCATTAAATAATGTGCGGGCA
ATGGTTTCTTGCCATTCAGCCAACGCTTTTACCTCTTCAGTCCGCAATGATTGAGACAGA
GCGGTATGGTTGGTAATAAATGTTTGTGCAAGCAATAAATTTAAATCTATATCCAAGCCG
CACCGCCCCGCAAACGCCATTTCTACCAAAACGGCAAACAAGCCGCCGTCGCTGCGGTCG
TGATACGCCAAGAGTTTGTTTTCGGCAACAAGCTGCTGAATCACACTGTAAAAGGCTTTC
AGACGACCTGTATCGTCCAAATCGGGCGCGTCGCCGCTCATATTGTTGTACACCTGACCA
AACGCCGAACCGCCCATACGCGCTTTGCCGAAGCCCAAATCGACAAACAACAATACGCTG
TCTTCGACGTTTTTCAACTCAGGCGTAACAGTCTTGCGTACGTCTTTCACAGGCGCGAAC
GCTGAGATAATCAGGCTCAACGGTGAAACCACGGATTTTTTCTCCTCGCCGTCCTGCCAA
ACGGTTTTCATCGACAGGCTGTCTTTGCCCACGGGGATGCTCAAATCCAATGCCTGACAG
GCTTTGGAAACGGCTTCGACAGTGCGGTAGAGTTTTTCGTCTTCGCCTTCGTTGCCGCAC
GCCGCCATCCAGTTGGCGGAGAGTTTGATGTTGCCGATGTCTCCGATGTTGACCGCCGCG
ATGTTGGTGATGGCTTCGCCGACGCACATTCTGCCCGAAGCAGGCGCATCAAACAGGGCG
ACGGTCGGTTTTTCGCCCATAGACATCGCTTCACCGCGATAGGTGTTGAAGCCCATCATG
GTAACGGCGCAGTCGGCTACTGGAGTTTGATATTTGCCGACCATTTGGTCGCGGTGCGTC
AAACCGCCGACGCTGCGGTCGCCGATGGTAATCAGGAAGTTTTTGGCGGCTACGGCAGGC
```

```
AGGCGCAAAACGCGGTAGGCGGCTTCGGTAATGTCGATATCGCCCGCGTGAAACGGTTTT
TTGGACGGTGCAACCGTTTTGTCGGTGCGCGTGGTTTTGGGCAGTTTGCCGAGCAAGACG
TTCAACGGCAAATCGACGGGATTGTTGGCGAACAAATCGTCGCGTACTTTCAAATGACCG
TCGTCAGTCGCCGTGCCGACTACGGCAAACGGGCAGCGTTCGCGTTCGCAGATGGCGCGG
AAAGCATCCAAATCTTTTTCCAAAATCGACAACACATAACGCTCTTGCGATTCGTTGCAC
CAGATTTGCAGCGGGTTGAGGCCGTGTTCTTCAAGCGGCACTTCGCGCAGCTTGAATACT
GCGCCGCGTCTGGCATCGTTGACCAGTTCGGGGAAGGCGTTGGACAGGCCGCCCGCGCCT
ACGTCGTGGATGGAGATAATCGGGTTTTTGCCGCCGAGCTGCCAGCAGCGGTCGATGACT
TCCTGCGCGCGGCGTTCGATTTCGGGGTTGCCGCGTTGCACGGAGTTGAAGTCCAAAGAC
GCGTCGTTTGTGCCGGTATCCATCGAAGAAGCCGCGCCGCCGCCCAAGCCGATAAGCATA
CCCGGGCCGCCCAGTTGGATCAGCAATGCGCCTTCGGGGATTTCGTCTTTATGCGTCTGC
TGCGCCTGAATGCTGCCCAAGCCGCCGGCAATCATAATCGGTTTGTGATAGCCGCGAACC
TGACCGTCAAATTTTTCTTCAAAAGTGCGGAAGTAGCCCAAGAGGTTGGGGCGGCCGAAT
TCGTTGTTGAACGCCGCGCCGCCGATCGGGCCTTCAATCATGATGTCCAGCGGCGAGGAA
ATATGTTCCGGCTTGCCGTAGTCTTGTTCCCACGGCTGTTTGAGGTCGGGAATATTGAGG
TTGGACACGGTAAAGCCGGTCAGGCCCGCTTTCGGACGCGAACCTTTGCCCGTCGCGCCT
TCGTCGCGGATTTCGCCGCCCGCGCCCGTCGCCGCACCCGCAAACGGCGCGATGGCGGTC
GGGTGGTTGTGCGTTTCCACTTTCATGATGATATGCGTGTCTTCCTCGTGGAAACGGTAG
CCTTGGTTTTCCGCCGCATTCGGATAGAAACGCTCGATTTTCGCGCCTTCGATTACGGAC
GAATTGTCTTTATAGGCAACGACCGTGCCTTCGGGATGCGCGTTGTGTGTGTCGCGTATC
ATACCGAAGAGGGATTTGGGCTGCTTTTCGCCGTTGAGGATGAAATCGGCGTTGAAGATT
TTGTGGCGGCAGTGTTCGCTGTTTGCCTGCGCGAACATCATCAATTCAACATCGGACGGA
TTGCGCTGCAAAGCCTGATAGTTTTCGACCAGATAATCGATTTCGTCGGCGGAAAGTGCC
AAGCCCATTTCGGTATTGGCTTTGACCAAAGCTTCTTTACCGCCGCCCAAAACATCGACG
CCGGAGAAAGTTTCGGATTCGAGATGGTGGAATAATTTGGAGGCCGTCTGAAAATCGGGC
AGCACGCTTTCGGTCATGCGGTCGTGCAGCAAAGCCGCCATTGCTGTTTCTGTTCATCG
TTCAGACGACCTTCCAGCCACACCGCCATACCGCGCTCGATGCGTTCGATGCCTGCCAAA
CCGCAGTTTTCCGCGATATTGGTCGCCTTGGAAGCCCACGGCGAAATCGTACCCAAACGG
GGCGTGACCAAAAACAAATGCAAGCCCTCGCGCGCTTTTGGCGTTTGTTCAACGCTTTGC
GCCGCCAACAAGGCTTGCAGTTTTTCGACAGTCGCGGCATCAAGTGCTTTCTCGCTGCCG
ACGAAATACCAAAATTCGCTGCTTAATTTGACTTCGGGCAGACCGAGTGCGGCGGCTTTT
TGCAAGAGTTTTTCAACACGGAAATCGGAAAGGGCGGTAACGCCGCGCAAGGGCAAAACG
ACAGACATGGATTCGGCTCTCAAATGCGGTTGGAAAATCTGTCATTATACGCGCAACGGG
GCTGTATTGCTTGGGTATTTTGGCTTAAAATGTTGACAATCTGACGGGAGGTTCCCGTTT
TTCGGATGTGTTTGTATTGTTTGTTCAAAGGAAATTTTATGAAAAAAATCGAGGCGATTG
TCAAACCGTTCAAACTCGACGACGTGCGCGAGGCGTTGACGGAAATCGGCATTACGGGCA
TGACCGTCAGCGAGGTCAAAGGGTTCGGCAGGCAGAAGGGGCATACGGAAATCTATCGCG
GCGCGGAATACGCCGTCGATTTCCTGCCCAAAATCAAAATCGAGCTGGTGTTGGCGGATG
ATGCTGTGGAACGCGCGATTGACGTGATTTCGAGGTGGCGCGTTCGGGAAAAATCGGCGA
CGGCAAGATTTTTGTGCTGCCGGTTGAGGAGGCAATCCGTATCCGCACGGGCGAACGTTC
GGACGCGGCAGTCTGACGGCCGGATAGAAAATAAAAACCGCAGCCTTGCAGGGCTGCGGT
TTCTTTATCGGGAGATGCTGCTTACCACTCGTAATTGACGCCGACATGGTAGGCTGCGGA
AGAACCGGACGAAGTGCCGACTGCCACGCCTGCTTTGGCGGCAAAGTTTTCGGTAAAGCG
GAAGCCGGTACCGATGGCGACTGCCGATTCGGATTGTAGCCGCCGACTGCAGCCGTTAC
ATTGAACCGACCCACGTTGTAAGGTTGGAACAGGCCGGAGAGCGCGGCTTGTTCTGCAAG
GCCTTGGCGGGTTTCTTTGCGCAGATTAGCTACGTTTTTGTCCAAGCTCGATGCGTGC
TGAGTTTTTAGCAATATCAGCTTTGTTCGTAGCGATATCAGCTTTGATGTCGGTAACTTT
TGCAGCGACAGCTTCGGCCTTGTCGGCTGCAGTATTAGCTGTGCCAGCGGCAGCTTCGGC
TTTGCCTGCTGCAGTTTCTGCAGCTTTTACTTTGGCATCGACGTTTTGTTTGGTTTCTTC
GGCCGTCTGTTTGGCTTCATTGGCGGTTTTGACGGCTTCGTCTGCCTTAGTGTTGGTTTC
ATCCAATGAATCGGCGATATCGTTGAATGCTTCGGCATGCTTGTCGACGGTATCAGCCAC
GGCTTCTAATTTTTCATCAATTTTTACGATATTTGTCTTAGTCTCTTCAGCAAATGTCGT
TATATTTCTCCCAATTTATTCAAGGCGTTGGTGGTTTCATCCAGAGCGGCATCAGTATC
TGCTAAAGCGGCATCAGTGTCTGCTAACTTGGTTGTTAACTTTTCTATTTCAGATTCTGC
AGCTTTTACTTTGGCATCGACGTTTTGTTTGTTTTCATTGACGGTTTTGGTCAGGTTAGT
CACGACTTTTTTCAGACCCAGACCTTTAAAGTCGTCGGCTTCAACATCGGCTGCAGTTGC
GTCTTTTTGGGTAATTGTGCCGTCTTCACCAATGTCGTAGATGGTCTCTCCAGCTTTGAA
```

-240-

```
ACCGTTGATTTCTTGGCCATTGTTGTAGGCAGCAACAATGGCCACAGTGGCAGCTTTTTT
AACATCGTCGTCGCTTGTGGCTGCCAGTGCGCCGCTACAGAAAGTGGCAAGGATGGCTGT
GGTCAGTACTTTGGCTGGAAAGTGTTTCATGCTCATTACCTTTGTGAGTGGATAAAAAAT
GGGGCGGAAATCTTTTGTAAGTATTTTATCCCCACCAAGTTTGTTTACATATTAAAGTAT
```
5
```
ATATGAAAGGAGGCATATATACAATACATTGTCGCAATTTATTTATTTATTTATTTATTT
ATTTATTTATTTAATTCTTGCAGTTAGGTAGTTCGGCATTAATATCTGTTAATATGTGCA
TATTATGCTGATGTCAATTCTGCCGGTGTCGTGTCTTAATTTTGTCAGGATATGGGTTGC
CGTCTGAATGTTCAGACGGCCTTTTTGTCGGATTTAGATATGGTGGATAACCAATTTTTT
GCCTTCGTAATCGAGGACGTCGACGTCCATATCGAATAGGGTTTTGATGTTTGCGGCGGT
```
10
```
GAAAATATCGTTGGGTTTGCCCTGCATGGCGACTTGGCCGTTTTTCATGGCGACGACGTG
GTCGGCGTAGGCTGCTGCCTGGTTGATGTCGTGCAATACGACGACGGTGGTGCGCTTGTG
TTCGTCGGTCAGCCGGCGCAGGATTTGCATGAGCGAGCGGGCGTGATACATATCGAGGTT
GTTCAGCGGTTCGTCCAAAAGGACGTAGTCGGTGCTTTGGCAGAACACCATCGCAATCAT
GGCGCGTTGGCGTTGGCCGCCGGAAAGCTCGGTCAGGTAGCGGTCGGAGAGGTCTTGCAG
```
15
```
GTGGAATTCTTCGATTGCACCGTTAACGATACGGCGGCATTCGGCAGTCGGTCTGCCTTG
ATGGTAGGGGTAACGGCCGAACATCAGCAGGTCGCGCACGGTGATGCGGCTCATGATGCT
GTTTTCTTGGGTGAGGATGGACAGGGTTTTGGCGAGTTCGGCGGTGGGGGTATCGGCAAG
ATTTTTGCCTCGGTAGGCGATGCTGCCGCTTTCAAGCGGTCGCAGCCGCGCCATAAAGGA
AAACAGGGTGGATTTGCCCGCACCGTTGGGGCCGACGAGGGCGGTAATGCCGCCTTCGGG
```
20
```
GATGTCGAGGCTGACGTTGTCGAGGATGGGGCGTGTGCCGATGCGGTAGCTGACGTTGCG
GATGGTAATCATGGCGGATGCTTGTCGGGCGTAGGTTTGTTGTTGTTTGGCGGGGTTCAG
ACGGCATTTGAAATTCGGAATGCCGTCTGAACGCTCACACTTCGCGGACGATGACGAACT
GCGGGTCGTCCGCCGATTCGGTTAAAAATGCTTTAACGCGTGCCTGCCAGAGTTGTCCGA
AGCGTTCGAGTTCTTCTGCGCTTGCGCTGCCGCTGACGGCTTTGGGCATGATGTCGCGCA
```
25
```
TTTCGGGTGCGAAGGGTTGCAGGGCGGCGTTGAGGCCGACGGCGACGGTTTTGCCGTTGT
CTTTGCGGCGCGGTGCTAATGGCACAGGGAAAACAAGATTAGCTGTTTATATTGAAGAAC
AATTAAAGGAAAAAGCACACAGAATT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 21>:

30 **gnm_21**

```
ACATATTTAGCCAAAACCTTATTCAGCAGCATAGTCATACwCCACGACCAGCGGtCGCAT
GGTCAGAAAATTTTTCATCTTTATAAACGTGTGCGGACACGGCTTTGGCAGCAAGTTCGG
GCGTAACCATCTGATAATCGATGCGCCACCCGACATCTTTCGCATACGCCTGCCCTCGGT
TGCTCCACCAAGTGTAGCCCGGCACATCGGGATAAAGCGTGCGCCACATATCCGTCCAAC
```
35
```
CGAGCTTGTGGATAACCTTGCCTATCCACTCGCGCTCTTCAGGCAGGAAACCTGAATTTT
TCTGGTTGCCTTTCCAGTTTTTCAGGTCGATGTTTTGGTGGGCGATGTTCCAGTCGCCGC
AGACGACAATGTCGCGCCCTTCGTTTTTCATCGCTTCGAGCATAGGGTAAAACGCATCAA
GGAAACGGTATTTCACCTGCTGGCGTTCTTCCGCGCTGCTGCCGCTGGGCAAATAAAGCG
AGATAACGCTCAACCTGCCGAAATCGCAACGCACAAACCGCCCTTCCCTGTCGAATTCTT
```
40
```
CAATGCCCATACCGATTTGCACATTGTCGGGTTTGCGTTTGCTGTACACCGCCACGCCGC
TGTAACCGCGCTTCTCGGCGCAATGCCAATGACCGTGCATCCCGTGCGGATTTTTCATAT
CGGCAGACAAATCAGCCTCCTGCGCTTTGAGTTCCTGCACGCAGACAATGTCCGCGCCCG
ATGCGGCGATGTATTCGTAAAAACCTTTTTTGTAGGCGGAGCGGATGCCGTTGACGTTGG
CGGAAATGATTTTAAGCATAATAAAAATAAGTTCTCACAATAAAAATGCCGTCTGAACAA
```
45
```
AAAAGGGCAAAATGCGGCACATTTACCCTTTTCGATGGATTTTAACCGCGCCGCCAAGTC
GTGCCGCCGGCGTTGTCTTCCAAAATGATTTTGTGTTCGTTCAGAAGGTCGCGGATGCGG
TCGGATTCCGCCCAGTTTTTATCGGCGCGCGCCTGTTTCCGCCGGGCGATCAAGTCTTCG
ATTTCTTCGTTGGAGAGACCGTCTGAAGCCGCGCCGCCTTGCAGGAACTCGGTCGGATCG
CGTTGCAGCAGTCCGATGATGCCGCCCAAGGCTTTCAGACGGCCTGCCAGTTGCGCGTCA
```
50
```
TTGGTTTTGTTCACTTCGCCGGCAAGTTCGAACAACACCGCCACCGCTTTCACCGTATCA
AAATCATCATTCATCGCAACATAAAAGCGGCGCGTGTAGTCATCGCCGGCTTCAGACGGC
ATCGGATCGGCGGGCGGCGTATTTTTCAAAGTCGTATACAAACGCGTCAACGCGCCTTTT
GCATCATCCAAATGCGCGTCGGAATAGTTCAACGGGCTGCGGTAGTGGGCGCGCAGGATG
```

-241-

```
AAGAAGCGCACGACTTCCGGATCGTATTGTTTCAACACTTCGCGGATGGTGAAGAAGTTG
CCCAGCGATTTGGACATCTTTTCGCCGTCCACGCGGATAAAGCCGTTGTGCAGCCAGTAT
TTGACGTGGCTGGCGATGCTTTGCCCGTGGTGGGTTTGCGCGTGATGATGACCGCAGGTA
TGCCCCGTCGCGCCGACGCTTTGGGCAATTTCGTTTTCGTGGTGCGGAAACTGCAAATCC
GCGCCGCCGCCGTGGATGTCGAAGGTATCGCCGAACAGGTTTTCACTCATGGCAGAGCAT
TCAATGTGCCAACCCGGACGGCCGTTGCCCCACGGGCTTTCCCACGCCGGTTCGCCTGCT
TTGGCGGCTTTCCACAACACAAAATCAAGCGGATCGCGTTTGAAACCGTCCACTTCCACG
CGTTCGCCCGCACGCAGGTCGTCCAACGATTTGCCCGACAATTGTCCGTAAGCGGCAAAC
TCGCGCACGGCGTAGTAAACGTCGCCATTTGCGGCAGGATATGCCTTGCCGTTTTGAATC
AGGGTTTCAATCATGGCAATCATTTGCGGAATGTTTTCCGTTGCCTTCGGCTCAATATCC
GGACGCAACACGCCCAAAGCATCGGCATCTTCGTGCATGGCTTGGATGAAACGCGCAGTC
AGTTTGCCGATGGTCTCGCCGTTTTCAGCCGCGCGGGCAATGATTTTATCGTCGATGTCG
GTGATGTTGCGTACATAAGTGAGCGGATAGCCGCACTCGCGCAACCAACGGGCAATCATG
TCGAACACCACCATCACGCGGGCGTGTCCCAAATGGCAGTAATCGTAAACGGTCATACCG
CAGACGTACATACGCACGTTTTCAGGGTCGATGGGGGAAAAGGGTTCTTTTTGACGGGTT
AGGGTGTTGTAGATGGTGGTCATGGGATTATGGATTAATCTTTGTTGCTCGGATGATAAT
TTCTGTTCTGTTCCTGTAGATACGGACCAAGGAACATTACGTAGTTGCGGATTATTAATA
TGGCTGATATTTGTGAAAATTGGTTCTGCATAACAGTTTGCAAAATTTTTTGTAAATTCT
GATAATTTAAACTTATCTTTTAATAAGTTTGCTAAATCTGATGACGAGGGATAAGTTTA
CTTCTTATACTAGGCATTTCAATATGAAGGACTATTTTTATTTCGTTACAATCTAAAGCC
AAGCGAGAAAAATCTTTTTCTTCCTGTTTTTCTGCTTTAAATTTAGCAGAAACCAATCCT
GCCAATGAATCTCGAATTTTTCTTGCGATTAAATATGGTAGGTCAGAAAGTTTTTCATCT
ATTGATTGGGCATTTGGCTCAAGCCCAAGTCGGTAATAATCTTTAATTTCGATTAGCCAA
AGTGTCGATTCATGAAGGGCTATTATATCTACACCTGAGCTGCCATTATCGTCATCTACA
CTTTGATTTATCCCGTTCTTTCCCTTTTCATTTGTATCAATTTTATTACGTAAATTACAA
CTGTTCTGAAAAATTTTATAATGTTCCCATTCGTCATACTTGGTAACGTAATAATCTTCA
GGAAAAGCAAAGGTTAATCTCTTTTCTGTGATTGTAGTCATAGCTTAACCTCAAATATTC
AGATACCTGTCTGCCTGCATAATGTTTTCATCTAACAATATCAATGTGTTCAAATCATTA
ATACTGTTCCCTTGCTCCACTTTTGTTCCATCATCGGAAGCAATCAACGAGAAAAACGT
ACAGGTAAATCCGTGTTATTTTCAAGCTTCAAAAGTTCCAATTCTCTCAATAAGAATAAA
GAGTGTGTTGCAATAAAAACCTGAATACCCTGTTGAGATAAAGACCAAATAATACGGGCA
GCCACTTTGATCAATTTAGGATTCAGATTAGCTTCCGGTTCATCCCAAAATAGATAGCCT
TTATCCAGCAATGCCCCTGTTGCGATTAACCGGGCAATCATGACAAATTTCCGCAAACCC
TCTGCTACCAAAGGTGCTTCAATCTTACCGCCCGTATTTGTCAGCGATAGATAAAACCTT
CCTTGTTCTTCAGATACTTTTCCGCCCATCGCGTTCTCAATAGGTTCGAGCAATTCTCGA
ATTTTTGTTTCTCTGGGGCCTTTGGCAAGCGGGTGATTTAATTGCATACAGGTATCAAAC
CAAGTTTCTTCGAAAGGGATGCTTTGGTTTTGATACAAAGAAGTGAACCAAGGGCAAAGT
GTAATTAATTCGCGGCTGGGTAAGAAGATAGGTGTCGGAGTATATTCATTTTCTTTCAAT
CCGATGCTTTGAACATTGACTTGCGATGATGAGTTACTGGAAAAATTCAGACTACTATGC
GTAGTGCCGTTTTGCAGTTTTAAAACGATTTCCGTACGCCCGCGCCCCTGCAAACGTTTG
CTCAACCTACCCAAGGAATCGGGACGGAAAACATTCAGTAATTTATCGGCAAAACTTTTT
TGCAATTCTGTTTTCAGTAATCTGTTTTTGGTGTTAGATGTTACTTCTAGCAGGCTGTAT
AAAATTTTTAACAAATGTGTTTTGCCACAACCGTTTTCGGCAACAATAACATTGAGATTT
TCAGAAAATTCAAAAGTATCGTTTGGAAGAACGGTAAAGTTTGTCAACTCAAGCGACTGG
ATATATTGGTTAGATGACATTTTTAATCCATTTCAATCTTGCTTTAAAATTGTTTCAAAC
AACCTTTTGTAGAACAAATATCGTCTGAAACCCTTTCTTTTTTCACTCCGGCTTAAACAC
GCCTGTATCCGTTTTAGGCTGCTGTTCGATAATTTCAACATTTGCCGCTGCTTTCTCCGC
TTCTGCTTTTTCAGCTTCGATACGTTTTTTCTCGGTCAGGTATTGGTTGATTGGTGTAC
CAATTCCTGCGTGCCTTGGTGGGTCAGCGCACTGATTGGAAGAGGCGCGGGTTTCCAT
GTCAAATTGGAAACGGTCGTCGGGTTTGGGGTAGTCCCAGCCGACGGCTTCGAGGAAGGC
GGCAGTGCGCGTTTGGGCTTCTTCTTCGTCAAGCATATCGAGTTTGTTCAGTACCAGCCA
GCGCGGTTTGCCGTAGAGTTCTTCGTCGTATTTGCGTAATTCGTTGATGATGGCGAGTGC
TTCTTCGGCGGGGTTGACGGTTTCGTCGAAGGGCGCCAAATCGACGACGTGCAGCAGCAG
GCCGGTACGTGATAAGTGTTTGAGGAAACGATGGCCGAGGCCTGCGCCTTCTGCCGCGCC
TTCAATCAGGCCGGGGATGTCGGCCATCACGAAGCTGTGGTTTTCGTCGATGCGTACCAC
GCCTAAGTTTGGATGCAGGGTGGTGAAGGGGTAGTTGGCGATTTTGGGGCGTGCGGCGGA
TACGGCGGTAATCAGGGTGGATTTGCCGGCGTTGGGCATACCCAATAAGCCGACATCGGC
```

```
GAGGACTTTAAGTTCGAGTTGCAGGGAACGGGCTTCGCCTTCTTCGCCGGGGGTGGATTG
TTTCGGGGCGCGGTTGACGGACGATTTGAAGTGGATGTTGCCCAAGCCGCCTTTGCCGCC
TTTGGCGAGGCAGACGCGCTGTCCGTGATAAGTGAGGTCGGCAACGGTTTCGCCGGTGTC
GAGGTCGCGGATAAGGGTGCCGACGGGCATTTTGAGGACGATGTCGTCCGCACCTGCGCC
GTAACGGTCGGAACCGTGGCCTTTTTCGCCGTTTTTGGCTTGGTAGCGTTTAACGAAGCG
GTATTCGACGAGGGTGTTGGTGTTTTCGTCGGCTTCTGCCCAGACGCTGCCGCCTTTGCC
GCCGTCGCCGCCGTCCGGGCCGCCGCGCGGTACGAATTTTTCGCGGCGGAAACTGGTTGC
GCCATTACCGCCTTTGCCTGCGGCGACTTCGATTTTTGCTTCGTCGATGAATTTCATTCA
ATGCTCTTGTTTGTTGGTTTCAAATGGGGGGTTCAGACGGATTACCGTGTGTTTTGATGC
CGTCCGAACAGAATTTCGGACGCTATTATAAGGGATAAGCGGTATTTCAACACGCCGTAC
CCAAACTATTTGTTCCGCCCATCTTAATGAATTTTTAAGCAAATCTTCAGCCTGCAAACA
AAATTATGTCCAACTTCTTTGGTACAATCGCGCCTTTTTGACATTCCGACCCGACGGAAT
GTCCGTTCAAACCGTTACATATAATAAGTTTTTTATGAACACAAACCAACCTGCCGTTTA
CGACCCGTTGACACGCGCGCTGCACTGGCTGACCGTTGCCGGCTTCATCGGCATTCTGAC
CACCATTGTCCTGTGGACGATTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAG
CCGCAGACAGTACAAATAGTACGGCAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATC
CACTATACGAAGAGGCGGAATGGGTGGGCAGCCTGTTCGGCCTGCACAAATCTTTCGGTT
TCCTTACGCTGACGGTGATTACATTGCGCATCGTGTGGGCGGTTGCCAACCGCGCCAAGC
GTCCGCAAAGCGACTGCAAGGCTGCGGCGGCAGGCCACGGCATTCTGTATCTGCTCATGC
TTGCTGTTCCCGTTATCGGCATGATCCGCCAATACGGCAGCGGCCGCGGCCCGTTGAAAG
TGTTCGGCGTTGAAGTGATGCAAGGGTTCGCCGGAAAAAATCGAGTGGATGGCAAACTTG
GGCAACACGTTCCACGGCAATTTGGGCTTGCTGCTGTTTGCCGCCGTCGCCGGACACGTC
GCCATGGTCGTCGCCCACCGTGTTCAGGGTAGAGATGTTCTGTGCCGCATGACGGGTCGT
GTCCGCTGATTCCGTTCACACTATGGTGCCGGCTCGTCCGGCACTATTTGTTTTTCCAAG
ACAGAGCCAGATCGTACAAAGCTTTCTTTCCCTCGCCCGTGATTTTGGCAGCAAGCTCCG
CCGCCTGTTTGGTCGGCAGCTCGGCTGTGAGGATTTTCATGATGTTTTGCGCGGACTCGG
ACAAGCCTTCGTGTTTTTCATCCTGCGCCGGATAAAGCACCAACACCATCTCGCCGCGCG
ATTGGTTGCCGTCGGCAGACAATGCCGTCTGAATTTCCCCAACCGTGCCGCTTAAGAACG
TTTCAAACGTTTTCGTAATTTCGCGCGCCAGCATTAATCGGCGTTCGGGGAACAGTTCCG
CCATATCGGCAAGCGTCGCACCGATGCGGTGCGGCGTTTCAAACATGACGATAGGAAACG
CCGCCCGCACCCATTTGGCAAACAGTTTCCTGCGTTCTCCCGATTTCGGCGGTACAAAAC
CGTTGAAATAAAAATCGGATCCTTCCACACCGGCCACGCTCAAAGCCGCCATCACCGCGC
TTGCGCCCACGACGGGAACGACTTTAAACCCGGCCTCACGCACGCGGCGGGCGAGTTTCG
CGCCCGGGTCGCACACGGCCGGCGTACCCGCATCGGAAACCTGTGCCACAACCATGCCGT
CTGAAAGATAGCCGACAATCTTGTCCGCCATCTGCCGTTCGTTGTGTTCGCGCACACTGA
CGAGTTTGCCCTGAATGCCGTACGCGCTCAAAAGCTGTGCGGTAACGCGCGTGTCTTCGG
CACAGATGATGTCCGCCTTTTGCAATACCGCCAAAGCGCGCAGGGTAATGTCCGCCAAAT
TGCCGATGGGCGTGGCAACCACGTATAATGTCCCTCCGACGACGCTGTCGGAGGCTTTCT
GCAAATGTTTCTGAAACATAAGAATGCCGTCTGAAAAACAAACATTATAAAGGTTAAACC
GATTATGCGCCTAAACCACAAACAGGGCGAGGCAGGGAAGATGCCGCGCTTGCCTTCCT
CCAATCCCAAGGCTGCACGCTGCTTGCCCGCAACTGGCACTGCGCCTACGGCGAAATCGA
CCTGATTGTCAAAAACGGCGGCATGATTCTGTTTGTTGAAGTAAAATACCGCAAAAATCG
GCAATTCGGCGGTGTCGCATACAGCATTTCCCCATCCAAATTATTGAAACTGCAACGAAG
TGTAGAGTATTATCTGCAACAGAACAGGTTGACAAACGTACCGTGCCGCCTCGATGCGGT
ACTTATCGAAGGCAGCCGCCCGCCCGAGTGGATACAGAATATTACAGGTTGACGATATGA
CGACATTACAAGAACGCGTTGCCGCCCATTTTGCCGAAAGCATCCGTGCCAAGCAGGAAG
CCGGAAAAGTATTGGTCGAGCCGACCGTACAGGCTGCCGAGCTGATGCTGCAATGCCTGA
TGAATGACGGCAAAATCCTGGCCTGCGGCAACGGCGGTTCGGCTGCCGACGCGCAACACT
TCGCCGCCGAAATGACCGGCCGTTTTGAAAAGAACGCATGGAACTCGCCGCTGTCGCGC
TGACAACAGACACTTCCGCGCTGACAGCCATCGGCAACGACTACGGTTTCGACCACGTAT
TCAGCAAACAGGTGCGCGCGCTCGGACGTGCAGGCGATGTATTGGTCGGCATTTCCACCT
CCGGCAATTCCGCCAACGTCATCGAAGCCGTCAAAGCCGCACACGAACGCGATATGCACG
TCATCGCCTTGACCGGCCGCGACGGCGGCAAAATCGCCCGCCATACTCAAAGACACCGACG
TTTTGCTCAACGTTCCCCATCCGCCGCACCGCCCGTATTCAAGAAAACCACATCCTGCTGA
TACACGCCATGTGCGACTGTATCGACTCCGTACTGCTGGAAGGAATGTAACCCTTTTCAG
ACGGCATGGCGCAAAGCAATGCCGTCTGAAACGCCCAAGAAAGGAAGCACCCGATGAAAC
CCAAACCGCACACCGTCCGCACCCTGATTGCCGCCATTTTCAGCCTTGCCCTTAGCGGCT
```

```
GCGTCAGCGCAGTAATCGGAAGCGCCGCCGTCGGCGCGAAATCCGCCGTCGACCGCCGAA
CCACCGGCGCGCAAACCGACGACAACGTTATGGCGTTGCGTATCGAAACCACCGCCCGTT
CCTATCTGCGCCAAAACAACCAAACCAAAGGCTACACGCCCCAAATCTCCGTCGTCGGCT
ACAACCGCCACCTGCTGCTGCTCGGACAAGTCGCCACCGAAGGCGAAAAACAGTTCGTCG
GTCAGATTGCACGTTCCGAACAGGCCGCCGAAGGCGTGTACAACTATATTACCGTCGCCT
CCCTGCCGCGCACTGCCGGCGACATCGCCGGCGACACTTGGAACACATCCAAAGTCCGCG
CCACGCTGTTGGGCATCAGCCCCGCCACACAGGCGCGCGTCAAAATCGTTACCTACGGCA
ACGTAACCTACGTTATGGGCATCCTCACCCCCGAAGAACAGGCGCAGATTACCCAAAAAG
TCAGCACCACCGTCGGCGTACAAAAAGTCATCACCCTCTACCAAAACTACGTCCAACGCT
GACTCGGCAATGCCGTCTGAACCGCCTTCAGACGGCATTGCCCGACACCCCAAAAGCACA
ATCAAAATGGCAAAAAAACCGAACAAACCCTTCAGGCTGACCCCCAAACTCCTGATACGC
GCCGTATTGCTCATCTGTATCGCCGCCATCGGCGCATTGGCAATAGGCATCGTCAGCACA
TTCAACCCGAACGGCGACAAAACCCTTCAAGCCGAACCGCAACACACCGACAGCCCCCGC
GAAACCGAATTCTGGCTGCCAAACGGCGTAGTCGGACAAGATGCCGCCCAACCCGAACAC
CACCACGCCGCCTCATCCGAACCCGCACAGCCGGACGGCACAGACGAAAGCGGCAGCGGA
CTGCCGTCCCCTGCCGCACCCAAGAAAAACCGGGTCAAACCGCAACCTGCCGACACAGCT
CAAACCGACAGGCAGCCGGACGACGCCGGAACACAAGCTGAAAACACACTCAAAGAAACC
CCCGTACTGCCCACAAACGTCCCCCGTCCCGAACCCCGAAAAGAAACACCCGAAAAACAG
GCGCAGCCCAAAGAAACGCCCAAAGAAACCATACCAAACCGGACACCCCGAAAAACACG
CCGCCCAAACCCCATAAAGAAATTCTCGACAACCTCTTCTGACCCGGCACGGCAGGCACA
CCCGCAATCCAAGGAAGCATTATGAACGGCATCATCATCAAAACCCCCGAAGAAATCGAA
AAAATGCGCGAGCTGGGCAAACTCGTCGCCGAAGCCCTCGACTACATCGGACAATTCGTC
AAACCCGGCGTAACCACCGACGAAATCGACAAACTCGTTTACGACTACCACGTCAACGTC
CAAGGCGGCTATCCCGCCCCCCTGCACTACGGCAACCCGCCCTACCCCAAATCCTGCTGC
ACCTCCGTCAACCACGTCATCTGCCACGGCATTCCCGACGACAAGCCGCTCAAAGAAGGC
GACATTATCAACATCGACCTCACCATCAAAAAAGACGGCTTCCACGGCGACTCCAGCCGT
ATGTTTACCGTCGGCAAAGTCTCCCCCATCGCCCAACGCCTGATCGACGTAACCCACGCC
TCCATGATGGCGGGGCATAGAAGCCGTCAAACCCGGCGCGACACTGGGCGACGTAGGTTAC
GCCTGCCAACAGGTTGCCGAAAACGCCGGCTATTCCGTCGTACAGGAATTCTGCGGACAC
GGCATCGGGCGCGGTTTCCACGAAGCCCCGCAAGTGTTGCACTACGGAAAAAAAGGACAG
GGCCCCGTTCTAAAACCGGGTATGATTTTTACCGTCGAACCGATGATCAACCAAGGCAAA
CGCCACCTGCGTATCCTCAACGACGGCTGGACGGTGGTTACCAAAGACCGCTCCCTCTCC
GCCCAATGGGAACACGAAGTCTTGGTGACCGAAACCGGCTACGAAATCCTCACCGTCAGC
CCCGCCTCCGGCAAACCCTGAAACCGGACGTATCCGCCCCATAAAAACAAACAATGCCGT
CTGAAAGAAACGGCAGATATGATATATAATATAAAAACAGGCTTGACCCGGCACATTACG
AAAAACAAAGCAAATCGGAATTTGCCCCGCAACCAGACAAACTTAAAGGAAGTTTTATGAA
AATATTTGAAAATATAGAAGATGTTAAAGCCATCCGTAAAAAGACCGGGCTGAACCAGAT
AGACTTCTGGGGCAAGGTCGGCGTTACCCAGTCCGGAGGATCGCGCTACGAAACCGGCCG
CAAAATGCCCAAACCCGTACGCGAACTGCTCCGCCTCGTCCATATCGAATGCATCGATTT
GGCGAAAGTCAACAAAAAAGATATGGAAATCGCCGCCCTGTTGAAAAAACACCATCCCGA
CCTGTATGCCGAGTTGTCCAAACAGACCAAGTCCGAAAGAAAAAAACAAAGTTAAACCGC
AACCTCCGGATGCCCGACAGTTTTTCATTTCCGAAAAACGCAAACAATGCCGTCTGAAAC
ACCGGACAGGTCGCCGTATCCCGCCTGCCGCCCCTGCCTCAAACCGCCGAACCGCCCGAA
CCCGCCTTTTTACAAACTTTATCCAATTTCCTGTTTATTTCGGGATACGCCGACATTAGA
ATGTCAAACAGCTCGAAACGGGCAAACTCCACATCCATCAAAGGAATAAAAATGAAACT
TCTGACCACCGCAATCCTGTCTTCCGCAATCGCGCTCAGCAGTATGGCTGCCGCCGCTGG
CACGGACAACCCCACTGTTGCAAAAAAAACCGTCAGCTACGTCTGCCAGCAAGGTAAAAA
AGTCAAAGTAACCTACGGCTTCAACAAACAGGGTCTGACCACATACGCTTCCGCCGTCAT
CAACGGCAAACGCGTGCAAATGCCTGTCAATTTGGACAAATCCGACAATGTGGAAACATT
CTACGGCAAAGAAGGCGGTTATGTTTTGGGTACCGGCGTGATGGATGGCAAATCCTACCG
CAAACAGCCCATTATGATTACCGCACCTGACAACCAAATCGTCTTCAAAGACTGTTCCCC
ACGTTAATGCAGGCAACAAAAAACAGCGTTTTCAGAAATGAAAACGCTGTTTTTTTGACCG
TTCCATTATTCACAAAAGGGAAAAAACGATTACCTGCCCCGTGTATCAAAACCTGCCCTG
CCGGATGAAGGGCATAACCGGCAGGGACGGCGTCAACACCATATGGGGGTACGGCTTTTC
TTGAAAGATTCGGCTTAAATATCCAATACTTTCGCGGTATAGGCGATAATTTCATCCGCC
CTTTCAGGGTTTTCGTTCAACTTGATGCCGTAACCCGGTACCAGCTCTTTCAGACGGTCT
TCCCAAGACGGGGCGCGCTCGGGGAAGCATTGGTGCATCAGCCGGATCATCAGCGGCACA
```

```
GCGGTCGATGCGCCCGGCGACGCGCCCAGCAATGCGGCGAGTGAGCCGTCGGCGTGGGCG
ACAATCTCCGTACCAAACTGGAGCACGCCGCCTTTTTCGGAGTCTTTTTTAATGATTTGG
ACGCGTTGCCCTGCGGTGATGAGTTCCCAGTCGTCGGGGTTTGCCTCGGGGTAGTATTCC
AGCAGGGAGGCGAAGCGTTCTTCTTTGGTTTTACGCAATTCGCCCAGCAGGTATTTGGTC
AGCGGCATATTCGCCCAGCCGGCGCACAGCATAGGATAGAGGTTGTCCATATGGATGGAC
AGCGGCAAATCCATAAGCGAGCCTTGCTTGAGGAAGTTGGAACGGAAGCCTGCGTAAGGG
CCGAACATAAGGTGGCGTTTGCCGTCCACGTTGCGTGTGTCGAGGTGCGGGACGGACATC
GGCGGCGCGCCGACGGAAGCCTGCCCGTACACTTTGGCGTTGTGTTGTTCGGCGGTTTCG
GGGTTGCTGTTGCGGAAGAACAGGCCGGACACGGGGAAGCCGCCGTAGCCTTTGCCTTCG
GGGATGCCGGATTTTTGCAGCAGGGTCAGCGCGCCGCCGCCCGCGCCGAGGAAGAGGAAG
CGGGTACGGAGGGTGAGCTGCCCGTCGGGGTTGCGGGTATCGGCGGTTTTGAGCACCCAC
GCGCCGTCGGATTCGCGTTTGATGTCTTCGACGTGGCGGTTGAACTCGGTTTTTACGCCC
TTGCCCTGCAAATATTTCACCATTTGGCGCGTCAGCCGTCCGAAATCGACATCCGTACCT
TCGGCGGAGTAGTTGGCGGCGACGGGTTGGTTTTCGTCCCGGCCGCGCATCATCAGCGGA
GCCCAATCGGAAATTTTGTTCCGATCGGTGGAAAATTCCATATTTTCAAAAAGTTTTTGG
GTTTTAAACGCGTCATAACGTTTTTGAAGATAAGAACAATGGTCTTCATTCATCACCAAA
GACATATGCGGCACGGCATTGATGAAGGAATTGTCTTCCAACTTGCCTTCCGCGACCAGC
GTCGCCCAAAACTGGCGGCTGACATGAAACTGTTCGGCAATATTGAGGGCGCGCGCCGGA
TCGATAATCCCATTTGCACCCAACGGCGCATAGTTCAATTCGCACAGCGCGGAATGCCCC
GTGCCGGCGTTGTTCCACGCGTTTGACGATTCCAACGCCACATCTTCCAAGCGTTCAATC
AGGGTGATTTCCCAAGACGGTTCGAGTTCTTTGAGCAAAACGCCCAAAGTCGCGCTCATA
ATGCCGCCGCCCACCAAGACAACGTCTGTCGCTTCAGCCATGGTTTACTCCTAAAAAACA
GGCATCTTCTGCCCTTATGGTTATTTGCCGTACTACAAACGCCTGAATCGCAAAAGCAGG
GAAAACCGGCAATGGTGTGTGTCCGAGTATGCTGTTTCGGGGTTGGAATGCGTTGCAAGC
ATGGCTTCCGACACCGCTTCAGGGGCTTGTAATATGTTATCGTGAATGTAGTGGATTTTA
CTGGGAAATGCAAAGTTTTTCTGTCGCCCGCCAAGTCGGGAAACTGCGAAATGAAAAATA
AAAATAGTTATTTATCTATATATCAAATTTTTAATAGATAAAAAATCAAAATTGTTTA
TATATTAATTTTTAAAAGATTGTCAGCATATTGCGTTAAGTTTTTTATAGTGGATTAACA
AAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTT
GGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCTGTACTG
GTTTTTGTTAATCCACTATAAATTTGAAAATACTGCCTCACACCTGCACGCCATACCCTG
CCAACCTGCCGGTCAGGATTTCCCTGTTTTTGCACCAATCTTCCCTCAGCATACTGTACA
CGACCGTATCGCGCACACTGCCGTCTTTACGGAGCATATGCATACGCAGCACGCCGTCTT
TTTCCGCACCCAGCCGTTCGATGGCACGTTGCGAGGCAAGGTTCAGAATATCCGTGCGCC
ATCCCACGCAACGGCAAGCCAAAACATCAAATGCGGAATCCAACAGCATGATTTTGCAAC
AGGTGTTTATCCGTGTCCGCCGTGCCGATGCCGCATACCATGTGAATCCGATATCCAAAC
GCGGAATCTGCGGTTCAAAATGATAATACGCCGTTGTCCCGACCACCCTGCCCGCCTCTT
CATCGACAACCGCAAACGCCAAACGCGTTGCCAATGCTGTCCCGATATAGTCTGCCACCC
TATCCGGATGGGGCGCGGACGTTACCCCCAGCTTCCAAACCTCCCCATCGCAAACCGCCT
CGCGCAAACCCGTTTCATGATGCACATCCAACGGTTCGAGACGAACGCCGCCCAACGACA
AGACCGGCAGTATTATCTTTTCCGACATCCTTTTCTCCCAATATTCCGCCTTCAGACGGC
ATTTCCGCCCGGAATGCCGTCTGAACGGCTAAAAACACAATATCCCCGCCTCCGACACAA
AACCGTCCAAAGACCGGTCGTGCGCCTCGACCGGCAGCCTGTCCACCAACTGGCAGGCAA
AGCCCACGCCCACGGTTTTTGCCTGCAAACGGTATTTCATCGCTGAAAGCGTCGCATCGT
AATAGCCGCCTGCCTGTCCCAAGCGGTAGCCCAGCCTGTCCATACCGACCACTGGCACAA
GCAGGAGGTTCAAATCATGCACACGCTTTTTCCGACCTGCAAACTGAGGGACATGCAGCT
TCGCCCTACCGCGCTTGCGTTCTTGTTTTACTCCATCGGCAGGATACGGCGTAAACCACA
TCCGCCGCGAACGCGGTTCGATATAAGGCAGGTAGAGTTCCGCACCGCGTTTTGCGCCG
CGCGGACAAAGCCGTCCAAACGCAATTCCTTGCCCATCGGCCAATACACGCCGATTTCC
GCCCTTTTTTAATATAACGTTTGAGCAGGTGGTTGATTTTTACCGTTGCCGCCGCCCGCA
CGTCCCGCCCCATTTGCGAACGCCGCCCGCCGCAATTCGCGGCGCAGGGCGCGTTTTTCCT
CGTTCCTCATTTCAGACGGCCTTTCAGGATTGCGGTAGAATGTTGCGATTATAACGATTT
TGTTAACATTCAAACAGGACGCACACAATGTGGCACATCGTCGCCATCGGCTATCTTTTT
GTTGCCGTTATGTATTCCGCCGCGCAGCCGAGTATTGCGCGCGCCTTGATTTATTTGGTT
TTTTGGGCGGTGCTGCCCACCGTGTTCACGGTTTTTCACCATTACCGTCCGCCGCCGCAAC
CACCTGATGAGGCAGCAGGAACAGGCGGAATCCGAACAGCAGCGCGCACAACGGCAAAAA
GACAGCGGCACAAAACCCTGAATCCCTTTTCAGACGGCATCTTATCCGCTATAATCCGTC
```

-245-

```
AGTTTTCCATTTCGGAAACACACTATTTTTTAAAACTTATGCCCACTTTCGCCGAAGGGT
GCTTGACAATAGGCGTGACCTATCAAGTTCTATGCGATTGAATGTGTGCTCTTAACCCTT
TCAAGGAAATAAAATGTCTCAAATTACTATGCGTCAGATGATTGAAGCCGGTGTTCACTT
CGGCCACCAAACCCGTTTCTGGAACCCGAAAATGGCACAATACATTTTCGGTGCGCGCAA
```
5   ```
CAAAATCCATATCGTCAACCTGGAAAAAACCCTGCCGATGTTCCAAGACGCGCAAGAAGC
CGTACGTCGTCTGGTTGCCAACAAAGGTACAGTATTGTTCGTAGGTACCAAACGCCAAGC
CCGCGACATCATCCGCGAAGAAGCGACCCGCGCCGGTATGCCTTTCGTCGATTACCGCTG
GTTGGGCGGTATGCTGACCAACTACAAAACCGTTAAGCAATCCATCAAACGCCTGGAAGA
AAAAACCGCAGCCTTGGAAAATGCTGCCGAAAGCGGTTTCAGCAAAAAAGAAATTCTGGA
```
10     ```
AATGCAACGCGATGTTGAAAAACTGGAACGTTCTTTGGGCGGTATCAAAAACATGAAAGG
CCTGCCTGACGCGATTTTCGTTATCGATACCGGCTACCAAAAGGTACTCTGGTTGAAGC
TGAAAAATTGGGCATCCCTGTTATCGCCGTAGTCGATACCAACAACAGCCCCGACGGCGT
GAAATACGTTATCCCCGGCAACGACGACTCCGCCAAAGCCATCCGCCTGTACTGCCGCGG
CATCGCTGACGCAGTTTTGGAAGGCAAAAACCAAGCGCTGCAAGAAACCGTAGCCGCTGC
```
15   ```
CCAAGAAGCCGCTGCCGAGTAATCCGGCAAACCGAAGAGGGGCGTTATGCCCCTTTTCTC
AAATATGCCGTCTGAACGTCCGTTCGCGGCACACGATTCCCGAATGCGGAAAATCCTTTC
CGTATTTCCCAAAAATCTAGGAGATTCAAAATGGCAGAAATTACTGCAAAAATGGTTGCC
GACCTGCGCGCCGCTACCGGCCTGGGCATGATGGAATGCAAAAAAGCCTTGGTTGAAGCC
GAAGGCAACTTCGACAAAGCCGAAGAAATCCTGCGTATCAAATCCGGTGCGAAAGCCGGT
```
20     ```
AAACTGGCCGGCCGTACCGCTGCCGAAGGCGTATTGGCTTACGCGATCAACGGCAATGTC
GGCGCATTGGTCGAAGTAAACTGCGAAACCGACTTCGTTGCTAAAGACGCGGGCTTCGTA
GAATTTGCCAACTTCGTTGCGAAAACTGCTGCCGAGAAAAAACCGGCTTCTCTTGAAGAA
CTGAGCGAACTGGTTGAAGCAGAACGCAAAGCCATCATCGCCAAATTGGGCGAGAATATG
TCTGTCCGTCGCTTCCAAGTGATCGACACTGCCAACCAACTGGTTGCCTACATCCACGGC
```
25   ```
GCATTGGCGACCGAAGGCGTATTGGTTGAGTACAAAGGCTCTGAAGACGTAGCACGCAAA
ATCGGTATGCATATTGTTGCCGCTAAACCACAATGCGTAAGCGAAGCCGAAGTAGATGCC
GAAACCGTTGAAAAAGAACGCCACATCTACACCGAGCAAGCCATCGCTTCCGGCAAACCT
GCCGACATCGCCGCTAAAATGGTTGAAGGCCGCATCCGTAAATTCTTGGCTGAAATCACT
CTGAACGGCCAAGCATTCGTGATGAACCCCGATCAAACTGTTGCCCAATTCTCTAAAGAA
```
30     ```
AACGGCACTGAAGTGATCAGCTTCGTACGCTACAAAGTAGGCGATGGTATTGAGAAAAAA
GCCGTCGATTACGCAGCCGAAGTTGCTGCCGCTGCTAAAGTGTAAGGCACTTATGAAAAA
GAAAGCACCTGGATTCCAAACGAATCAGGGTGCTTTTTTTTGAGAAAACCGTTTACGGTA
CCTATTTTAAGACGACCGAATATTCAGACCGTCTTAAAACAAAACAATAATAAACCGACA
CACCCTATCATTAATATTCCGACCGTTGGAAATTCAGACGGCCCAACTCCGACCGACGAC
```
35   ```
ATTCAAGAAAGCAAGGTATCCATGACACAGCAAATCAAATACAAACGCGTATTACTGAAA
CTCTCCGGCGAATCCCTGATGGGTTCCGATCCGTTCGGCATCAATCACGATACCATCGTT
CAAACTGTCGGCGAAATTGCCGAAGTCGTTAAAATGGGCGTGCAAGTCGGTATTGTTGTC
GGCGGCGGCAATATTTTCCGGGGCGTATCCGCCCAAGCAGGCAGCATGGATCGCGCCACC
GCCGACTACATGGGCATGATGGCGACCGTGATGAACGCGTTGGCACTCAAAGACGCATTT
```
40     ```
GAAACTTTAGGCATCAAAGCGCGCGTACAATCCGCACTGTCTATGCAGCAAATCGCTGAA
ACCTACGCCCGCCCCAAAGCCATCCAATATTTGGAAGAAGGCAAAGTCGTGATTTTTGCC
GCCGGTACCGGTAACCCGTTCTTCACGACCGACACTGCCGCCGCATTGCGCGGTGCGGAA
ATGAACTGCGACGTGATGCTCAAAGCCACCAACGTCGACGGTGTGTACACCGCAGACCCG
AAAAAAGACCCGTCCGCCACGCGCTACGAAACCATTACTTTTGACGAAGCCTTGTTGAAA
```
45   ```
AACCTCAAAGTCATGGACGCGACCGCTTTCGCCCTCTGCCGCGAACGCAAGCTCAATATT
GTCGTCTTCGGCATCGCCAAAGAAGGCTCGCTCAAACGCGTCATTACCGGCGAAGACGAG
GGAACGCTGGTTCACTGCTGATTGACCATAGTGTCGGCAGATATAGTCGCATATGGGCTT
CAGACAGCCATTTATTATATGGAGATTATAGTGGATTAAATTTAAACCAGTACGGCGTTG
CCTCGCCTTGCCGTACTGGTTTAAATTTAATCCACTATATTTACAATTTTGATACAATTT
```
50     ```
GTTTTTCATCAAAGGAGAAATCTATGCAAGCACGGCTGCTGATACCTATTCTTTTTTCA
GTTTTTATTTTATCCGCCTGCGGGACACTGACAGGTATTCCATCGCATGGCGGAGGTAAA
CGCTTTGCGGTCGAACAAGAACTTGTGGCCGCTTCTGCCAGAGCTGCCGTTAAGACATG
GATTTACAGGCATTACACGGACGAAAAGTTGCATTGTACATTGCCACTATGGGCGACCAA
GGTTCAGGCAGTTTGACAGGGGGGTCGCTACTCCATTGATGCACTGATTCGTGGCGAATA
```
55   ```
CATAAACAGCCCTGCCGTCCGTACCGATTACACCTATCCACGTTACGAAACCACCGCTGA
AACAACATCAGGCGGTTTGACAGGTTTAACCACTTCTTTATCTACACTTAATGCCCCTGC
ACTCTCTCGCACCCAATCAGACGGTAGCGGAAGTAAAAGCAGTCTGGGCTTAATATTGG
```

```
      CGGGATGGGGGATTATCGAAATGAAACCTTGACGACTAACCCGCGCGACACTGCCTTTCT
      TTCCCACTTGGTACAGACCGTATTTTTCCTGCGCGGCATAGACGTTGTTTCTCCTGCCAA
      TGCCGATACAGATGTGTTTATTAACATCGACGTATTCGGAACGATACGCAACAGAACCGA
      AATGCACCTATACAATGCCGAAACACTGAAAGCCCAAACAAAACTGGAATATTTCGCAGT
 5    AGACAGAACCAATAAAAAATTGCTCATCAAACCAAAAACCAATGCGTTTGAAGCTGCCTA
      TAAAGAAAATTACGCATTGTGGATGGGGCCGTATAAAGTAAGCAAAGGAATTAAACCGAC
      GGAAGGATTAATGGTCGATTTCTCCGATATCCGACCATACGGCAATCATACGGGTAACTC
      CGCCCCATCCGTAGAGGCTGATAACAGTCATGAGGGGTATGGATACAGCGATGAAGTAGT
      GCGACAACATAGACAAGGACAACCTTGATTCACACTACCATAACCGCTTGCTACCAAGGA
10    AAACAAAATGAATTTGCCTATTCAAAAATTCATGATGCTGTTTGCAGCAGCAATATCGTT
      GCTGCAAATCCCCATTAGTCATGCGAACGGTTTGGATGCCCGTTTGCGCGATGATATGCA
      GGCAAAACACTACGAACCGGGTGGTAAATACCATCTGTTTGGTAATGCTCGCGGCAGTGT
      TAAAAAGCGGGTTTACGCCGTCCAGACATTTGATGCAACTGCGGTCAGTCCTGTACTGCC
      TATTACACACGAACGGACAGGGTTTGAAGGTGTTATCGGTTATGAAACCCATTTTTCAGG
15    GCACGGACATGAAGTACACAGTCCGTTCGATCATCATGATTCAAAAAGCACTTCTGATTT
      CAGCGGCGGTGTAGACGGCGGTTTTACTGTTTACCAACTTCATCGAACAGGGTCGGAAAT
      CCATCCGGAGGATGGATATGACGGGCCGCAAGGCAGCGATTATCCGCCCCCCGGAGGAGC
      AAGGGATATATACAGCTATTATGTCAAAGGAACTTCAACAAAAACAAAGACTAATATTGT
      CCCTCAAGCCCCATTTTCAGACCGTTGGCTAAAAGAAAATGCCGGTGCCGCCTCTGGTTT
20    TTTCAGCCGTGCGGATGAAGCAGGAAAACTGATATGGGAAAGCGACCCCAATAAAAAATTG
      GTGGGCTAACCGTATGGATGATGTTCGCGGCATCGTCCAAGGTGCGGTTAATCCTTTTTT
      AATGGGTTTTCAAGGAGTAGGGATTGGGGCAATTACAGACAGTGCAGTAAGCCCGGTCAC
      AGATACAGCCGCGCAGCAGACTCTACAAGGTATTAATGATTTAGGAAAATTAAGTCCGGA
      AGCACAACTTGCTGCCGCGAGCCTATTACAGGACAGTGCTTTTGCGGTAAAAGACGGTAT
25    CAACTCTGCCAAACAATGGGCTGATGCCCATCCAAATATAACAGCTACTGCCCAAACTGC
      CCTTTCCGCAGCAGAGGCCGCAGGTACGGTTTGGAGAGGTAAAAAAGTAGAACTTAACCC
      GACTAAATGGGATTGGGTTAAAAATACCGGTTATAAAAAACCTGCTGCCCGCCATATGCA
      GACTTTAGATGGGGAGATGGCAGGTGGGAATAAACCTATTAAATCTTTACCAAACAGTGC
      CGCTGAAAAAAGAAACAAAATTTTGAGAAGTTTAATAGTAACTGGAGTTCAGCAAGTTT
30    TGATTCAGTGCACAAAACACTAACTCCCAATGCACCTGGTATTTTAAGTCCTGATAAAGT
      TAAAACTCGATACACTAGTTTAGATGGAAAAATTACAATTATAAAGATAACGAAAACAA
      CTATTTTAGAATCCATGATAATTCACGAAAACAGTATCTTGATTCAAATGGTAATGCTGT
      GAAAACCGGTAATTTACAAGGTAAGCAAGCAAAGATTATTTACAACAACAAACTCATAT
      CAGGAACTTAGACAAATGAATGAACACAACCTGTTAATTTTCTGTTTAAAAGACAATGTT
35    TCAATTAGTGAATATACTGAAATGGTTGATTGGGCTTATGAAAACATTCAATCTGAAACA
      GTTGTAGAAATTACGGAAAATCAAATTATTGAATATCAAATCGTGGATTATGGGGGCTT
      GTTTCTGAAATTACCGATAATTGGTTATTTGGACCAAGTGAGGGGGATTGGCTAATAGAT
      AAGGAAAGTATTTTGGCTGTAAAAGAAAAATTACAAAATTCAGATTTTTCTACAGAGCCC
      TTAGTGAAAAATATTATTCATGTACTTGAATATGCTATAAAGAATGAAAAAACAGTAATT
40    TTTCATTTTTGAAACTAATCTAATTTTTAGCAGCCGTAGGTCGGATTCTCGAATCCGATA
      TTTTCCAACAGCGGCATTTCGGAAACGATAGATGCGTCAAATATTTTTGTCGGATACAAA
      TATCCGACCTACATCTCTGCGCAGCAAACTTTACAAGATATTAATGAATTAGGAAATTTA
      AGTCCGGAAGCACAACTTGCTGCCGCGAGCCTATTACAGGACAGTGCTTTTGCGGTAAAA
      GACGGCATCAATTCCGCCAGACAATGGGCTGATGCCCATCCGAATATAACAGCAACAGCC
45    CAAACTGCCCTTGCCGTAGCAGAGGCCGCAACTACGGTTTGGGGCGGTAAAAAAGTAGAA
      CTTAACCCGACCAAATGGGATTGGGTTAAAAATACCGGCTATAAAACACCTGCTGTTCGC
      ACCATGCATACTTTGGATGGGGAAATGGCCGGTGGGAATAGACCGCCTAAATCTATAACG
      TCCAACAGCAAAGCAGATGCTTCCACACAACCGTCTTTACAAGCGCAACTAATTGGAGAA
      CAAATTAGTAGTGGGCATGCTTATAACAAGCATGTCATAAGACAACAAGAATTTACGGAT
50    TTAAATATCAATTCACCAGCAGATTTTGCTCGGCATATTGAAAATATTGTTAGCCATCCA
      ACAAATATGAAAGAGTTACCTCGCGGTAGAACTGCGTATTGGGATGATAAAACAGGGACA
      ATAGTTATCCGAGATAAAAATTCTGACGATGGAGGTACAGCATTTAGACCAACATCAGGT
      AAAAAATATTATGATGATTTATAGGAAAAAGCCATGAATATACTATCCATAAATAATCAA
      AACTCAACTATTTCACTAACTCAAGATGAAGTTTTTGTTTTACGAGCTATCTTGAATGAG
55    ATATATGCGGGCGTATGTGTAGATTCAAGAGAATTTGAAAATGTATCTGGTGTTAGAAAA
      CATGAAGTAGATAATTTACAACAACAGTTTGCTGGAATTTATAAAAAAATGACAACTTAA
      CAACCCAAATTTTTGTCAGAGCCTAGTGCAAATTACAACTATGATTCTATTGTAGCCGAA
```

```
ATGAAAGAAAAAAATCATGGGTTGGCGACAGGGTTGATGTTGTTAATATGCCTGATGGAG
CACCTACTAGTATGGATAACACGCGTATTATGGCAGCACGTGAAGCAGGAGTAAAAGTGG
AAGCGAATGTTCATAATTTTAATGACCGATTATCATCAAAAGAGAGAATCAGGTTTAAGC
ATGATGGTATTGAGCCTCAAACTTGGGGAGAAGCTATCCAGCTACGAATTAGAAAGCAAG
AAACACAAAAAGGAGTTCCAGAAGGGTGGAGCAAAAGATTTCCTAACGGAAGTATTTATG
ATGTAAAGGTACTTAGGAAATGATAAAACAAAATAGTTTTGTTCCGTATCCTGAAGCAAT
GCTTCCTAAAGGATTTAAATATCCGCAAAGTTATTTAAAATTAGCTCAATCCACTCATGC
CATTAACTACGATGAACAATATTCTTTTCCTTGGTGGTTTGAAAATGCAGAAAGCAATAT
ATCAGAAGTAATTGACATTTATTTTGAAATAACTGGCATTCCAAACCTATTACCTTTTGC
TAGAAACCAAGAGTGGGCTGCCTGTTTTGATATTTCAGATAAATCAGGTAATCCTAAAAT
TATAGTAGTTAATTTAGATAATACAAAATATTACGAGACTTTTGAAAATTTTGATACTTG
GCTAAAAGAAGCTGAAAATGATGGTTGGTAGCAACCGTAGGTCGGATTCTCGAATCCGAC
ATTTTTCAACAGCGGCATTTCGGAAACGATAGACGCGTCAAATATTTTTGTCGGATACAA
ATATCCGACCTACATCTCTGCGCAGCAAACTTTACAAGATATTAATGAATTAGGAAATTT
AAGTCCGGAAGCACAACTTGCTGCCGCCGAGCCTATTACAGGACAGTGCTTTTGCGGTAAA
AGACGGCATTAATTCCGCCAGACAATGGGCTGATGCCCATCCGAATATAACTGCAACAGC
CCAAACTGCCCTTTCCGTAGCAGAAGCCGCAACTACGGTTTGGGGCGGTAAAAAAGTAAA
CCTTAACCCGACCAAATGGGATTGGGTTAAAAATACCGGCTATAAAACACCTGCTGCCCG
CCCTATGCAGACTTTAGATGGGGAGATGGCAGGTGGGAATAAGCCACCAAAACCAAGTAC
GCAGCAACACCCTACACACTCTGATAACAATATCGGCTTACCTGCCTCATATGTTAAACC
TGATACATCTATTTCTCCGACAGGAACAATTCAAGACCGCATCAGATGGACAAAGTCCAA
GTTTCCTACTGAGAAATCTTTAAATGGACATTTCAAAGCTCATGGAAAAGAATTTGGCGA
TATAACCATTGAAGACTACCAAAAAATGGCGTCTGATTTGTTATCAAAACAGACATCGGA
CAAGATATTAGGTTATCAGACGGAACATAGACGAGTGCGCTATGATATCAATAACAATAT
CTATGTTTTGGCCAATCCAAAAACATTCAAAATCAAAACAATGTTTAAACCAAACTTAGG
AAAGAAGTATTATGATGGAGAATTCAAAAAAGACATGGGAAATTGACGGAGAAATATGGC
TACATTGTCCTGTTTGCGGAACTGAAGTTATGGACTATGATATCTGTGACGTTTGTCAGT
GGCAAAATACAGGAGAAACTAATATAGATGGTGGCCCTAATGAAATGACACTTGCGGAGG
CGAAAGAAGCTTACGCAAAAGGCTTACCAATCAGATAAATAAGCACCTAGAGAAATCAAT
GATGACGGAATCCCATGGTTACCTATCAAATAATTTACCTGTTAAAATCATAAATGATAT
TATTTATGCAACCCAGTTAGTCGAAGATTTGGTTTTAGGAAAAATAAAAATTGTTGATTT
TTTAAAATCATATAACAATTTTTATTGTTGGCTTGGTTTTGATGAGTTGCCTCAATCTGA
GAAAATAAAATTCCTAAGCTATCTTAATATATTAAGTATTCATAAAGAAATACAAGATGA
AACTGTGAATAGGGTTTATACCGATTGAAAAATAGTAGATAGAGATTAACATGTTAAATG
AAATTTTTGAAATTTATTCGAGACAAGGGGAATCTTTGATAGGAATTGGAATTAGAGAAG
CCGCATTACCCGTCCCTATTGCAATAGATATATTAAATTTATTTATCAATGAGAGAATAC
TTGTATTGGGGGGAGATATTTATATCAAGAAAGATAATTATTTTTATCAAACATATGATA
ATTGGTATTACGAGGGAAGTAATTTATTTAACAGTATCGACAAAGCAATGCATTATTTAT
CTCAAATAAAATTAGAGAATGCATACGTATCTTTTGTGTTGAAATTTATCTAACAAAGGA
AGCACAAGAATAGATTTATAGTAAAACATCAAGATGTTGAAAATGCTGGGTTTTAATCCA
ACCTACACTGACCGGCTCAGATACAGCCGCTCAGCAGACTCTACAAGGTATTAATGATTT
AGGAAATTTAAGTCCGGAAGCACAACTTGCTGCCGCGAGCCTATTACAGGACAGTGCTTT
TGCGGTAAAAAACGGCATTAATTCCGCCAGACAATGGGCTGATGCCCATCCGAATATAAC
TGCAACAGCCCAAACTGCCCTTTCCGTAGCAGAGGCCGCAGGTACGGTTTGGCGCGGTAA
AAAAGTAGAACTTAACCCGACTAAATGGGATTGGGTTAAAAATACCGGCTATAAAAAACC
TGCTGCCCGCCCTATGCAGACTGTAGACGGGGAAATGGCTGGGGGAAACAAATCATTAAA
AATAGGGACACAATCTGTTGAAAAATCAACCGGTCGTACAATACCTAATAATTTAAAGGA
ACAATTAGCAATGGAAGAAGTTAAGGCAAACCCACAGGGCAAAACTCCTGCGAGAATACC
TCCTATGTCCGATACTAAAAATGGTTGGTTAGCAAAAGACGGTTGGGTTAAGCGTGTTCA
AAACGTAAACAAAATTGAAATACATTACATTGAAAACTCAAGAACCGGTGAGAAACAGA
TTTTAAGTTTAAGGATTAGTCATGTTTTTAGATGATGTAAATGTTTTTTTAGATGATTTA
AATGTTTTTTTAGATGATTTAAATACTAATCCAATCACTGACGAATGGTATATGTCCAAT
TTTGCCGATAAACATATTAAAATTTTGGAAAGTTACGAAGCCTTTGATATTCTAAAACAA
TTTGTTGATTACATGATTGAAGAATATGATGAAAAATCAGAATATGAAATCATGGAAATA
TTGAGACAATTAAAATATCAAGCAGATACCAACGAAAAATTTTATACAAATACACAGAAA
CAGAAAATTGTAGAATTATATAAACAAGAAATTAGTCAGGATATTTTAAATGAAATCTTT
AGATAAACTATCAATATAGAAGGAAATCCTTGGAAAAAATAAAATGATAATCGAACACAA
```

-248-

```
     TGGAAATATACATAAAATAGCCAGAATGACTGGAAATAAAAATAATTTTTTAGAAATAAT
     CCTATCAGATATTCATGAAAACATAAAAATCAAACCATTAACTATAAAAGTAAAAGGAGA
     GAATGTTATAAATATCCTTCCTGAGGAAGTTAGTTTTTATGTAAAACAAGGTGTTGATTT
     AATTTATGAAAAATATAAACGGAAATTCTTTATCTCCGAAATTTCTTTTTGCCAATCAGA
5    TAGCCGGCCTTCAAGTATCTACGCTTTTCTTACATTTCACTTGCTTGAAGATATTATTAA
     AAATGAATCCCCATCCAACTACACCTGACTGGCTAATAGCAGGTATGAACCGTGTATTCA
     TATCAATATAAGATTAATTACGGCAGAATTTGATGAAATTAGACAAAAACTTATCGTAAG
     ATTTTATTTAGACAGAGAAGTAACTGATGATGGCAAAGAAGATATGGAAACAGCACGAAC
     AGAATTACTTCCAGGAGGATATGCTTCATCTCTGGTAGTTTGACAGATTTGACCGCTTCA
10   TAAACTTAGAACATTAATTAATGATGATAATGTTTATATGATTGGTTCTAAGGATAGCAA
     AAGCAAATTCAGAAGGAACATGAATGGCTATTTATGACTTAAACGAAATAGCCGTAGGTC
     GGATTCTCGAATCCGACATTTTCCAACAGCGGCATTTCGGAAACGATAGATGCGTCAAAT
     ATTTTTGTCGGATACAAATATCCGACCTACATCTCTGCGCAGCAAACTTTACAAGGTATT
     AATGATTTAGGAAATTTAAGTCCGAAAGCACAACTTGCTGCCGCAAGCGCATTATAGGAC
15   AGTACTTTTGCGGTAAAAGACGGTATCAATTCCGCCAGACAATGGGCTGATGCCCATCCG
     AATATAACTGCAACAGCCCAAACTGCCCTTGCCGTAGCAGAGGCCGCAGGTACGGTTTGG
     AGAGGTAAAAAAGTAGAACTTAACCCGACCAAATAGGATTGGGTTAAAAATAACGGCTAT
     AAAACACCTGCTGCCCGCCCTATGCAGACGTTGGACGGTGAGATGGCAGGAGGAAACAAG
     CCAGTTGTTAAATCTATCAGACCAACTACGCGAGATGAATTACGTCAAGCATTGCAAGAA
20   CAAGGTTTTAGACGTACTGGTTCAGATGCGGCTCAATATGAAACATGGAAAGGTCCTGAT
     GGCGTGAAAATAGATATTCGTCCAAATGGAGAGGTTATAAGAACCCAAAGAGTGCCGCGA
     ACCGATGGTGTACAGGGAAAATATCCGCAACGACAAGATTATGAAGGCAATCCATTGCCA
     AATAATCATCATCATTCTGGATATTTTGTCAAATGAAAAAAAATATTTTTCACAATGTAA
     GCCTTTATGAAATAATCTTTTCCGATAATGGAAATACCCTTACATTATCTTTTACAGATA
25   CAATTGAAGGTAATTATTTCGGATATATCAAATGCAGTAATATTTTGAATTTTAAATTAG
     ATACAAATAATTTCGTAGATTATGAGGATAAGGAAGATAGCTTGTTTCCCTTGTTTATAC
     CCGAAATAGAGCTATATAAATACCAATTTTATAGTGAAATTATTATTGATGTAGGGATTA
     TTTATAAAAATATCTGCTGAAACAATTAATTTTGAGCCACTGGGAAAATAGTAACTGCTTT
     CCCAGCAGCCGTAGCAACTGTATTTTTACCCGACGGGGTAAAAATACAGTTGCTACATCT
30   CTGCGCAGCAGACTCTACAAGGTATTAATAATTCAGGAAAATTAAGCCCGGAAGCACAAC
     TTGCTGCCGCGAGCATATTACAGGACAGTGCTTTTGCGGTAAAAGACGGCATCAATTCCG
     CCAGACAATGGGCTGATGCCCATCCGAATATAACAGCAACAGCCCAAACTGCCCTTGCCG
     TAGCAGAGGCCGCAGGTACGGTTTGGAGAGGTAAAAAAGTAGAACTTAACCCGACCAAAT
     GGGATTGGGTTAAAAATACCGGCTATAAAAAACCTGCTGTTCGCCATATGCAGACTAAGG
35   CGTTAGGTACGGTAGATGAAATTGGCGATACAGTACAGCAGGTTGGGAAACAGGCTAGCG
     GACAAAAAACCAGCGGTGGTAATCCTGCGATTGATAGCGACCCCTATAGCCCGAGTAGTG
     TGGCAGCTCGCATAGAAGCCGGTAAGGCGCGCAGTGATTACAAATCAAAGACATTTTGA
     GCAATACTACTCAAAGGAGTAAAACAAAAGGTCCCGCTGTTCAGTATGATAAAGTGGGGG
     ATTACAATGACGCACTAAATGATTTTAATAGTCTGAATGTTCGAAATGTACAAACACGTC
40   CTAATGGAACGATAACGGGCAATTTACCTGATGGGCGTGCGGTTAATGCTCGTAATGATA
     GTAGTGGTGGAGAACCAACACTTGAAATAACAATTAGTAATAACCGAAAAATAAAAATCA
     GATATGGAAATACACGATAAATTATGAAATTAAAAAGCTTAGATTTCCCAACTGGCTATT
     TCTATTTTGATAATGCAGCAATAAACTCTGATAAAGTAGAAGTTATAGCAGTTGGTTATA
     GAAATACGGATAAAACCATAAAAATTTTTATTGAAGATGTTATTCATTTTAGGGTTGTTG
45   ATGAATCGTATTTTATAGATACTTTTATGGATTTAATTTCGGAAGATGCAGATAGAGCTT
     TGCTTCATGAAAATGGTGGTCAATCTTTTTTTGAACTTCTTGATGAGTGTTATGCGGAAT
     GGATATTGAAAGAAAGTTATTTTCCTTTGAATAGAGAATTCTTTAAATACTATATTTTTA
     TGTTTGAGCAAACATTCATAGAAATAATTGGTTCTAGTGCAACGTATTCAATTATTGAGG
     GCTAGCGTAAGATGAGTAATAAGTTGCCTATCTTTCTTTCAGGCAGCCTGAAAATAAAAC
50   TACCCAAGTTGATGGTGTACCTGTATCAGTGAAGGGAAATTTTGTTGATGGTAAATTTCG
     CATTGGTACGGCAACAATGAAATCATTTTAAATTGAGCTAGAAATGAACCTAGAAAATTA
     TGAAACATTTTAATAAAATTACTTTTTTATCATAACAACTTAGTAAATGAATATTCTTA
     TTTTATTGAAAATAAAAATTTATTTAAAATAGTATCTCGAACGAAAACGAGTAAGGGCTT
     TTTTTTCACTATAGAAAAACCATTAAATTTTCTAAGCAAAAAAACTTATTTTGAGTTTAA
55   TTTTAAATATTTACACTCAGGGAAAGAACGCTTTGGTTCGTTTATGTGCTGGATAAATAC
     TAATTTAATGGAATTTGAGGGGGTTTTTTTTAACGACCTGCTCCCTGATAATATGATAAT
     AAATAACTTTTTTGAAATAAATGATTAACGATACACCAATAAAAATTGGTGGGGTAACCG
```

```
      TATGGATGATATTCGCGGCATCATCCAAGGTGCGGTTAATCCTTTAATTTACAAGGTAAG
      CAAGCAAAAGATTATTTACAACAACAAACTCATATCAGGAACTTAGACAAATGAATGAAC
      ACAACCTGTTAATTTTCTGTTTAAAAGACAATGTTTCAATTAGTGAATATACTGAAATGA
      TTGATTGGGCTTATAAAAACATTCAATCTGAAACAGTTGTAGAAATTACGGAAAATCAAA
 5    TTATTGAATATCAAAATCGTGGATTATGGAGACTTGTTTCTGAAATTACCGATAATTGGT
      TATTTGGACCAAGTGAGGGGGATTGGCTAATAGATAAGGAAAGTATTTTGGCTGTAAAAG
      AAAAATTACAAAATTCAGATTTTTCTACAGAGCCCTTAGTGAAAAATATTATTCATGTAC
      TTGAATATGCTATAAAAAATGAAAAAACAGTAATTTTTCATTTTTGAGACTAATCCAATT
      TTTAGTAATATTGATGCAGAGCAAGCAGCATTAGATGCCGCAAACATGGGGAGAAGCTAT
 10   TCAATTTAGAATTAAAAAACAAATTGAAAATGAACTAGCACCACCAAATTGGTCTACCCA
      GTTTCCTAATGGTAGTATTTATGATCCTAAGGTAACGAAATGATTATTCAAAATGAATTT
      AATTTATATCCTAGTAATATGCTTCCTGAAAGGTTTTGTTATCCTGAAAAGTATGTTCGT
      ATCTCTAACGATACATCTTTAATACCTTATATTCAGCCACATAATTTTCACTGGTGGTTT
      GAGAATTATGGAACAGAAGGGGCAGAAGTAGCTTATATATTTAGAAATTCTATCCTGCCT
 15   GATTTAAATCTTATCCCATTCGCTAGTAATGGAGAATGGGAAGCTTATTTTGATGGTAAT
      GATGTAACAGGAAATTCTAGGGTTATTGTCATTAATTTAGATAATATAGAAAACCATGAA
      TTTTTTAATAGTTTTGAAGATTGGCTTGAATTAGCAATTAAGGATACTTGGTAAGCAGCT
      ATCTATAAAGAGATGAGGCTGCCCTGGACAACTAGGATAAACTCGATTTTACTAATTGTT
      TTAAAATGGAACAAGAACTTTTATTTCACTGTTGTTAAAACGCCATTCGCACTCCTTTAA
 20   ATACAGCTCAAAATGCGCTTTGGGAATGCCGTTAAACTTGCGTAAATGACGTTTTGCTTG
      ATTCCAAAAGTTCTCAGTTCCATTAATATGGTTTTGTCGTTCGGCAAAATGTGTGCTGTG
      ATTGATACGGAAATGGCTAAATTCGCCCGCATCCAATACATCATAGCCACGATAACAAAA
      TGAGTTTATTTTGTTTATACCGTCTTAGACGACTTTCTCTCATAGGGATAATTCTAACTT
      AATTTGAATTTCCCTAGTGATCTAGGGCAGCCCCTAAATTAATAAAGCAGCACAACTCCT
 25   TTTGCCGATGTTCCGGACTGTCAAACGACTGTTCCTCATGCCACATCTCCATCAAGGTAC
      GGATAACCCGCTCCGCCTTACCGTTGGTCTGCGGACAAGCAAATCGGGCAAGCCTCCAAC
      CAATCCCATTATCATAACAAGCTGCACCGAAAGCATGTTGGACGGCTCTTTATATTACCT
      ATCATTGTCAGAGTAAACGTACTCAATCAGGTACAAGCAGGGGTCGGACAGATGTTCGGT
      CAGAAACTTGGCAGCACTGTCTGCGGTTTTGTCCGGCAAAATGGCAGAGTATAAAAATCG
 30   TCAATAGCGACAAACAGGTAATCTCGTTTATCAGCGGCCTTCTGTCCTTTGAGCAACAAC
      AACCGATCGGTATCAGGATGCACAAAACCTCCCGGGGACAACCTGCCTTTTACGGCTTTA
      AGTGCACGGTAAATAGTGACGCGGCTGACTTAGTGGCAGCATACTGGGGAGGTGAGTGTT
      TTTGTGTATATTTTTATTTTGGTATTCCCTTAGAAATACTGTAAACAACGCTACCGGACG
      GCCTGCAGGGCTTCGCGCACGCTTGCTTTGAGTTCTGCGCCGAAGCGTCTGCCCAAGATT
 35   CTGCCGAAATCGTCCTTCGGAGTGTAATCCACCACATCGGGGGCTTTGACCACGTCTCGC
      GCCACGCTGTAAATATTGCCGAGTCCGTCCACCAGCCCGACTTTCAGCGCATCCGCGCCT
      GTGTACACGCGACCGCTGAACACGTCGGGATATTGTCGGAATTTGAGGCGGCCGCCGCGT
      CCGGTTTTGACGGCTTTGATGAACTCGCCGTGTATGCCGGTCAGCATTTCTTCCCAGATT
      TTTGACTGTTCGGGCGTTTCGGGCGAAAACGGATCGCCCATGCCTTTGTTGCTGCCTGCA
 40   ATTTTAACCCTGCGTTTCACGCCGATTTTTTCCATCAGGCCGGTCGCGTCGAAACTGCTG
      CCGATAACGCCGATGCTGCCGACGATGCTGGACGGGTCGGCATAGATTTTGTCCGCCGCC
      GCCGCGATGTAGTAGCAGCCGGACGCGCACATATCTTCCGCCACGAGATAAACGGGAATG
      CCGGGGTGCTGCGCCTTCAGACGGCGTATTTCTTCAAAAGCGGTGTTGGACACGACGGGC
      GAACCGCCGGGGCTGTTGGCGCGGATGACGATGGCTTTTGCCTGCGGGTTTTTGTAGGCG
 45   GCCTCCATACCGTCTTTGAGTTTTTTGACCTGGTCTTCTACACCGTTGCCGATTTCGCCG
      TACAGATTGACGACTGCGGTATGCGGCGTGTTGCCCGCCAACTGCAATGCGGCTTCGTCT
      TTTCGGAAAATGCCTGCAATCAGGGCAACCAGAATCAGGGTGCTGACGGCGCGCCAGATG
      TTTTTCCACATCCGCTCCCTGCGCCTGTCCTGATAGGCGGACAACAGCACTTCGCGCATG
      ATGTCGCGCTCCCATAAGGTTTCCCCCGCATTTTTTGCTTCGGGTGCTTCGTTTCTCTT
 50   CTGATTCGGTATTGCATGGTTTTCCTTAAATATTGTCCGATTTGGGCAAACGGTTTTCAG
      TTTACCCGATTTTTCAGCTCTGCTCCCAATCCGTCCAAGCTGTGCAACACTTCCGCCCAC
      GCCGCGTCCAAAAGGTTGACGGCTTCTCCTTCGGCTTTGATGCCGAACTCAATGTGCGGT
      TTGACCTGCGTGCCGTCTGAATGCGTCCAACCGACGCTGGGCAGGCTGTACGAACGCACG
      CCGGGATAAGTTTGCTCGATATGCTCCATAAGCGGCGTAATGCGCGATTCGGGCTGCTCA
 55   AACACATACACGCTGCGGCTGCCGCGTTCGGTTTGGTTGAAGCGGTCGGCGTAATAAGTT
      TCCAATACCCATTCCGCCATCGGGTGCGCCATCACAGGAAAGCCGGGGAAGAAATAATGC
      TCGCGGATAGAAAATCCGGCGATGTTGTTAAACGGATTGGGCACCAATTCCGCGCCTTCG
```

-250-

```
GGAAAATCTGCCATTTTCAGGCGTTGGGCGTGTTCCGGCGAATCAAGCGGCTCGCCGCGT
TTCTGGGTTATGCCTTCGATAAACTTGGCGGCTTCAGAATGGCGGACGACGGGCAAATCC
AAAGCAGCGGCTGCGGCTTGGCGGGTGTGGTCGTCGGGCGTGGCGCCGATACCGCCGGTA
ACGAAAGTTGGCATGCCGTCTGAAAAGCTGCGGCGCAGTTGCCTGACCAGCAAATCGGGT
TCGTCGGGCAGGTATTGCACCTGATTGAGCTTCAGCCCTTTGGATTCGAGCAGGGATTTG
AAAAAGGCGAAATGCTTGTCTTGGCTGCTGCCGTGTAAGATTTCGTCGCCGATGATGATG
AGGTTGAACGCGTTCATAGATGGTTTCTTTACCGATGCCGTCTGAAAATGTCGATGGTGC
TGTGATTTGTTCCCTCTCCCGTGGGAGAGGGTTAGGGAGAGGGTCGAGCTTGCGTTTTTC
AGGCAGCGTTTGCTTAAGGCCTGCTGTCTGTACCCTCTCCCCAACCCTCCCCCGCAGGGG
AGGGAGTCAGGTTGAGGATGGCGTAAAGACCGTCTGAAAGATTTTCAGCGAAACGGGCA
AAGCTTCTTTTCAGACAGCCTTAACGGCTGACAATGGGTTATATTTATAAGATAATGAAC
TCCTTTTTTCAAGTCCGAAGGATACCCTTATGAGCCAAACCATACCATTCTGCAATCCC
TCCCCGTCGGTCAGAAAGTCGGCATCGCCTTCTCCGGCGGTCTTGATACCTCTGCCGCGC
TGTTGTGGATGAAACTCAAAGGCGCGCTGCCTTATGCCTACACTGCCAACCTCGGCCAGC
CCGACGAAGACGACTACAACGCCATTCCCAAAAAAGCGATGGAATACGGTGCGGAAAACG
CCCGCTTAATCGACTGCCGCGCGCAGTTGGCACACGAAGGCATCGCCGCCATCCAATGCG
GCGCGTTTCACGTTTCCACCGGCGGCATCGCCTATTTCAACACCACGCCTCTGGGCCGCG
CCGTAACCGGCACTATGCTTGTTTCCGCAATGAAAGAAGACGATGTGAATATTTGGGGCG
ACGGCAGCACCTACAAAGGCAACGACATCGAGCGTTTCTACCGCTACGGTTTGCTCACCA
ATCCCGCGCTGAAAATCTACAAACCCTGGCTCGATCAGCAATTTATCGACGAACTCGGCG
GCCGTCACGAAATGAGCGAATTTCTGATTGCCAACGGCTTCAACTACAAAATGTCGGTGG
AAAAAGCCTACTCCACCGATTCCAATATGTTGGGTGCCACCCACGAAGCCAAAGACTTGG
AATTTTTGAACTCGGGCATCAAAATCGTCAAACCCATTATGGGCGTTGCCTTTTGGGACG
AAAACGTCGAAGTCAGCCCGGAAGAAGTCAGCGTACGCTTTGAAGAAGGCGTGCCGGTTG
CACTAAACGGCAAAGAATACGCCGATCCCGTCGAACTCTTCCTCGAAGCCAACCGCATCG
GCGGCCGCCACGGCTTGGGTATGAGCGACCAAATCGAAAACCGCATCATCGAAGCCAAAT
CGCGCGGCATCTACGAAGCCCCGGGTATGGCGTTGTTCCACATCGCCTACGAGCGTTTGG
TCACCGGCATCCACAACGAAGACACCATCGAACAATACCGCATCAACGGCCTGCGCCTCG
GCCGCCTGCTCTACCAAGGCCGCTGGTTCGACAGCCAAGCCCTGATGTTGCGCGAAACCG
CACAACGCTGGGTTGCCAAAGCCGTTACCGGCGAAGTTACCCTCGAACTGCGGCGCGGCA
ACGACTACTCAATTCTGAACACCGAATCGCCCAACCTGACCTACCAACCTGAACGCCTGA
GTATGGAAAAAGTCGAAGACGCTGCGTTCACTCCGCTCGACCGCATCGGACAGCTCACGA
TGCGCAACCTCGACATCACCGACACCCGCGTCAAACTGGGTATCTACTCGCAAAGCGGTT
TGCTCTCGCTGGGCGAAGGTTCGGTATTGCCGCAGTTGGGCAATAAGCAATAAGGTTTGC
TGTTTTACATCATTAGCAACTTAAGGGGTCGTCTGAAAGATGATCCCTTATGTTAAAAG
GAATCCTATGAAAGAATACAAAGTCATCATTTATCAGGAAAGCCTGTTGTCCAGCCTGTT
TTTCGGCGCGGCAAAGGTCAACCCCATCAAATTCAGCGAGTTCCTCAATAAACAAACCCC
CGAAGGCTGGCGGGTTGTAACGATGGAAAAAGATTTGCGCCGTATGCTGCTGTTTTTCAA
ACGCGAGGCCTACGTCGTCATTTTGGAGCGGGATCGTGTTTAAGCTCGGCGTTTATACCT
GTCTCGGACTGTTTGCCGGCTGGGTGCTGCTGCTGATCGTGCAACTCTGGTTTTCTTTTC
TCGAAGCGGAATTGTTCTTCAAAATCACACTGACTATGGCGGGGCTGTTTGTCATCATCC
TCGCCGCCTTACTGGTATGCGGTCAGTATTTTTCCGAAAAGAAAATGAAAGACGACGGGT
TTATCAACTGATGCGGACTTGAACCGGACCCGCGACCCAAACATCACAATGCCGTCTGAA
CGCCCTCGCTTCAGACGGCATCAACATCAATCCTGCTCTTTTTTGCCGGCAAACACGCCG
AATCCGCCCTTTTCCGCATCTGTCGGGCGATAGCTGTATTTTCCCGCCACTTCCTCGCCG
GCCGGGCCGTAAAACTTTCCGGAAACATCCCCGCTGCCATTTTCCGTCCAAGTCCCCTTA
AAGCCGTTTCCATCGATGGCGGCTTTGAATTTTTGCGTACCCATATGCAAATCATCGCCG
CTGTCGATAATGCCGTCCACAGATTTGCTGCCGAAATCGACTTTTGCGGCAAACCTGCCC
CTGGTCGGGTACGGACGGCCGTTTTCCGTATGGAAATGCAGTACTTCGCCGTTGTACACG
GCCGCGCCCGCAAGCATTTCGCCTTTTGCCGGTTCGCCTTGAACACGAAGGGCATACGAT
CCGCCGGGCAATTTTTCCGCCCCGTAAGTCAGATACCGGTAATTCCCTTCGGGCGCGAAG
ATATTGCCGGAATGCCCCGTCAGGCTGACCGCTTCCCCATCGACAATCAGCGTATCCGCC
TGATTGACGGGAATCAGCGGCATCTCGGCCGGAAGCGACCGCCTCGACCGTGCAGAACGC
CTAAATCGCGCAAATGAAGTGGGTTTAGGTTTATAAAAGATAATATATTGATTGATTCCC
TTCATCTGCACACTATCGGCAACCAAACCGACAAATTTATCATTCTTCCCATCTTTCTTG
TAATTACTTATTTTGTCTGCATCACTTAATTTTTCAAATTCTGATTTTAGCTGTACTTCT
TCATCCAAGAAATTATTGCCACTACAAGAATCGCCTTTACAGTGGGTCAACGTTATATTT
```

```
      TGCGACGGCCCGTCAATCAAAACGCCATTAGCCAAATCAACCCTTCCAAAATTGCTACCG
      CCATTCGCAGGTGCAGGGTTTGACGCGGGGATGGGATCTGAAGAACCGGCGGCTTGATTG
      TTTCCGGCTTGATTTGCACCTTGGGCAGCCGTATTGCCGGCATTTTGCCCGCCTGCCGAC
      GGATCGTCCCCCTGCATTCCGTCCGCCGCATTTGCCATATCCGGTTGGTTTGCCGGCTGA
  5   GACGATTCCCCGGCATCCGTTGCTTGATTTTCCATATTTCCGGCAAGCATATTCGGATCC
      GGGGTGTGATTCGGTGTCGAACTATCTGTACCGGCGGCATTTTGCGGCATATCATTTTGT
      GCCACCTCGTCTTCATTTTGGGATTATCCGCTGTTACCGCACCGCCATTGCCTGTATTT
      TCTTCCGAAACCGCCGCCATATCTTGACTGCCTTGTGCGGATGGCGCGCCCTGTCCTTGA
      GAACCTGCCTGTGGCGCATCTTCCTTTGCCTCTGTCTCTTTTTCAGAAACAACAGGGGCG
  10  GCAGGTTTTGACAGCGTGTCCGCCGACTTGACATCGGGCGATCCGCCACCGCCGCCCCCG
      CAGGCTGAAAGGGCAAAAATACAAGCCATTGCGATTACGCTGCGTTTAAACATCATCATC
      TCCTTCATCGTATTTCCTTTTTGGTTTAAACCCCGCCACTTGGACATCCGTCCTTCGGGG
      CGGTGGAATCAGCTTTATTTGGGAAGAGCGCAACCTTTCCAAATCAGGGCGACACATAGG
      GCTGTGCTTTATGTGCCGCCCTGTGTGTTGAAACATATTCAATAAATATTGTTTCCGCCG
  15  TATGCCTATAAAATTGTAAAAATATGCCGTCTGAACGCCAAACGGGCTTCAGACGGCATA
      GCTTGGTTTATTCCGCCCGGTTCCTCTGTCGGCCCAAATCGGCGGCAGCGGTAAACAAAA
      CGTCGGTCGAAGAGTTCAGCGCAGTTTCCGCCGAATCCTGAATCACGCCGATAATGAAGC
      CGACGGCAACCACCTGCATGGCCACATCGTTATCGATACCGAACAGGCTGCACGCCAAAG
      GAATCAGCAGCAACGAGCCACCGGCCACACCGGATGCACCGCACGCGCTAACGGTAGCCA
  20  CCAGGCTCAGCAGCAGGGCAGTGGCGAAGTCAACCGTAATGCCTTGCGTGTGCGCCGCAG
      CCATCGCCAAAACGGTAATGGTGATTGCCGCACCGGCCATATTGATGGTTGCACCCAATG
      GAATGGAGATGGAGTAAGTGTCTTCGTGCAAACCCAGCTTTTTCGCCAATGCCATGTTCA
      CAGGGATATTGGCGGCGGAAGAACGGGTAAAGAAGGCATAAACGCCACTTTCACGCAGGC
      AGGTAAACACCAGCGGGAAAGGGTTGCGGCGGATTTTCCACCACACGATGGCGGGATTGA
  25  CCGCCAGCGCGATAAACGCCATACAGCCCAACAGCACTGCAAGCAGCTTCGCGTACCCCG
      CCAGCGCGCCGAAACCCGTCTCCGCGATTGTGGACGACACCAGCCCGAAAATGCCCAAAG
      GGGCAAAACGGATAATCCATTTCACGACGGTGGAAACCGCTTCCGCCAAATCGGCAACGA
      CCTGCCGCGTAACGTCCGAACCGTGATTCCGCAACGCCGCGCCCAAAACCAAAGCCCAAG
      CCAAAATGCCGATATAGTTGGCATTGGCAATCGCGTTAATCGGGTTGGCGACCAGGTTCA
  30  TCAGCAGCGATTTCAATACTTCCACAATGCCGGAAGGCGGCGCGGCGGACACATCGCCCG
      CGCCCGCCAAAACAATGTGCGTCGGGAAAACCATACCGGCGATGACGGCGGTCAGGGCTG
      CGGAAAACGTACCGATGAGGTAAAGGACGATAATCGGCCTGATATGCGCCTTGTTGCCTT
      TTTGGTGCTGCGCGATTGTGGCCGCCACCAAAATAAATACCAAAACCGGCGCGACCGCTT
      TGAGCGCACCGACAAACAGGCTGCCGAACAAGCCTGCCGCCAAGCCCAGTTGCGGGGAAA
  35  CCGAACCGATTACGATGCCCAACGCCAAACCGGCGGCAATCTGCCTGACCAGGCTGACGC
      GGCCGATCGCATGAAATAAGGATTTGCCGAACGCCATAATTCTTCCTTATGTTGTGATAT
      GTTAAAAAATGTTGTATTTTAAAAGAAAACTCATTCTCTGTGTTTTTTTTATTTTCCGG
      CTGTATTTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACA
      AACAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGC
  40  TAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATAAGGTTGCGTTGATTTGC
      CCTATGCAGTAGTGCCGGACAGGCTTTGCTTTATCATTCGGCGCGACGGTTTAATTTATT
      GAACGAAATAAATTTATTTAATCCTGCCTATTTTCCGACACTATTCCGAAACGCAGCCT
      GTTTTCCATATGCGGATTAGAAACAAAATACCTTAAAACAAGCAGATACATTTCCGGCGG
      GCCGCAACCTCCGAAATACCGGCGGCAGTATGCCGTCTGAAGCGTCCCGCCCCGTCCGAA
  45  CAGTGTTAAAATCGAAAGCCGCCACACCGATGCACGACACCCGTACCATGATGATCAAAC
      CGACCGCCCTGCTCCTGCCGGCTTTATTTTTCTTTCCGCACGCATACGCGCCTGCCGCCG
      ACCTTTCCGAAAACAAGGCGGCGGGTTTCGCATTGTTCAAAAACAAAAGCCCCGACACCG
      AATCAGTCAAATTAAAACCCAAATTCCCCGTCCTCATCGACACGCAGGACAGTGAAATCA
      AAGATATGGTCGAAGAACACCTGCCGCTCATCACGCAGCAGCAGGAAGAAGTATTGGACA
  50  AGGAACAGACGGGCTTCCTCGCCGAAGAAGCGCCGGACAACGTTAAAACGATGCTCCGCA
      GCAAAGGCTATTTCAGCAGCAAAGTCAGCCTGACGGAAAAAGACGGAGCTTATACGGTAC
      ACATCACACCGGGCCCGCGCACCAAAATCGCCAACGTCGGCGTCGCCATCCTCGGCGACA
      TCCTTTCAGACGGCAACCTCGCCGAATACTACCGCAACGCGCTGGAAAACTGGCAGCAGC
      CGGTAGGCAGCGATTTCGATCAGGACAGTTGGGAAAACAGCAAAACTTCCGTCCTCGGCG
  55  CGGTAACGCGCAAAGCCTACCCGCTTGCCAAGCTCGGCAATACGCAGGCGGCCGTCAACC
      CCGATACCGCCACCGCCGATTTGAACGTCGTCGTGGACAGCGGCCGCCCCATCGCCTTCG
      GCGACTTTGAAATCACCGGCACACAGCGTTACCCCGAACAAATCGTCTCCGGCCTTGCGC
```

```
      GTTTCCAGCCCGGTATGCCGTACGACCTCGACCTGCTGCTCGACTTCCAACAGGCGCTCG
      AACAAAACGGGCATTATTCCGGCGCGTCCGTACAAGCCGACTTCGACCGCCTCCAAGGCG
      ACCGCGTCCCGTCAAAGTCAGCGTAACCGAGGTCAAACGCCACAAACTCGAAACCGGCA
      TCCGCCTCGATTCGGAATACGGTTTGGGCGGCAAAATCGCCTACGACTATTACAACCTCT
  5   TCAACAAAGGCTATATCGGTTCGGTCGTCTGGGATATGGACAAATACGAAACCACGCTTG
      CCGCCGGCATCAGCCAGCCGCGCAACTATCGGGGCAACTACTGGACAAGCAACGTTTCCT
      ACAACCGTTCGACCACCCAAAACCTCGAAAAACGCGCCTTCTCCGGCGGCGTCTGGTATG
      TGCGCGACCGCGCGGGCATCGATGCCAGGCTGGGGGCGGAATTTCTCGCAGAAGGCCGGA
      AAATCCCCGGCTCGGCTGTCGATTTGGGCAACAGCCACGCCACGATGCTGACCGCCTCTT
  10  GGAAACGCCAGCTGCTCAACAACGTGCTGCATCCCGAAAACGGCCATTACCTCGACGGCA
      AAATCGGTACGACTTTGGGCACATTCCTGTCCTCCACCGCGCTGATCCGCACCTCTGCCC
      GTGCAGGTTATTTCTTCACGCCCGAAAACAAAAAACTCGGCACGTTCATCATACGCGGAC
      AAGCGGGTTACACCGTTGCCCGCGACAATGCCGACGTTCCTTCAGGGCTGATGTTCCGCA
      GCGGCGGCGCGTCTTCCGTGCGCGGTTACGAACTCGACAGCATCGGACTTGCCGGCCCGA
  15  ACGGATCGGTCCTGCCCGAACGCGCCCTCCTGGTGGGCAGCCTGGAATACCAACTGCCGT
      TTACGCGCACCCTTTCCGGCGCGGTGTTCCACGATATGGGCGATGCCGCCGCCAATTTCA
      AACGTATGAAGCTGAAACACGGTTCGGGGACTGGGCGTGCGCTGGTTCAGCCCGCTTGCGC
      CGTTTTCCTTCGACATCGCCTACGGGCACAGCGATAAGAAAATCCGCTGGCACATCAGCT
      TGGGAACGCGCTTCTAAAACCGATATGGCCACTTCAGACGGCATTGCAGCAAACCATTTTG
  20  AAACAGACATTATGACCGATACCGCACCGACAGATACCGATCCGACCGAAAACGGCACGC
      GCAAAATGCCGTCTGAACACCGCCCTACCCCGCCGGCAAAAAAACGCCGCCCGTTGCTGA
      AGCTGTCGGCGGCACTGCTGTCTGTCCTGATTTTGGCAGTATGTTTCCTCGGCTGGCTCG
      CCGGTACGGAAGCAGGTTTGCGCTTCGGGCTGTACCAAATCCCGTCTTGGTTCGGCGTAA
      ACATTTCCTCCCAAAACCTCAAAGGCACGCTGCTCGACGGCTTCGACGGCGACAACTGGT
  25  CGATAGAAACCGAGGGGGCAGACCTTAAAATCAGCCGCTTCCGCTTCGCGTGGAAACCGT
      CCGAACTGATGCGCCGCAGCCTGCACATTACCGAAATTTCCGCCGGCGACATCGCCATCG
      TTACCAAACCGACTCCGCCTAAAGAAGAACGCCCGCCGCTCAGCCTTCCCGACAGCATAG
      ACCTGCCTGCCGCCGTCTATCTCGACCGCTTCGAGACGGGCAAAATCAGCATGGGCAAAG
      CCTTTGACAAACAAACCGTCTATCTCGAACGGCTGGATGCTTCATACCGTTACGACCGCA
  30  AAGGACACCGCCTTGACCTGAAGGCCGCCGACACGCCGTGGAGCAGTTCGTCGGGGGCGG
      CCTCGGTCGGCTTGAAAAAACCGTTTGCCCTCGATACCGCCATTTACACCAAAGGCGGAC
      TCGAAGGCAAAACCATACACAGTACGGCTCGGCTGAGCGGCAGCCTGAAGGATGTGCGCG
      CCGAACTGGCGATCGACGGCGGCAATATCCGCCTCTCGGGAAAATCCGTCATCCACCCGT
      TTGCCGAATCATTGGATAAAACATTGGAAGAAGTACTGGTCAAAGGGTTCAACATCAATC
  35  CGGCCGCCTTCGTGCCTTCCCTGCCCGATGCCGGACTGAATTTCGACCTGACCGCCATCC
      CGTCGTTTTCAGACGGCATCGCGCTGGAAGGTTCGCTCGATTTGGAAAACACCAAAGCCG
      GCTTTGCCGACCGCAACGGCATCCCCGTCCGTCAGGTTTTAGGCGGCTTTGTCATCCGGC
      AGGACGGCACGGTGCATATCGGCAATACGTCCGCCGCCCTGCTCGGACGGGGCGGCATCA
      GGCTGTCGGGCAAAATCGACACCGAAAAAGACATCCTCGATTTAAATATAGGCATCAACT
  40  CCGTCGGCGCGGAAGACGTACTGCAAACCGCGTTCAAAGGCAGGTTGGACGGCAGCATCG
      GCATCGGTGGCACGACCGCCTCGCCCAAAATCTCTTGGCAACTCGGCATCGGCACGGCGC
      GCACGGACGGCAGCCTCGCCATTGCAAGCGACCCAGCAAACGGACAGCGGAAACTGGTGC
      TCGACACCGTCAACATCGCCGCCGGGCAAGGCAGCCTGACCGCGCAAGGCTATCTCGAGC
      TGTTTAAAGACCGCCTGCTCAAGCTGGACATCCGTTCCCGCGCATTCGACCCTTCGCGCA
  45  TCGATCCGCAACTTCCGGCAGGCAATATCAACGGCTCAATAAACCTTGCCGGCGAACTGG
      CAAAAGAGAAATTCACAGGCAAAATGCGGTTTTTACCGGCACGTTCAACGGCGTACCGA
      TTGCCGGCAGTGCCGACATTGTTTACGAGTCCCGCCACCTTCCGCGTGCCGCCGTCGATT
      TGCGGCTGGGGCGGAACATTATTAAAACAGACGGCGGCTTCGGCAAAAAAGGCGACCGGC
      TTAACCTCAATATCACCGCACCCGATTTATCCCGTTTCGGTTTCGGACTCGCGGGGTCTT
  50  TAAATGTACGCGGACACCTTTCCGGTGATTTGGACGGCGGCATCCGAACCTTTGAAACCG
      ACCTTTCCGGCGCGGCGCGCAACCTGCACATCGGCAAGGCGGCAGACATCCGTTCGCTCG
      ATTTCACGCTCAAAGGTTCGCCCGACACAAGCCGCCCGATACGCGCCGACATCAAAGGCA
      GCCGCCTTTCGCTGTCGGGCGGAGCGGCGGTTGTCGATACCGCCGACCTGATGCTGGACG
      GCACGGGCGTGCAGCACCGCATCCGCACACACGCCGCCATGACGCTGGATGGCAAACCGT
  55  TCAAATTCGATTTGGACGCTTCAGGCGGCATCAACAGGGAACTTACCCGATGGAAAGGCA
      GCATCGGCATCCTCGACATCGGCGGCGCATTCAACCTCAAGCTGCAAAACCGTATGACGC
      TCGAAGCCGGTGCGGAACGCGTGGCGGCAAGTGCGGCAAATTGGCAGGCAATGGGCGGCA
```

-253-

GCCTCAACCTGCAACACTTTTCTTGGGATAAAAAAACCGGCATATCGGCAAAAGGCGGCG
CACACGGTCTGCATATCGCCGAGTTGCACAATTTCTTCAAACCGCCCTTCGAACACAATC
TGGTTTTAAACGGCGACTGGGATGTCGCCTACGGGCGCAACGCGCGCGGCTACCTCAATA
TCAGCCGGCAAAGCGGCGATGCCGTATTGCCCGGCGGGCAGGCTTTGGGTTTGAACGCAT
TTTCCCTGAAAACGCGCTTTCAAAACGACCGCATCGGAATCCTGCTTGACGGCGGCGCGC
GTTTCGGGCGGATTAACGCCGATTTGGGCATCGCCAACGCCTTCGGCGGCAATATGGCAA
ATGCACCGCTCGGCGGCAGGATTACCGCCTCCCTTCCCGACTTGGGCGCATTGAAGCCCT
TTCTGCCCGCCGCCGCAAAACATTACCGGCAGCCTGAATGCCGCCGCGCAAATCGGCG
GACGGGTAGGCTCTCCGTCCGTCAATGCCGCCGTCAACGGCAGCAGCAACTACGGGAAAA
TCAACGGCAACATCACCGTCGGGCAAAGCCGCTCTTTCGATACCGCGCCTTTGGGCGGCA
GGCTCAACCTGACCGTTGCCGATGCCGAAGTATTCCGCAACTTCCTACCGGTCGGACAAA
CCGTCAAAGGCAGCCTGAATGCCGCCGTAACCCTCGGCGGCAGCATCGCCGATCCGCACT
TGGGCGGCAGCATCAACGGCGACAAACTCTATTACCGCAACCAAACCCAAGGCATCATCT
TGGACAACGGCTCGCTGCGTTCGCATATCGCGGGCAGGAAATGGGTAATCGACAGCCTGA
AATTCCGGCACGAAGGGACGGCGGAACTCTCCGGTACGGTCGGTATGGAAAACAGCGGAC
CCGATGTCGATATCGGCGCGGTGTTCGACAAATACCGCATCCTGTCCCGCCCCAACCGCC
GCCTGACGGTTTCCGGCAACACCCGCCTGCGCTATTCGCCGCAAAAAGGCATATCCGTTA
CCGGGATGATTAAAACGGATCAGGGGCTGTTCGGTTCGCAAAAATCCTCGATGCCGTCCG
TCGGCGACGATGTCGTCGTATTAGGCGAAGTCAAAAAAGAGGCGGCGGCACCGCTCCCCG
TCAATATGAACCTGACTTTAGACCTCAATGACGGCATCCGCTTCGCCGGCTACGGCGCGG
ACGTTACCATAGGCGGCAAACTGACCCTGACCGCCCAATCGGGCGGAAGCGTACGGGGCG
TGGGCACGGTCCGCGTCATCAAAGGGCGTTATAAGGCATACGGGCAGGATTTGGACATTA
CCAAAGGCACGGTCTCCTTTGTCGGCCCGCTCAACGATCCCAACCTCAACATCCGCGCCG
AACGCCGCCTTTCCCCCGTCGGTGCGGGCGTGGAAATATTGGGCAGCCTCAACAGCCCGC
GCATTACGCTGACGGCAAACGAACCGATGAGTGAAAAAGACAAGCTCTCTTGGCTCATCC
TCAACCGCGCCGGCAGCGGCAGCAGCGGCGACAATGCCGCCCTGTCTGCAGCCGCAGGTG
CGCTGCTTGCCGGGCAAATCAACGACCGCATCGGGCTGGTGGATGATTTGGGCTTTACCA
GCAAGCGCAGCCGCAACGCGCAAACCGGCGAACTCAACCCCGCCGAACAGGTGCTGACCG
TCGGCAAACAACTGACCGGCAAACTCTACATCGGCTACGAATACAGCATCTCCAGCGCGG
AACAGTCCGTCAAACTGATTTACCGGCTGACCCGCGCCATACAGGCGGTTGCCCGTATCG
GCAGCCGTTCGTCGGGCGGCGAGCTGACATACACCATACGTTTCGACCGCTTCTCCGGTT
CGGACAAAAAAGACTCCGCCGGAAACGGCAAAGGAAAATAAGCGGTTTTCAGACGGCGCG
CCGCCAAACCGGACATTTGAAAACCTGCTTTTCCACCGTCCGCCGCCGCCGTCCGCCTGC
AAGGGAACAGAATCGATATAGTGAATTAACAAAAATCAGGATAAGGCGACGAAGCCGCAG
ACAGTACAAATAGTACGGAACCGATTCACTCGGTGCTTGAGCACCTTAGAGAATCGTTCT
CTTTGAGCCAAGGCGAGGCAACGCCGTACCGGTTTTTGTTAATCCGCTATATTCCGCCAT
CTCTAAGATTTACAGCGATACACAGGTAATTTAAGGAATGCCCGAACCGTCATTCCCGCC
ACTTTCCGTCATTCCCGCGAAAGCGGGAATCTAGGACGCAGGGTTAAGAAAACCTACATC
CCGTCATTCCCGCGAAAGTGGGAATCTAGAAATGAAAGCAACAGGCATTTATCGGAAAT
AACTGAAACCGAACAGACTAGATTCCCGCCTGCGCGGGAATGACGGCTGCAGATGCCCGA
CGGTCTTTATAGCGGATTAACAAAAATCAGGATAAGGCGACGAAGCCGCAGACAGTACAA
ATAGTACGGAACCGATTCACTCGGTGCTTGAGCACCTTAGAGAATCGTTCTCTTTGAGCC
AAGGCGAGGCAACGCCGTACCGGTTTTTGTTAATCCGCTATATTCCGCCATCTCTAAGAT
TTACAGCGATACACAGGTAATTTAAGGAATGCCCGAACCGTCATTCCCGCCACTTTCCGT
CATTCCCGCAAAGCGGGAATCTAGAATCTCGGACTTTCAGATAATCTTTGAATATTGCT
GTTGTTCTAAGGTCTAGATTCCCGCCTGCGCGGGAATGACGATTCATAAGTTTCCCGAAA
TTCCAACATAACCGAAACCTGACAGTAACCGTAGCAACTGAACCGTCATTCCCACGAAAG
TGGGAATCTAGAAATGAAAGCAACAGGCATTTATCGGAAATAACTGAAACCGAACAGAC
TAGATTCCCGCCTGCGCGGGAATGACGGCTGCAGATGCCCGACGGTCTTTATAGCGGATT
AACAAAAATCAGGACAAGGCGGCGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTC
ACTCGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGT
ACTGGTTTTTGTTAATCCTCTATAATGCGCCCTTCGGCGTGGCGGATATATAAGGAAGTG
ATTTTCCATCTAAGTAAAAACCGCCCTATCGGATAAGCCCTTAACAGAAAAGGCTTTACC
CGCGCCGTATCGGAACACATCCTCTAAAATACAATCCGTTGAATTGAAAAAAATATAAAA
ACATCCGCCCGCGAAAAACGGCAGCGCGTCGTTTGACAAAGAATGAAAATATCGGTTAAA
AACCGATTTTCATACAAAAAACACCGCTGCCGTCCGCATCCGTTTCAGACGGTATTGAGA
GAAAATCTTTTAGGAGAACCTTTATGTCCCGGCATCCCGCCCCCACCGGAGAAAAAACAT

```
TCTTCGGCCACCCCTTCCAGCTTTCCACCCTCTTCCATATCGAATTGTGGGAACGTTTTT
CATTTTACGGAATGCAGGGCATCCTGCTGATTTACCTCTACTACACCGCCGACAAAGGCG
GCTTGGGCATAGACAAAACCCTCGCCGGCGGCATTGTCGGCGCATACAGCGGCAGCGTGT
ACCTGTCCACCATTTTGGGGGCGTGGTTTGCCGACCGAGTATGGGGTGCGGAAAAAACCC
TCTTCCTCTCGGGCATCGTCGTGATGCTCGGACACATCGTCCTTGCCGCCGCCCCGGGCC
TGTACGGCCTTTTAATCGGGCTGATATTCATCGCATTGGGCAGCGGCGGCGTGAAATCTA
CGGCCAGTTCTATGGTGGGCGCATTATACGAACAGGACGAAATGCGCCCGCTGCGCGATG
CGGGATTTTCCATTTTCTACATCGCCATCAACATCGGCGGCTTCCTAGGCCCGCTGCTGA
CCGGCCTACTGCAGGAAAACATCGGTTTCCATTATGGTTTCGGCGCGGCGGCGGTCGGTA
TGGCATTCGGCTTGTGGCGTTATTCCCTGGGACGTAAAAACCTGCCCCACCCCACCGTCC
CCCATCCGCTTTCAAAAGGACAGGGCAAAACTGCGGCCGCCGTCGGCATCGCCCTCATCG
CCGCACTTGCAACCGCCATCAAAACCGGGCTTGTCAACCTCGACAATTTCTCCGGCATCC
TATTATCTACCGTCATCCTTGCCGTCATCGCCTATTTCGCCCGCCTGCTGACCAACCCCC
GCGTCAGTTCCGACAACAAACGGCACATCATCGCCTACATCCCGCTTTTCCTGACCATCT
GTATGTTTTGGGCCGTCTGGTTTCAGATTTACACCGTGGCAACCGTCTATTTCGACGAAA
CCGTCAACCGCACCATCGGTTCGTTTACCGTGCCCGTCGCTTGGAAAGATTCTATGCAAA
GCCTGTGGGTCATCCTGTTTTCCGGACTGATGGCGGCAATGTGGACAAAAATGGGGCGCA
AACAGCCCAAAACCCCGCTGAAATTCGCTATGGCGGTATTTGTTACCGGCGCGTCGTTTT
TGGGATTCGTCCCCTTTATTTCCTCCGGTACGCCGATGCCTATTGCGGTTTTCGCACTGA
TCGTCCTCGCCATCACGATAGGCGAACTGATGATTTCCCCGATTGCGCTGTCCATCTCCA
CCAAAATCGCACCGCCTTTATTCAAAACCCAAATGGTCGCCCTTAATTTCCTTGCCTTTT
CATTAGGCTTCACTTTGGGCGGCGTATTGTTTGAAAAAGGCTATCAGGCGGGCGACGAAA
TCGGCTTCTATCGGCTGCTGTTCTACATCGGCGCAGCCACAGGCTTCCTGCTGCTCCTGC
TCGTCCCCAAATTGAACAAAATGCTCGAAGGCACAGACTAAGTCCCGCCCCGATGCCGTC
TGAACCCTTCAGACGGCATTTTTCCGCATAATGAAACCAAACCGTTTCCACCCGACAGGA
CAGGCTCCCGCCCAACCGGAAGGCAGCCTGCCGATTGTCATTTGAATAACGCAAGGGAAA
GCCGTTGATTTCCGTTTGTATGGAAACAGTTTGGTTTCATTGGAAAAAGGCATTTTGTCC
GACTAAATTAGTGCTGCATCAACGAAATATATAGTGGATTAACAAAAATCAGGACAAGGC
GACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTGAGCACCTT
AGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACCGGTTTTTGTTAATCCAC
TATAAAAACACAACCTAAATAAAAATGCCGTCTGAACCATATTTCAGGTTTCAGACGACA
TTTGCGTGTCGGATGCACACCGGACAGGCGGTAAGCCGGGTTCTGTCTCGGACAGTCATT
CCTCTAGGCATACCGTTACCGGTATGCTCAAGCAACCTACCCGAACGCTCGGCGGGCAGC
GTCATTGCGTTCTGTTTGGTCTTGCTCCGAATGGGGTTTGGCCTGCCGCATATTGTTACC
AAATGCGCGGTGCGCCCTTACCGCACCTTTTCACCCTTACCTGTGCTGCCAAAGCAGCCA
TCGGCGGTTTTGCTTTCTGTTCCACTTTCCGTCGCGTTACCGCGCCCGGCCGTTAACCGG
CATTCTACCCTGCGGAGCCCGGACTTTCCTCCCCGTATGCCTTACGCGATACGCGGCGAC
TGTCTGCCCGTCCCGTGTGCGGCGCGGATTATAACACGAAACACAAAAATGCCGTCTGAA
ACGGTACAGGTTTCAGACGGCATACAGCCTAAACTACACGCCCTGTTTCAGGCTGGCTTC
GATGAAGCCGTCCAAGTCGCCATCCAATACGGCTTTGGTGTTGCCGACTTCGTAGCCTGT
ACGCAAGTCTTTGATACGTGAGGAATCCAAAACATACGAACGGATTTGGCTGCCCCAACC
TACATCGGATTTACCTTCTTCCAACGCCTGTTTCTCTTCATTGCGTTTGCGCATTTCCAA
TTCATACAGTTTGGACTTCAACATTTCCATCGCAGCGGCTTTGTTGGCGTGTTGCGAACG
GTCGTTTTGACATTGCACCACAATCCCCGTCGGCTCGTGGGTAATGCGCACGGCGGAGTC
GGTTTTATTGATGTGCTGACCGCCCGCACCCGATGCGCGATAGGTGTCGATGCGCAAATC
GGCGGGGGTTGATTTCGATTTCGATGGAATCGTCGATTTCAGGGTAAACGAACACGGAGGC
AAACGAGGTATGGCGTTTGTTGTTCGAGTCAAACGGCGAGTAACGCACCAAGCGGTGAAC
GCCGGTTTCGGTACGCAGCAAACCATAAGCGTATTCGCCTTCCACACGGATGGTGGCGCG
GTTGATGCCTGCGATTTCGCCGTCGTCTTCTTCAAGGATTTCGATTCTGAAGCCTTTGCG
CTCGGCGTAGCGGCTGTACATACGGAACAGCATACCCGCCCAGTCTTCCGCTTCCGTACC
GCCCGCGCCTGCGGTGATGTCGATAAAGCAGTTGTTCGGGTCGGCGGGCTGGTTGAACAT
CCGTTTGAACTCCAAATCCGCCATCTGTTTTTCCAGCCCCGCTACGTCTTCCTGCACGGC
GGCAAAACCTTCTTCGTCGTTTTTCTTCGACGGTCATTTCAATCAGCATGCGGTTGTCTTC
GATGCCCGAAGCGATGTTGTCGAGCGTCAACACGATGCCTTCGAGGATTTTGCGCTCTTT
GCCGATTTCTTGGGCGCGTTTCGGGTCGTTCCAAAGTTCGGGGTCTTCGGAAAGACCGAT
AACTTCTTCCAATCGGTCTTTCTTACCCTGATAATCCATATAAACTCGGATGTCTTCGCT
GCGCTTTTCCAAATCGTTCAGGGTATTGTTGAGCTGGTTGATTACTTCGGCTTCCATGAT
```

-255-

```
TCTTTTGTTCTTTCAAAATTTTAGGGGCGTATTGTACGGGATTCGGGTATTTTTTTCTAT
GGATAAAGCCTTCTGGAAACACGTTCAGACGGCATAGCGTCAATAACGGTATGCCGCCAG
TTTGCGTTTGATTTCAGGCAATGCGGCACGTGCTGCCTCCTCACCCAACCGGATGGCGCG
TTTTTTCTGATCGAATCCGCCGACTGCACCCAAATCCAAAACCTGCGGTTTGATAACCAC
ATCCGCCTGCCCCAACTCATTTTGCAACGCAGAAACGCTCATTACGTTCAGCGTCTGATC
GAGATAAGAGAAGAAACCTTGGCTGATGTTTTTGCCCGGACGGGCGGAAATATCGACGGC
AATCACGAAATTCGCCCCCTGCCGCCGGGCGGCACTGACGGGCACGGGCTGCGACAGACC
GCCGTCAACATATGTATGCCTGCCGATGATAACGGGTTGGAACACATTGGGAATGGCGGC
GGAAGCGCGCACAGCCTGCCCGGCATTCCCCTGATTGAAAGCGACGGCCTTGCCGGTTTC
AAAATCAGTAGCAACGGCGGCAAATTTGATGGGAAACTGCTGAATCTGCCTGCCGCCGAC
TTTTCGGTTGATGTAATTTTGCAGCTTTTCGCCTTTGATAAAACCACTGGTGGACAAGGT
TAAATCGACCAAATCGGTTTTGCCTAAAATTTCGGCTTCCAATTCGAGGCGGTCGGGCGA
CATACCCGATGCAAAAAGGCTGCCGACAATCGAACCTGCCGATGTGCCGGTAACCACCTT
CACAGGAATACCGTTTTCTTTCAAAACCTTAATAATACCTACATGGGCAAATCCTTTAGA
TGCGCCGCCACCGAGTGCCAAACCGACCACTGCGGCGGGTTTGGCGGTTTGCACCGGCTT
GCGGACAGCATTATTTCCCGCCGTGCCGCAGGCGGCAAGCAACGCGGCGGCGGCGATTGC
CAAAAGCGGTCTGATTTTTGAAAACGTTACCATATTTTCCATTCCTTTATATATCGCACC
CCGTCAAAAAGAGGGATTGCTTTTCTTAACACCCCCCTTTGACAGCCAAGCAAATGGGGG
CTTTGTTAAGTCATCATCAAAATTAATATTTCTTTTTTTTTTCCTTTACGGAAATTATAT
TTGAAGGCATACTATCCAAGGCGGGAATTATCTCACAACACCGCCGTTATCCAAATATCC
CGCCTTTTTCCCTTTCTTTCCATCAAAATACTTTCTTTTTATATTCATTAACTTGTTAAA
TCATTGGCTGCCGGGTGTCAGTTTTTCCGACAAAATCCGTCTAATGGGGTATCAACAGAA
CCAAAACAGGAACACTTATGAAAATCGGAACAACTTGGCAGACGGCATCCGCTATGCTGG
TTTTGCGTCTGTTTGCCGCATATGAATTTTTGGAATCGGGTTTGCAAAAATGGAACGGGG
AGAATTGGTTTTCCGAAATCAACGATCAGTTTCCATTCCCGTTCAACTTGCTGCCGGACG
CGTTAAACTGGAATCTCGCCATGTATGCGGAGCTTTTGCTGCCCGTATTGTTGCTTTTGG
GTTTGGCAACGCGTCTGTCGGCATTGGGGCTGATGGTCGTTACCGCCGTCGCTTGGGCTG
CGGTTCACGCCGGTTCGGGTTACAATGTCTGCGACAACGGTTATAAAATGGCTTTAATTT
ATATCGTGGTATTAATCCCGCTGCTTTTCCAGGGTGCGGGCGGATGGTCGCTGGATACGC
TGCTGAAAAAACGGTTTTGCCCCCGATGCCGTCTGAAACAAGATTGATTCAGTCGTGGAA
TCTGACTTTAAACATTCCAACCTTATCTCGTTAACTTGATATTTTGAAAAGGAAATGACA
TGAACAAAAACATTGCTGCCGCTCTCGCCGGTGCTTTATCCCTGTCTTTGGCCGCCGGTG
CAGTTGCTGCCAACAAACCGGCAAGCAACGCAACAGGCGTTCATAAATCCGCCCATGGCT
CTTGCGGCGCGTCCAAATCTGCCGAAGGTTCGTGCGGCGCGGCTGGTTCTAAAGCAGGCG
AAGGCAAATGCGGCGAGGGCAAATGCGGTGCGACCGTAAAAAAAACCCACAAACACACCA
AAGCATCTAAAGCCAAGGCCAAATCTGCCGAAGGCAAATGCGGCGAAGGCAAATGCGGTT
CTAAATAATCCCACCCCTTCAAACCAAGCCGCGTTTTTCAGTAAAATGCGGCTTTTTTAA
CGGCAAACAAAGATTTTTTAACAAGCACATCATTCTTTTGTGCCATCCGAACCGGGTAAA
AATATGATTCAACACGCAGGCTTGGGCTACCGCCGCGACTTGGCGGAAGACTTTCTCTCG
CTTTCCGAAAACAGCCCGATATGCTTTATCGAAGCCGCACCGGAAAACTGGCTGAAAATG
GGCGGCTGGGCGCGCAAACAGTTTGACCGTGTGGCGGAACGGCTGCCGCTGGCGTTGCAC
GGATTGTCTATGTCGCTGGGCGGGCAAGCACCGCTGGATACTGATTTGATAGACGGCATC
AAAGAAATGATGCGCCGTTACGATTGCACGTTTTTCTCCGACCATTTGAGCTACTGCCAC
GACGGCGGTCATCTTTACGATTTGTTGCCGCTGCCCTTTACCGAGGAAATGGTGCATCAT
ACGGCGCGGCGTATCCGCGAAGTGCAAGACCGTTTGGGCTGCCGCATCGCCGTGGAAAAC
ACGTCCTACTATCTGCATTCCCCGCTTGCCGAGATGAACGAGGTCGAGTTCCTCAACGCC
GTCGCACGTGAGGCCGATTGCGGCATTCATCTGGATGTGAACAATATCTACGTCAACGCC
GTCAATCACGGTCTGCTGTCGCCGGAGGCTTTTTTGGAAAATGTGGATGCAGAGCGCGTG
TGCTATATCCATATTGCCGGACATGACGTGGAAACGCCGGAATTGTTGATTGATACACAT
GGCGCGGCAGTTTTGCCGACTGTTTGGGACTTGCTCGAACTTGCCTATGCCAAGCTGCCG
ACGATTCCGCCCACCCTGTTGGAACGCGATTTTAATTTCCCGCCTTTTTTCCGAACTCGAA
GCCGAAGTCGCCAAAATCGCCGATTATCAAACGCGTGCCGGAAAGGAATGCCGCCGTGCA
GCCTGAAACCTCCGCCCAATACCAGCACCGTTTCGCCCAAGCCATACGCGGGGGCGAAGC
CGCAGACGGTCTGCCGCAAGACCGACTGAACGTCTATATCCGCCTGATACGCAACAATAT
CTACAGCTTTATCGACCGTTGTTATACCGAAACGCTGCAATACTTTGACCGCGAAGAATG
GGGCCGTCTGAAAGAAGGTTTCGTCCGCGACGCGTGCGCCCAAACGCCCTATTTTCAAGA
AATCCCCGGCGAGTTCCTCCAATATTGCCAAAGCCTGCCGCTTTTAGACGGCATTTTGGC
```

```
ACTGATGGATTTTGAATATACCCAATTGCTGGCAGAAGTTGCTCAAATTCCGGATATTCC
CGACATTCATTATTCAAATGACAGCAAATACACACCTTCCCCTGCGGCCTTTATCCGGCA
ATATCGATATGATGTTACCGATGATTTGCATGAAGCGGAAACAGCCTTGTTAATATGGCG
AAACGCCGAAGATGATGTGATGTACCAAACATTGGACGGCTTCGATATGATGCTGCTAGA
AATAATGGGGTTCTCCGCGCTTTCGTTTGACACCCTCGCCCAAACCCTTGTCGAATTTAT
GCCTGAGGACGATAATTGGAAAAATATTTTGCTTGGGAAATGGTCAGGCTGGACTGAACA
AAGGATTATCATCCCCTCCTTGTCCGCCATATCCGAAAATATGGAAGACAATTCCCCGGG
CCAAAACCATCTATCCGCATAAAATTACCTTGTTCCCGATACTATGCCGCTACCCGACCT
GACCGATGCCGAATTAATAGAGTCGCGTAAACTGCTTCTGCATTTTGCGCGGCTTCAGTT
GCCCGACCACCCTGATTTGGCTGAAGATTTAGTGCAGGAAACATTGCTGTCCGCATACAG
CGCAGGCGACAGTTTTCAAGGCAGGGCACTTGTCAACAGCTGGCTTTTTGCCATATTGAA
AAACAAAATTATTGACGCATTACGTCAAATCGGAAGGCAGAGGAAAGTCTTTACCACACT
GGATGACGAGCTACTGGATGAAGCATTTGAAAGCCATTTTTCCCAAAACGGGCATTGGAC
GCAGGAAGGGCAGCCGCAACATTGGAACACTCCGGAAAAATCATTAAACAACAACGAATT
CCAAAAAATTCTGCAAAGCTGCCTATACAACCTGCCTGAAAACACCGCACGGGTATTTAC
CCTGAAGGAAATACTCGGTTTTTCATCCGACGAAATACAACAAATGTGCGGTATCAGCAC
GTCCAACTACCACACCATTATGCACCGCGCCCGAGAATCATTGCGCCAATGCCTGCAAAT
CAAATGGTTCAACCAAGAAAACCCGAAGTAAACGTTATGAAAAAATGCCGCGATATCGCC
CTGCTTCTTTCCAAACATCAGGACCGGGAAACCACCCCGGGCGAGAAGATTTCCATATAC
ACACACCTGCTGTTCTGTCCGTATTGCCGTGAATATAAAAGACAACTTCAAACCATCAAA
AGATCACTGGCAAAAACAACCAGAACTTCAAAATAAATGCCGTCTGAAAAGGCTTCAGAC
GGCATAAGCTGACGGAAACAAATCAAACCGATTTACTGTTATCTGCAGTTCATCCATAAT
ACACACTTCAAAAGCAGCATATTTCCCCATACGGAATGTATAAATACGCAAAATACGAAG
GCTGCATCAATTTGCCATATTTGCTTTATTTGCCTTATTTCACAGACGGCGCTACCCCTC
CCGCCCAACCCGTTCTTTCTGAATGAGCAGATTTCAATGATTAAGGAAACCCTAATGCGC
CCAATCTTCCTATCTTTCGTTTTATTCCCTATTTTGATAACCGCCTGCAGCACACCGGAC
AAGTCTGCCCGATGGGAAAATATCGGCACAATCTCAAACGGCAATATTCATACATATATC
AATAAAGACAGCGTGAGAAAAAACGGAAATCTGATGATTTTCCAAGATAAAAAAGTTGTT
ACCAATCTAAAACAAGAACGTTTTGCCAACACCCCCGCATACAAGACTGCCATTGCCGAG
TGGGAAATCCACTGCAACAACAAAACATACCGCTTAAGTTCGCTACAGTTGTTTGATACA
AAAAACACGGAAATTTCCACACAAAACTACACAGCCTCTTCCCTCCGCCCGATGAGCATC
CTGTCCGGGACATTAACCGAAAAACAATATGAAACCGTATGCGGAAAAAAACTCTGATTG
CAACTTATACACAAACTTACCCACAAACCTTATCATAAAAATGCCGTCTGAAATACTGAA
ATATCAGCATTTCAGACGGCATTTTGCCATTCCCTGAAAATTATCCACAAAGTTATCCAC
ATTATTTTTTAAAACCGGCTTCCATCCGAAATATAGTGGATTAACAAAAATCAGGACAAG
GCGACGAAGCCGCAGACAGTACAAATAGTACGGCAAGGCGAGGCAACGCCGTACTGGTTT
AAATTTAATCCACTATATAAACTCGCTATACAATTTCACTATCCAAACGTAAATTGTTCC
ATTGATACACAAAACTGCTTACCCCCATAATTTTGATAAAGCATTTCTTACATTCCCGGC
TCCGTCCCGTAACCAACACAGCGGCGGATTCGCATTTGAAGTGCAACTTTCCCTAACAGA
AAAAGGCCAGTATGCGGTAGCATACGACCTTTCCTGCAAGAAAGATTGCCATGAGCTACA
CGCAACTGACCCAGGGCGAACGATACCACATCCAATACCTGTCCCGCCCACTGCACCGTCA
CCGAAATCGCCAAACAGCTGAACCGCCACAAAAGCACCATCAGCCGCGAAATCAGACGGC
ACCGCACCCAAGGGCAGCAATACAGCGCCGAAAAAGCCCAGCGGCAAAGCCAGACTATCA
AACAGCGTAAGCGACAACCCTATAAGCTCGATTCGCAGCTGATTCAGCACATCGACACCC
TTATCCGCCGCAAACTCAGTCCCGAACAAGTATGCGCCTACCTGTGCAAACACCACCAGA
TCACGCTCCACCACAGCACCATTTACCGCTACCTTCGCCAAGACAAAAGCAACGGCAGCA
CGTTGTGGCAACATCTCAGAATATGCAGCAAACCCTACCGCAAACGCTACGGCAGCACAT
GGACCAGAGGCAAAGTACCCAACCGTGTCGGCATAGAAAACCGACCCGCTATCGTCGACC
AGAAATCCCGTATCGGCGATTGGGAAGCCGACACCATTGTCGGCAAAGGACAGAAAAGCG
CATTATTGACCTTGGTCGAACGCGTTACCCGCTACACCATCATCTGCAAATTGGATAGCC
TCAAAGCCGAAGACACTGCCCGGGCAGCTGTTAGGGCATTAAAGGCACATAAAGACAGGG
TGCACACCATCACCATGGATAACGGCAAAGAGTTCTACCAACACACCAAAATAACCAAAG
CATTGAAAGCGGAGACTTATTTTTGTCGCCCTTACCATTCTTGGGAGAAAGGGCTGAATG
AGAACACCAACGGACTCATCCGGCAATACTTCCCCAAACAAACCGATTTCCGTAACATCA
GTGATCGGGAGATACGCAGGGTTCAAGATGAGTTGAACCACCGACCAAGAAAAACACTTG
GCTACGAAACGCCAAGTGTTTTATTCTTGAATCTGTTCCAACCACTAATACACTAGTGTT
GCACTTGAAATCCGAATCCAAGAGCCTCTAAAAAATAATCGCTTGTTTTGACACCGATAC
```

-257-

```
ACTCATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAAT
AGTACGGCAAGGCGAGGCAACGCCGTACTGGTTTAAATTTAATCCACTATACAAATACAG
AAACTCAAGAAAATAACCTTGTGTATTGACCATCTCAAGCAATTCAGAAAAATCAAGAAA
TTTTCTGACCGTAAACAAACGTTTCCCTAAAAAAACGATGTCTTCAAAAATATCGAACAA
ATAGAGACCTTTGCAAAAATAGTCTGTTAACGAAATTTGACGCATAAAAATGCGCCAAAA
AATTTTCAATTGCCTAAAACCTTCCTAATATTGAGCAAAAGTAGGAAAAATCAGAAAAG
TTTTGCATTTTGAAAATGAGATTGAGCATAAAATTTTAGTAACCTATGTTATTGCAAAGG
TCTCAAATAATCATCTTCGGCGTTTTCATTTTTATGGATTAAAACAACACGGGAAAAATC
TGTTTTCAGATGCTTGCCCGCTTGATTGTTCGGATTATTGTCCGGAACGACAAAACCGTC
CTCAAAATTAAAGCAGACGTTGCGTCCTTCTACCTTTATCTCTGTGCAATAACAATCATG
TAGAGAAATGCTATCCGAAAATTTTTTCTTTGTGTATGCAAAAAAAGTTTTCATTCAAG
TACCCATATCTAACGCAAACGTTTACCTGTTTCCCCGTCAATAATCTGACTCGGCGATTT
CTGCCTGCCGATTCTCCCACCAACAATCCACACATCGCGTCCGAATTGCCTTCTGACTTC
CCTCTCCGTCCGACACGCGCGTTTGCCTGCGCGGTTGCACGAAGTCGAGACCAAAGGCGT
TTGCAAAGCCTGACACAAGCGGCGCGCACCTACATGGGCGGGAACCCTGACCGCCAACTT
GCTGCGCTGTTTCCCGCGTAACTCGGGTAAGACACAGGATTTGGCGGATAATAGGAACGT
TTTAGGGGCGGGCCATTCTTTTCTAAGCATATCCTGAAGATTTTCAGACGGCATTTGAAG
TAAAGGCTGCAATTGTTCAAATTGATTCCCGATGACAATCATACCCTTGTGTTGCGGTCT
TTTTTTCAAATGCGCCAACTTACCGAGTGCTTTGGCTAATGTCGGAAGACACCCCAAGCC
ATAACAAGATTCGGTCGGATAAGCGACCAAACCACCTTTTTTCAAATAAACGCTTAACTT
ACGTTGCGCTGATGCTGCGATAATTCTCGGAAATAACATAATATAAAATACCGTCTGAAG
CACATTAGTCATACTTGGCTTCAGACGGCATCATCCTCTTTCTAATTAACGGTTAATCGC
TTTATCGGCAATGTCTTTACGGTATTGCATCCCGTCGAAACTGATTTTTTCCAACGCGCC
ATATGCCTTAGCTTTCGCTTGCGCCACATTATCGCCCAATCCCACAACACACAATACGCG
TCCGCCGTTGGTCAATACGTCACCTTTCTCGTTTGCCGTTGTACCTGCATGGAAAACTTT
GCCGATTTGGTTGGCAGCATCCAGACCGGAAATAATATCGCCTTTTTTGGGCGTTTCGGG
GTAATTTTGCGCCGCCAGTACCACGCCCACGGCAGTTTGCGGGCTCCATTCCGCGGTTAC
GCTATCGAGTTTGCCGTCTATTGCCGCTTCAACCAAATCCGATAAGTCGCTGTTCAGTCG
GCTCATAATCGGCTGGGTTTCAGGATCGCCGAAACGGCAGTTAAACTCAATCGTATAGGG
TGCACCGCTTTGATCAATCATCAAACCTGCGTACAGGAAACCGGTGAACTCATGCCCCTC
CGCTTTCATCCCTGCTACGGTCGGCAAAATAATTTCATTCATCGCGCGTTCGTACACAAC
AGGCGTTACCACAGGCGCAGGGCTGTACGCACCCATACCGCCCGTATTCAGACCTTTGTC
GCCGTCTAAAAGACGCTTGTGGTCTTGGCTGGTTGCCATAGGCAGTACATTATTGCCATC
AACCATGACGATAAAACTCGCTTCTTCGCCTTGCAGGAAATCTTCAATTACAACACGCGC
GCCGGCATTGCCCATTTTGTTGTCCAGCAGCATATCATCAATCGCAGCATGCGCTTCATC
CAAAGTCATCGCCACAATCACGCCTTTACCTGCCGCCAAACCATCGGCTTTGATAACGAT
AGGCGCACCTTTCTGATTGACGTAATCATGTGCGGCATCGGCGTTTTCAAAGGTTTGATA
TTGCGCGGTCGGAATATTGTATTTCGCCATAAATGCTTTGGCGAAATCTTTGGAACTTTC
CAACTGCGCCGCATATTGTGTCGGACCGAATATTTTTAGTCCTGCAGCACGGAAATCATC
CACAATACCTGCCGCCAAAGGCGCTTCAGGGCCGACGACGGTAAAAACAATATTTTCTTT
ACGACAGAATTCAATCAAATCCTGATGCGCAGTCAAGTCGATGTTTTGCAACTTGGGTTC
AATCGCTGTACCGGCCATTACCAGGCGCAACAAATACTGTTTCCACTTTAGGCGACTGCGC
CAATTTCCAAGCCAGCGCGTGTTCGCGACCGCCATTACCGATAACCAGCAGTTTCATACC
ATCTCCTTGACAAATATGTACTTTTAACGAAACTCGATACAAAGGGACTTTTATCCCAT
CTGAAGAAATTTTAGTAGAATCAAACAAAAGACCGCTTCATTCCACTCTGCAACCTATTC
AACTTATCCATAAATTAAAAAAGGACAAGCAACCATGCAAAAACGTATTGATGAAATCCA
AAGCAAATACCGCGAATGGTGTCATTTACTACCGCAACTGGAAGAAGACATCCGCCGTTG
GAAACATGTCGTCACTTTAATTCGCGACATGGACAATTTCTATACCCACGAGTATCAGGC
GTGTCATCAGGCTATTGAAGACGGGGTAGAACTGGATTTGAGTACGGAAGGCGAATACAG
CATTATGAGTGAAGATGCGCTATGGAACGCGCTGGGCGAATTCCATCAATTGGCTTGGTT
ATATTTGCGCTCCAGCGTCGATGCCTTAGACAAATATACACAAGAAGATTAGTCAGCGAA
GAGGTCGTCTGAAATACCATCACAAAGCATTTCAGACGACCTTTCATTCAAAAGGCTTTT
CCGTATTTACTTCAATCTGCCGAGTATTCTTCCAAGCCGCAACACAGGCCTCATAATTTA
CCAACGACAAACTGACCGTCAATCGGCAATCCAACTGCAAATCCCGCTCCAATATATCCG
CCTGATATTGTTTGGCAATGCGTATCGCTTCATTCAAAAACGGATATTCACATTTCAGCC
AAACAGTTTTTTCAATATTCTTTTCAACTACTTCTGCAACTGCCAACGCTTGAGCCGTCG
CCTCTTTGTACGCATGTATCAGACCTGGAACACCTAACAAAGTACCACCGAAATAGCGGA
```

```
CGACCACAACCAAAACGTCGGTAATACCCACCGAATCAATCTGTCCCAAAATTGGTCGTC
CAGCACTTCCTGATGGCTCTCCATCATCGTTGGCACGAAATTGCACACCATCCACACCCA
AACGATAGGCATAGCACCAGTGTCGTGCTTTATGATGCTCTTCCTTTAACGGATCGAGGT
ATTTTTTCACATCAGCCAATGTCCGAATCGGATAGGCAAATGCAATAAAACGGCTGCCTT
TATCTTTAAACTCAGCCTGCGTCAAGGAAGTAATGGTTTTATAAGTCGTAATCATGCTGA
AATGTTTTCAGACGACCTCATTAATAACAAGGTCGTCTGAAAGTTTCACGTGAAACATCA
ATTTTTCAATACTTCTGTTAATTGTGGAACGATTTCAAATAAATCGCCAACCAATCCGTA
ATCGGCTACATTGAAAATCGGCGCATCAGCATCTTTATTGATTGCAACAATCACCTTACT
GTCTTGCATACCGGCAACGTGTTGAATTGCACCTGAAATACCGATTGCAAAATAGAGTTG
CGGCGCAACCACTTTACCGGTTTGTCCGACTTGAGCATCGTTTGGCGCATATTCGGCATC
AACTGCTGCACGGGATGCACCGATTGCCGCACCTAAAACATCCGCCAACGGTGTCAGCAC
TTCATTGAATTTTTCCGCACTACCCAACGCACGACCACCGGAAACAATCACTTTTGCCTG
AGTCAGTTCAGGACGATCGGAATGGGAAAGCTGACGGTTAACAAAACGACTCAGGTTTTG
GGCAGGGGTTGCTTCAACATTAATTACCTCAGCATTACCACCTTGCGCCGCCACTGCGTC
AAAAACCGTCGCACGGAAGGTCAGCACCAATTTTTCTGAATCAGCTTGCACGGTTTCAAA
TGCATTACCCGCATAAATGGGGCGCACAAAAGTCGTGTTATCCACAATTTCGGTCAAATC
AGAAATTTGCGGTACGTCTAATAAGGCTGCTACGCGGGGCAAAAGGTTTTTACCGAATGT
GGTTGCCGTTGCTGCAACATAGCGGTAATCGGCCGCCAATTTAACAACCAGCGGAGCCAA
CTCTTCAGCCAAACCTTCGGCATAATGAGCAGCATCTGCAACCAAAACTTTTTTCACCCC
CGCTACTTGCTTCGCGAATTCCACTACAGCAGATGCGCCGTTTCCGGCAACCAATAAATC
GACTTTGCCCAGTTTGGCGGCAGCGGTAACAGCATGCAAAGTGGTAGGATTCAACTGTTT
GTTGTCGTGTTCGACAATAATCAATACACTCATTTCAGCCTCCTCAAATCACTTTGGCTT
CGTTTTTCAATTTTTCAACCAATTCGGCAACGCTTGCTACTTTTACGCCTGCCTGACGCG
CCTTAGGTTCGGCAAATTTCACCGTTTTCAAACGAGGTGAAATGTCGGCAACCAAATCGT
CAGGAGTCAGTTTTTCCAAAGGTTTTTTCTTTGCCGCCATAATATTGGGGAGTTTGACAA
AGCGCGGCTCGTTCAAACGCAAATCCGCGCTGATAACAGCAGGCAGTTTCAATGCGATGG
TTTCTTCGCCGCCATCGATTTCCCGCACAATCTGCACTTCGTCGCCTTCAATTTGTACTT
TGGACGCGAACGTACCTTGCGCCGCATTCAGCAAAGCTGCCAGCATTTGCGCCACTTGAT
TGGCATCATCATCAATCGCTTGTTTGCCCAAAAAGAAAATTTGCGGATTTTCTTTGTCCG
CAACGGCTTTCAGCAACTTAGCAACGGCCAGAGACTCCAGTTTAGTATCGGTTTCAACAT
GAATGGCACGGTCGGCACCCATCGCCAAAGCTGTACGCAAGGTTTCTTCGCATTTTTTCT
CACCCAAAGAAACCGCTACGATTTCGCTTACTTTTCCGGCTTCTTTCAAACGGACAGCTT
CTTCCACAGCGATTTCGTCAAACGGATTCATCGACATTTTGACATTGCCGATATCCACAT
CCGAACCATCGGCTTTTACACGAACTTTGACGTTGTAGTCCACTACGCGCTTTACTGCGA
CCAGTGCTTTCATTGAACCCTCCTAAAAAGAACGCTGCTTTCACCATCCAGCGAAACCAA
ACCTTCTTCCCTATAAAACCAAATCCGTTTTCCTTAAAAACGAATTCATTCAAAAATCTT
TCGGATAATGCTTGCCGATTATACCATTTTTAAAGCATTTACTCAGACTAGCGGATATAC
ATTCCTGTATCTAATAAATTGGAAAATATCATGCCGCCATATCAGTTTTAGACGACCCTT
TAGCCTTTATCTGCTGCAACACAATCCATCAGCGCTTGATAAACCAAATCTGCGGTCGGA
ATCTGCCCGATATTGCCCAAATTTTTTGCAATTGGCGAAACCTGAACGCCTGTTTTAATC
GGATCGGTATCGGTATAAATGCCGACCACAGGTTTTTCCAAGGCATTTGCCAAATGCAGC
AAACCGGTATCCACGCCGACAATTCCGACCGCGTATTTCAGCAGATACGCTGCCTGCAAT
AAATTTATTTTGTCGCACACAATAGCAAACGGCAGCCCATCTGCAATTTGTTTGGCACGC
GTTTTTTCATCTTCATTTCCCCAAGGCAGGTAAATATTGCATTGCTGTTCTTCATTCAAC
TTTTGCAGCAACGACCGCCAGTTTTCCACAGGCCATAACTTACTGTCCCGACTGGTCGCA
TGCAAAGCCGCATAATACGGCTGCGCTAAATTTTTCAGACGGCCTGCTTCAGGAACAGTC
AAGCCAAATACCTGCGTTTCCGGCATTACATACCCAAATACTTGGGCAAACAGTTCACGG
TTGCGCCAAACGGCATTTTTTCCCTTCGGTACAGCGTATGTTTTTACATACGCCAAAGCA
GCCCATCCCTCGCGCGCACTGTTTTTATCCAAACCACAAATCGGGGATTTTGCCATTTTA
GCGAAACACGCGCTTTTAATCAGACCTTGACTGTCCAATACGAAATCAAATACTTCCTGC
CGCAAAGTCTGTTTCAGATGACCCATTTCCCGCCAAGTTTCAGCCCGAAAGAGATGTTTG
CGCCATTGCCGCCATTTCATCACATGGATTTTTTTTACAAACGGATGCAGGCGCGCAATA
TCTGCAAATCCAGCCTCACATAGCCAATGCAGTTCTACATCAGGACATTGTCGCGCCAAA
TCTTCGATTGCGGGCAAAGTGTGAATTAAATCGCCCATACTAGACAAGCGGACAAGCAAA
ATTTTCATATTTAGGAAGGGGGTTTCACGTGAAACAATTTTAACTTATTGATTATTAATA
TATTTATTTATTTCATCAGCGTTTTTTAAGATGATTGCCCCAGCAGAATGCATTTCCTGC
CATGCTGTTTCGATGGTTTCCGGCGCAATACCCCGACAAGCCGCTTCATTGACGACAACC
```

```
TGCCAACGACCGCCTTTGAGTAACTGCAAAACCGTTGTTTTAACACAATAATCCGTAGCT
AACCCACCGATAATAACCGTATCCGTATTTTGACAACGCAGCCATTCAATCAGCCCTGTG
CTTAGTTTTTCCTCAATATCGTGAAAACACGCGCCGTAAGGATGCAATTCAGGATCAACA
CCTTTCCAAACGCAATAATCGTATTCTTTAGCAGAAGGCAGCCCGTCCAATAATTCATAG
CCGCGCGTACCGACCATCGCATGAGCCACCCAAGTCAAATCCGCATCAGGCAAACCTGTC
GGCTTCAACATATCAACAGGGTTATCCACAAGCCATTCGCTACCATATGATGCGCATCT
TTCGTCATCACGCGCAAATCCGCCAAAGCGGCTTGCGCATTCAACTCCTCGACAATCAAA
TGCCCCTCGTTCACGGGCAGTTCGTCAGGACACAGTGGCGTAAACGTTTTTTGTGCATCA
ACATCAATGGAAACAATCATCTCATTATTTCAACGCGATTAAAATGCCCTGTATTATAAC
AAATTACTGCCCAAAGCGGTAAAACCGATTGTGATAAGATAAGGTTTTTCCAAAAAACT
TATCCACAACCTTATGACTTATACCATTACCCCCATCGGCACCGCCCGCTCGCCCTACAA
ACAGAAATTCGGCATCGCCCGCCAGCCCGGTTTGGTCTCCGCCGCAAAAGCCTGCATCGA
GCTGAATCCCAAATTCACCGCAGACAGCGTGCGCGGGCTGGAAGATTTCGATTATGTGTGT
GATAAGTTTTATTTTTCACGGCGTATTGGATGAAGGCTGGGCGCAAATGGTGCGCCCGCC
ACGGCTCGGCGGCAAACAAAAAATGGGCGTGTTCGCCACGCGCAGCCCCCACCGCCCCAA
CCATCTCGGACTCTCGCTCCTGAAACTCGAACGCATCGAAACCGGCAAACCCGTCCGCCT
CTATTGCAGCGGCGCAGACCTGCTGGACGGCACACCGATTGTGGACATCAAACCTTATAT
CCCCTTTGTCGAATCCAAACCCGATGCCGCATCCGGTTTCGTCAGCGGCAAACCCGTAGA
GTTGGAAGTCGTTTGGCAGGAAAACATCGGCGCGGAAAATTTATCTGCAAACACCAAAA
CCTTATCAGCCAAAGCATTGCCCAAGATCCGCGCCCCGCCTATCAGAATATTCCCGAACG
GATTTATGTGATGAATATTGCAGATTACGAAGTCAGATTTCAAATCGAGGAAAACCGTGC
AACCGTTATTGATCTTTCCCCAACCCCGCTTTAAATCGGGCAAAAATCCGGTTTTGCCGC
ATAGCAGTTGAACAAACGGCTGTTGTTTGTTCGCCATAAGCCGCAATATCAAGTTATAGC
GGATTAAATTTAAATCAGGACAAGGCAACGAAGCCGCAGACAGTACAAATAGTACGGCAA
GGCGAGATAACGCCGTACTGGTTTAAATTTAATCCACTATACAGATAAACAATGCCGTCT
GAACGCAATGTGTTCAGACGGCATTTACTTATCCACAGGTTTGTTCAAGCCTTAGATTTT
GCCTGCGAAGTATTCCAAAGTGCGGACGAGTTGGCAGGTGTAGGACATTTCGTTGTCGTA
CCAGGCAACGGTTTTCACCAATTGTTTGCCGCCCACGGTCATCACGCGGGTTTGGGTCGC
ATCGAAGAGCGAGCCGTATTCGATGCCGACAACGTCGGAAGAAACGATTTGATCTTCGTT
GTAGCCGTAAGATTCGCTGGCGGCGGCTTTCATCGCGGCGTTGATTTCTTCTTTGGTTAC
AGGGCGTTCGAGGATGGAAACCAATTCGGTCAGCGAGCCGCTGGCAACAGGGACGCGTTG
GGCGGAGCCGTCGAGTTTGCCGTTCAATTCGGGGATAACCAGACCGATGGCCTTGGCGGC
ACCGGTGCTGTTGGGCACGATGTTGAGCGCGGCGGCTCGGGCGCGGCGCAAATCGCCTTT
GCGGTGCGGCGCGTCAAGGGTGTTTTGGTCGCCGGTGTAGGCGTGGATGGTGGTCATCAG
ACCTTCGACTACGCCGAACTCTTTTTGCAGGACTGCCGCCATCGGGGCAAGGCAGTTGGT
GGTGCAGGAAGCGGCGGAGATAACGGTTTCGCTGCCGTCCAAAATGTCTTGGTTTACGCC
ATATACGACGGTTTTCACATCATTGCCGCCGGGTGCGGAAATCACGACTTTGCGCGCGCC
GGCCCTGATGTGTGCTTCGGCTTTGGTTTTATTGGTAAAGAAGCCGGTACATTCGAGGAT
GACATCCACACCCAACTCGCCCCAAGGCAATTCTTCGGGATTCGGATTGGCAAAAACTTT
GATCTCTTTGCCGTTTACCACGATGGCATCGTCTTTTAATTCGGCAGTACCTTGGAAACG
GCCTTGTGTGCTGTCGTATTTGAAAAGGTGCAGCAGCATTTCGGCAGGGGTCAGGTCGTT
GACGGCGACGACTTCGATGTCGTGGGCTTTTTCAATTTGACGCAATGCGAGGCGGCCGAT
GCGGCCGAAACCGTTAATCGCTACTTTAATGCTCATGTATATACTCCAAGCTGTGAAACG
AAATTTCAATACCTGTATTGTATTCTGAAATAAAGTTACATTCCACTATTACATCTAACT
ACTTGCCGCTTATTTGATATAGATGAATTTTACTGTTTGCACAGATTTCCAAAACTTTTA
CCATCAATATTTGAATTTAAAATTTTAATGATGATTTTGATGATTGCCAACCTGCTTGTG
CGTAAGTAGCAAATATCCAATATTTTCATTACCTTTTTGTCAAATAAGTTTGAGTTTAAG
ACTTGCTGTATAAGACAGATAAGCGTGGATGTTTTTTGACTTAATAATATTTCTGTGGAT
AACTTTGCTGTTTTCCTAGTTGTCTCCACAACCTTATTGACAGGCTTACGGTCAGTCTCA
TTCCGTCGAAGACAAAACCTTTTGCTACAATACCGTTTTCCTAATGATAAGGCAGCCCCA
TGTCCAAATCCGCCGTTTCCCCAATGATGCAGCAATACCTCGGCATCAAAGCGCAACATA
CCGACAAACTGGTGTTTTACCGTATGGGCGATTTTTACGAGATGTTTTTCGACGATGCGG
TAGAAGCGGCAAAACTTTTGGATATTACCCTGACCACGCGCGGACAGGTGGATGGCGAGC
CGGTCAAAATGGCAGGCGTGCCGTTTCACGCCGCCGAACAATATCTGGCGCGCCTGGTCA
AGTTGGGCAAAAGCGTGGCGATTTGCGAACAGGTCGGCGAAGTCGGCGCGGGCAAAGGGC
CTGTGGAGCGCAAAGTCGTGCGCATCGTAACGCCCGGCACGCTGACCGATTCCGCATTGC
TGGAAGACAAGGAAACCAACCGCATCGTTGCCGTGTCCCCCGACAAAAAAATACATCGGTT
```

```
TGGCGTGGGCATCGCTGCAAAGCGGCGAATTCAAAACCAAGCTGACAACTGTGGATAAAT
TGGACGACGAACTGGCGCGCCTGCAGGCGGCGGAAATTCTGTTGCCTGACAGTAAAAACG
CACCGCAACTTCAGACGGCATCGGGTGTTACGCGCCTGAACGCGTGGCAGTTTGCCGCCG
ACGCGGGGGAAAAACTGCTGACGGAATATTTCGGCTGCCAGGATTTGCGCGGCTTCGGTT
TGGACGGCAAAGAACACGCCGTTGCGATTGGCGCGGCAGGTGCACTGTTGAACTATATCC
GTCTGACGCAAAACCTGATGCCGCAACATTTGGACGGCCTGTCGCTCGAAACCGACAGCC
AATATATCGGTATGGATGCCGCCACGCGCCGCAATCTCGAAATCACGCAAACCCTCTCCG
GCAAAAAATCGCCGACCCTGATGTCCACGCTCGACCTTTGCGCTACCCATATGGGCAGCC
GCCTCTTGGCTCTCTGGCTGCACCACCCTTTACGCAACCGCGCCCACATCCGAGCGCGCC
AAGAAGCCGTTGCCGCGCTGGAAAGCCAATACAAACCCCTCCAGTGCCGTCTGAAAAGCA
TTGCCGACATCGAACGCATCGCCGCCCGTATTGCCGTGGGTAACGCCCGCCCGCGCGACC
TCGCCGCCCTGCGCGACAGCCTGTTTGCCCTGTCCGAAATCGAATTGTCCGCCGAGTGCA
GCAGTCTCTTAGGAACCCTCAAAGCCGTTTTCCCGGAAAACCTATCCACAGCCGAACAGC
TCCGCCAAGCCATTTTGCCCGAACCTTCCGTCTGGCTGAAAGACGGCAATGTCATCAACC
ACGGTTTTCATCCCGAACTGGACGAATTGCGCCGCATTCAAAACCATGGCGACGAATTTT
TGCTGGATTTGGAAGCCAAGGAACGCGAACGTACCGGTTTGTCCACACTTAAAGTCGAGT
TCAACCGCGTTCACGGCTTTTTACATTGAATTGTCCAAAACCCAAGCCGAACAAGCACCTG
CCGACTACCAACGCCGGCAAACCCTTAAAAACGCCGAACGCTTCATCACGCCGGAACTGA
AAGCCTTTGAAGACAAAGTGCTGACTGCTCAAGAGCAAGCCCTCGCCTTAGAAAAACAAC
TCTTTGACGGCGTATTGAAAAACCTTCAGACGGCATTGCCGCAGCTTCAAAAAGCCGCCA
AAGCCGCCGCCGCGCTGGACGTGTTGTCCACATTTTCAGCCTTGGCAAAAGAGCGGAACT
TCGTCCGCCCCGAGTTTGCCGACTATCCGGTTATCCACATCGAAAACGGCCGCCATCCCG
TTGTCGAACAGCAGGTACGCCACTTCACCGCCAACCACACCGACCTTGACCACAAACACC
GCCTCATGCTGCTCACCGGCCCCAATATGGGCGGCAAATCCACCTACATGCGCCAAGTCG
CGCTGATTGTTTTATTGGCACACACCGGCTGTTTTGTGCCTGCCGATGCCGCCACAATCG
GGCCCATCGATCAAATCTTCACCCGCATCGGCGCATCGGACGACCTCGCCTCCAACCGCT
CCACTTTCATGGTCGAAATGAGCGAAACCGCCTACATCCTGCATCACGCCACCGAACAAA
GCCTTGTTTTAATGGACGAAGTCGGACGTGGTACTTCCACTTTCGACGGCCTCGCCCTCG
CGCACGCCGTTGCCGAACACCTGCTGCAAAAAAACAAATCCTTCAGCCTGTTTGCTACCC
ACTATTTCGAGCTGACCTACCTGCCCGAAGCCCACACCGCCGCCGTCAATATGCACCTTT
CCGCGCTCGAACAGGGACAGGACATCGTTTTCCTGCACCAAATCCAACCGGGTCCCGCCG
GTAAAAGCTACGGCATTGCCGTCGCCAAACTCGCCGGCCTGCCTGTACGCGCATTGAAAT
CCGCCCAAAAGCATTTGAACGGACTGGAAAAACCAAGCCGCCGCGAACCGTCCCCAACTGG
ATATTTTCAGTACCATGCCGTCTGAAAAAGGAGATGAACCGAATGTGGGCAACTTTGTGG
ATAAAGCAGAGGAAAAACATTTTGAAGGTATATTGGCAGCAGCCTTGGAAAAACTCGATC
CCGACAGCCTGACCCCGCGCGAAGCATTGTCAGAACTGTACCGTCTGAAAGATTTGTGCA
AATCCGTATCTTAATTTCCGTTGTCGGAACAGCATCAAACCATATGGAAAAATCTGTGGA
TAAACATTATCTGACAGGAAATTTCCAAACATAAAAAATGCCGTCCGAACAGCTCAGACG
GCATCCGTCCATTCGGCTTAAACCTTATCCACATCCAAACGCATAACCGTAACCCATTCA
CCGTTATGGAAATGTCGCCCGACAACCACCCAGCCGAATGATTCATAAAATATTTGCACA
TCAGGCGTATAAAGATACAAGAACTTTATCCCCAGCGAACGCGCTGCGCCTATGCAGTGG
GCGACCAGCCTCCTGCCAATGCCTTTTCCGCGATATTCAGGTAAAACAAAGACATCCCCC
AACCAATATTCATACCGTGGAAAACTTTCCATATCATGCCGCTTGACCGCAGCCGAACCC
AACAGGATTCCGGAATCATCCACAGCCGCAAATGCCAGCGGCAGTTCGTCATCCTTCAAA
CACCTGCCGTAATAGGCATGAATCTTATCCACAGAAGACCACGGTTCAAATCCGTGCCAC
TCCTCAAACAACGCCTGAACCAACCTGCCGATATGCCCGGCTTTCAGCCGTGTAATGAAA
ACAGTATTGTCCACAAAGAGGGAATTCATCGGTCAATTCCCCGACGCCTTCGTTCCCCCT
GCGCCGTAAACCGCATTCCAAGCATGGTCCAAACGCACTCCGATTTGCCTCAAATCTTCA
GCCTGCCGGGCTTTTTGCGCCATTGCTGCAGGAATTTCCGCTTCCAAACGGGCGATGTCT
GCCTGAGCCGTCTGCAAACGCCGGCGCGCATCTTCCAAATCCGACTGCATCCCGATGATT
TTTCCGTCCAGATTGTTTTGCTTTTGCAATAAGGCGCGGTAACCGGATTGGATGCTGAGC
AGATTGTCTTCAGCATCCCCTGCCCATACGCTTGTAGAAAAAACAACCATCAGAAAATAA
AATATTTTTTCATTTTTAACTTCCATTTAAATGCTGTCTGAAGCCGTATTCCGACATCA
GACGGCATCGCCCACGCCTGTGGATAACTTAAGCGCGGATGCGTTTCAACACTTCTTCTT
TGCCGATTAATGCCAACACAGCATCGACGCTGGGGGTTTTCGCCGTACCGCAGACGGCAA
GGCGCAGGGGCATGCCGAGTTTGCCCATTTTAATGCCTTCTTCGTCGCAGAAGGGTTTGA
AGAGGTCGTGGATGGCTTCGGCATTCCAGTCTTCCAGCCCTTCGAGGCGTTCGGCAAAGC
```

```
         GCAGCATACGGGCGGCGGCTTCATCGTCCCAGTGTTTCTGCACGTCTGCTTCGGCAGGCG
         TTTGTTTGACGTAGAAGTAGAAGCACTCGTCGGCAAGCGTGTTCAAGTCTTGGGGGCGGT
         CTTTGACCAGTTCCAACACATCTTCCAAAGCAGGTTTTTCGGTTTCATGAATATCGCGCA
         ACGCAAGGCGGGGTTTGACGAGTTCGGCGAGTTTGCCGTTGGGTGTGATTTTGATGTGTT
5        CGCCGTTGATCCAGTAGAGTTTTTTCAAGTCCATACGGCTTGGAGACGGGGAAACGTCTT
         TCAAATCAAACCATTCGATGAATTGTTCCATTGTGAAGAATTCATCGTCGCCGTGCGCCC
         AGCCCAAGCGTGCCAGATAGTTGAGCATCGCTTCGGGCAGGATGCCCATTGCGCCGAAAT
         CGGTAATGGCAACGGTATCGCCGCTGCGTTTGGAGATTTTTTTGCCTTGTTCGTTAAGAA
         TCATCGGCAGGTGGCCGTATTCGGGCAGGTTCGCGTCGATGGCTTTTAAGATGTTGATTT
10       GTTTCGGCGTGTTGTTCACATGGTCGTCGCCGCGGATAACGTGGGTAACGCCCATGTCGT
         AGTCGTCTACGACAACGCAGAAGTTGTAGGTCGGCGTACCGTCGGCGCGGGCGATAATCA
         GGTCATCGAGTGCTTCGTTGGGGATGGAGATTTCGCCTTTGACCAAGTCTGTCCATTTGG
         TCACACCGTCCAAAGGCGTTTTGAAACGGACAACGGGTTGTACGTCGGACGGGATTTCGG
         GCAGGGTTTTACCTACTTCCGGACGCCAGCGGCGGTCGTAAGTCGCCGAGCCTTCTTTTT
15       CGGCTTTCTCACGCATGGCTTCCAGCTCTTCTTTGCTGCAATAGCAGTAGTAGGCATGGC
         CTTTTTCTAAAAGTTCGGCAATGACCTCTTTGTAGCGGTCGAAACGGCGAGTTTGGTAAA
         CGACGTTGTCGGCGTTGTCGTAATTGAGACCGACCCATTTCATGCCGTCGAGGATGATGT
         TGACGGATTCGGCGGTAGAACGCGCCAAGTCGGTGTCTTCAATACGTAATAGGAACTCGC
         CTTTATGATGGCGGGCAAACGCCCATGAAAACAAGGCGGTGCGCACGCCGCCGATGTGCA
20       GGTAGCCGGTGGGGCTGGGGGCGAAACGGGTTTTGACGGTCATGATGGCTCCGAAATCTT
         TGAAAGCGTTTATTTTACTGGTTTTACCGTGCTTGGGCATCAAAAATGCCGTCTGAACCC
         TGCCTGCGGATAAAGTTTCAGACGGCATTTTCCTTGTTTTCAATGCTTCGGCACGCGGAA
         CAGTGTATCACGCGCCGCCGACCGAATTCCTTCGGGATTGCGTCCAAAAAAAAGTTCAAT
         GAAACAGCTAATTGAAAAAATCCCGCCCCCATTTTTCCAAACGGTAGAGGGATAACGCAT
25       ATCCCTCTTGCAGCATAAAGATTTTTTTCTTATTTCCCGCATCAAACCGCGTGGTCGGCG
         TGGCAGACATATAAACGCGGACACCCAAATCCTCCGCCATTTCCGCCGCCCGCGCCAAAT
         GGTAGGGATCGCTGACAATCACCACGCTGGCAATACCGTTGGCACGCAAAACCGGACGGA
         TGTTGTTCAGGTTTTCATAAGTGTTGCGCGAAGTGTTTTCAAACAGGATGTTGCGCGCCG
         GAACCCCCTGTTTGAGTGCGTACCGCCGCCCGACCTCGGCTTCGGTCATATAGCCTTTTT
30       TGGTCCGGCCTCCCGTAAACACGATTTTGCCTACCCTGCGGCTCTGATAAAGTGCGATGG
         CATGGTTGATGCGTTCGCGGAAAACAGGAGAAGGGCGTTTGTCCCACGCGGCGGCGCCCA
         ACACCAGCGCGGCATCCGCCCGGACATACGGCGGCAAAACCTGCCCACCCGTCCGATAAA
         CCGCCCAAACGGATGAGGCAAACACCAGCAAAAGCGGAAAAACACTCAAACAGAAACCGC
         CCAACAGGTAATAGCGCAAGCCGTTGCGGCTGCAAAACAGCCGTTTGTTCACAATACCGC
35       TTCGATATTTTCCAGCGGTCTGCCGACAGCCGCCTTACCGTTTGCCAAAACAATCGGACG
         CTCCAACAGGGCGGGATGATCGGCGATGGCACGCAGCAGCGCGTCATTGTCCAAATTGGG
         GTTGTCCAAACCCAATTCCTTATACAAATCATCTTTCACGCGCATCATCCCGCGCGCCGA
         TGCCAAGCCCAATTTGTTGAAAATATCCTTCAATTCGGACAAGTCGGGCGGCGTATCCAA
         ATATTTGACCACTTCGGCAGCAATGCCGCGTTCTTCCAATAGGGACAAGGCGGCACGCGA
40       TTTGCTGCAACGCGGATTGTGGAAAATTTTGATTTCAGGCATGACATTTCCTTGCTTCTC
         GACAATCCCCTTATTATCGGCTTACACAGGGTTTTACTCAATATCCCGCCTACAACCGTA
         CCAAACGGTTTACAATACCCGAATCGACATACAAAGGACAAAACGATGAAATACTTGAAT
         CTTGCCGCAATCACCCTTGCCGCCACATTTGCCGCACATACCGCCTCGGCAGACGAACTG
         GCCGGATGGAAAGACAACACCCCGCAAAGCCTGCAATCGCTCAAAGCCCCCGTACGCATC
45       GTCAACCTTTGGGCGACTTGGTGCGGCCCGTGCCGAAAAGAGATGCCTGCCATGTCCAAA
         TGGTACAAAGCGCAGAAAAAAGGCAGCGTCGATATGGTCGGCATCGCGCTCGACACATCC
         GACAATATCGGCAACTTCCTCAAACAAACTCCTGTTTCCTACCCGATTTGGCGTTACACC
         GGGGCGAACAGCCGAAACTTTATGAAAACcTACGGAAACACTGTCGGCGTACTGCCCTTT
         ACCGTCGTCGAAGCACCGAAATGCGGATACAGGCAGACCATTACCGGGGAGGTAAACGAA
50       AAAAGCCTGACCGACGCCGTCAAACTCGCCCATTCAAAATGCCGTTAAACGCCGGATGCC
         GTCTGAAGCCGCTTCAGATGGCATTTTTCTTTTCCACCCGCCTGCCGGTGCAAACTTATC
         CACTATCTAAAAACAGGCGGAATCTTTATAATCGGCACTGTCTTACCTATTGTTCAGACG
         GCATATCCCTGCGGACGCAACCGCCCGAAACGATATGCCGCCCTTCCTTACAGGACCTCC
         TATGATCCGTTTCGAACAAGTTTCCAAAACCTATCCCGGCGGTTTTGAAGCCCTGAAAAA
55       CGTCAGCTTCCAAATCAACAAAGGCGAAATGATATTTATCGCGGGACACTCCGGTTCGGG
         CAAATCCACCATCCTCAAACTGATTTCGGGCATTACCAAGCCGAGCAGGGGCAAAATCCT
         GTTTAACGGGCAGGACCTCGGCACATTGTCCGACAACCAAATCGGCTTTATGCGCCAACA
```

-262-

```
CATCGGCATCGTGTTCCAAGACCACAAAATCCTCTACGACCGCAACGTCCTGCAAAACGT
CATCCTGCCGCTTCGGATTATCGGCTATCCGCCGCGCAAAGCCGAAGAGCGTGCCCGCAT
CGCCATCGAAAAAGTCGGCCTGAAAGGACGAGAATTGGACGATCCCGTAACCCTCTCCGG
CGGTGAACAACAACGCCTGTGCATCGCCCGCGCCGTCGTTCACCAGCCCGGCCTGCTGAT
TGCCGACGAACCCTCCGCCAACCTCGACCGCGCCTACGCGCTCGATATTATGGAATTGTT
CAAAACCTTCCACGAAGCGGGAACTACCGTCATCGTTGCCGCACATGACGAAACCCTGAT
GGCGGACTACGGACACCGCATCCTGCGCCTCTCGAAAGGACGACTCGCATGAGCATCATC
CACTACCTCTCGCTGCACGTCGAATCCGCGCGCACCGCGCTCAAGCAGCTCCTGCGCCAA
CCCTTCGGCACACTGCTTACCCTCATGATGCTCGCCGTCGCGATGACCCTGCCGCTGTTT
ATGCATCTGGGCATCCAAAGCGGGCAAAGCGTGTTGGGCAAACTCAACGAGTCGCCGCAA
ATCACAATCTATATGGAAACCTCCGCCGCACAAAGCGACAGCGATACCGTCCGCAGCCTG
CTGGCGCGCGACAAACGGCTCGACAACATCCGCTTCATCGGCAAAGAAGACGGTCTGGAA
GAATTACAGTCCAATCTTGACCAAAATCTGATTTCCATGCTTGACGGCAACCCCCTGCCG
GATGTCTTTATCGTTACCCCCGACCCGGCAACCACGCCCGCCCAAATGCAGGCAATCTAC
CGAGACATTACCAAACTGCCTATGGTCGAATCCGCGTCTATGGATACCGAATGGGTGCAA
ACGCTGTACCAAATCAACGAGTTCATCCGCAAAATTTTGTGGTTTCTTTCCCTGACGCTG
GGGATGGCGTTCGTCCTTGTCGCACACAACACCATCCGCCTGCAAATCCTCAGCCGCAAA
GAAGAAATCGAAATCACCAAACTCTTGGGCGCGCCCGCGTCGTTTATCCGCCGCCCATTC
CTTTATCAAGCCATGTGGCAGAGCATCCTTTCCGCCGCCGTCAGCTTGGGGCTTTGCGGT
TGGCTGCTCTCTGCCGTGCGCCCATTGGTCGATGCCATTTTCAAACCCTACGGACTTAAT
ATCGGCTGGCGGTTCTTCTACGCTGGCGAACTCGGGCTGGTGTTCGGCTTCGTCATCGCG
TTGGGCGTATTCGGCGCGTGGCTTGCCACCACCCAGCACCTGCTCGGCTTCAAAGCCAAA
AAATAAAACACCGTCAAAAATGCCGTCCGAACCCGTTTTCAGACGGCATTTCAATTTGCC
AGTATAATGGCGCATTTTTCCAACAAGGAACCTACCATGCTGACCTCGGAACAAGTAAAA
GCCATGATTGAAGGCGTGGCAAAATGCGAACATATCGAAGTAGAAGGCGACGGACACCAT
TTTTTCGCCGTCATCGTTTCATCAGAATTTGAAGGCAAGGCACGCCTCGCGCGCCACCGC
CTGATTAAAGACGGACTCAAAGCCCAACTGGAAAGTAACGAACTGCACGCACTTTCCATT
TCGGTTGCCGCCACTCCGGCGGAATGGGCAGCCAAAGCACAATAATCGCCACACAAAAT
GCCGTCTGAAACCATTTCGTTTCAGACGGCATTTTTTTATATCAAACCGCTTACGCGCC
GCGTTTTTCCAAAGCGGCTACGGCAGGCAGCTCTTTGCCTTCCAAGAACTCAAGGAACGC
GCCGCCGCCGGTGGAGATGTAGCCGATTTGTTCGGTAACGCCGAATTTGGCAATCGCCGC
CAGCGTGTCGCCGCCGCCCGCAATCGAGAACGCTTTGCTTTGGGCAATGGCTTCGGCAAG
GGCTTTCGTACCGCCTGCGAATTGGTCAAACTCGAACACGCCGACCGGCCCGTTCCAAAC
GACCGTACCGGCGGCTTTAAGCAAATCGGCAAGCGCGGCAGCGGATTTCGGACCGATGTC
CAAAATCATCTCGTCTTCGGCAACGTCGGCAATGTCTTTCACCACAGCTTCCGCATCGGC
GGCAATGTCTTTCACCACAGCTTCCGCATCGGCGGCAAAGGCTTTGGCAACGACGACATC
GGTCGGCAGCGGCACAGAACCGCCTTTTGCCGCCATTTTCGCCATAATTTTTTTGGATTC
TTCCACCAAATCGTGTTCCGCCAAAGATTTGCCGATGGCTTTGCCTTCCGCCAACAGGAA
GGTGTTTGCGATACCGCCGCCGACGATGAGTTGGTCGACTTTGTCCGCCAGCGATTCGAG
GATGGTCAGCTTGGTGGACACTTTGCTGCCGGCAACGATGGCAACCATCGGGCGCGCGGG
CTGTTTCAAGGCTTTGCCCAAAGCGTCGAGTTCGCCCGCCATCAATACGCCGGCGCAGGC
AACGGGCGCGGCTTGGGCGACGGCTTCGGTCGAGGCTTGGGCGCGGTGGGCGGTTCCGAA
CGCGTCATTGACGAACACGTCGCACAAAGAAGCGTAGGCTTTACCCAGTTCCAAATCGTT
TTTCTTCTCGCCTTTGTTGATGCGCACGTTTTGCAGCATGACGACATCGCCCCGCGTTCAG
GGCGGGTTTGTTTTCACGCCAGTCGTTCAATACTTTCACGTCTTTGCCCAACAGGCTGCC
CAAGTGCGCGGCAACGGGGGCGACATCGTCTTCGGGGTGGAACTCGCCTTCGGTCGGGCG
GCCGAGATGGGTCATCACGATAACGGACGCACCGTTGTCCACGCAGTATTTAATGGACGC
GAGCGAGGCGCGGATACGGGTGTCGTCGCTGATTTTGCCGTCTTTGAACGGTACGTTCAT
ATCGGCGCGGATGAGGACGGTTTTGCCCTGCACGTTTTGTTCGGTCAGTTTTAAAAATGC
CATAATCAGTCCTTTTCAATCAGTGTTTGCGATACGGAAACAATTGATGCCGTCTGAAGG
CTTCAGACGGCATCGCAACCCGATCAGCCGGATACGCGCTCGATTTTCGCGCCGACGCTG
CCGAGTTTTTTTTCAATATTTTCATAACCGCGATCCAAGTGGTAAATCTGTTCGACCACG
GTTTCGCCTCGCGCCGCCAAACCGGCGATAACGAGGCTGGCGGACGCACGCAAATCCGTC
GCCTTGACGACTGCGCCGGAAAGCTGTTCCACACCCTGCACAAATGCCGTATTGCCCTCG
GTTGTGATGTTCGCCCCCATCCGGTTCAACTCGGGGACGTGCATAAAGCGGTTTTCAAAA
ATCGTTTCCACCACGCGGCAGCTTCCCTCCGCCACGGCATTCAATGCCATAAACTGCGCC
TGCATATCCGTGGGGAAGCCGGGGTGGACGACCGTGCGGATGTCCACCGCCTTCGGACGC
```

```
TGCCGCATATCGATGGCGATCCAATCGTCGCCCGCCTCAATCACCGCACCTGCCTCAACC
AGTTTGTCCAACACCACTTCCATCGTTTTCGGCGCGGCATTCCGCAAAACCACCCTGCCA
CCGGTTATCGCCACCGCGCACAGGAACGTCCCCGCCTCGATCCGGTCGGGGACGACGCTG
TGTTCGCAGCCTTGCAGCTCGTCCACCCCTTCCACAATCATTGTGGACGTACCGATGCCG
CTGATTTTCGCGCCCATTTTGACCAGGCATTCCGCCAAATCGACCACTTCAGGCTCAATG
GCGCAGTTTTCCAAAACCGTCGTACCTTCCGCCAGCGTCGCCGCCATCAGCAGGTTTTCC
GTGCCGCCGACGGTAACGACATCCATCGCCACGCGCGTACCTTTGAGTTTGCCTTTGGCT
TTGACGTAACCGTGTTCGATAACAATCTCAGCACCCATCGCTTCCAAGCCTTTCAAATGC
TGATCGACGGGGCGCGAACCGATGGCGCAGCCGCCCGGCAGGCTGACTTGCGCCTCGCCG
AAACGCGCCAGCGTCGGGCCCAGCACCAAAATCGAAGCGCGCATCGTTCGGACCAACTCG
TAAGGGGCGCAGGTATTGTTTACCGTACCGCCGTTGATTTCAAATTCGCTGATATTGTCG
GTCAGGACGCGCGCGCCCATCCCCTGAAGCAGCTTTTGCGTGGTTTTCACATCTGCCAGC
ATAGGGACGTTTTTCAGGCGCAACGTACCCGATGTCAGCAAACCCGCGCACATCAGCGGC
AATGCCGCGTTTTTCGCGCCCGAGACCGTTATTTCCCCGTTGAGCGGGCCGTTTGCGGAG
ATTTTCAGTTTGTCCACGTTTGTTCTTTCCTGGTGGGTACTTGTATAGTGAATTAACAAA
AATCGGGACAAGGCGGCGAAGCCGCAGACAGTACAGATAGTACAGAACCGATTCACTTGG
TGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAATACCGTACTGGT
TTTTGTTAATCCACTATAATATTTCAATTCTCGGGACAACGCATAAAGCATCACCCGATG
AAGGTTGCAGAGGCGGAATTATAAGGGATTTTCGGGAAAAATACGGAAGCCGCACCAAAG
AATTTGACGAAATGCCGCGCTTTCCGAACAAGGATTGTCGGAAGACAAAAAGCCGAGTT
TTGAAAACTCAGCTTTTTTGCTTTATCTGGTGGGTCGTGAGCGATTCGAACGCTCGACCA
ACGGATTAAAAGTCCGCTGCTCTACCGGCTGAGCTAACGACCCGATAAGTTTGGAATTTT
ACAGACCGGCCGAAACCCTGTCAAGCCCCTTGCGGGCGGACGGGCGTTATATCCGCTTAT
CGGCCTGTTTTTTTCGTATAAACCAAAGAAGTCAACACCGATGCACCCAATGCGCCGAAC
ACGACCGACAGCGAAACGGAAATCGGGATATGCACCCAATGCATTACCAGCATTTTCACA
CCGATAAAACCCAACACGAATGCCAATCCATATTTCAGGAAGATAAAGCGTTCCGCCACA
TCCGCCAGCAGGAAATACATCGCCCGCAAGCCCAGAATTGCGAAAATATTGGAAGTCAGC
ACGATAAACGGATCGGTGGTAACGGCAAAGACGGCGGGGATGCTGTCCACGGCAAACACG
ACATCGCTCAATTCAATCATGACCAGCACCAAAAACAGCGGCGTGGCGATTTTTTTGCCG
TTTTCGACGGTAAAAAATTTCTCGCCGTGAAATTCCGTGCCGACCGGAACGACTTTCTTG
ACGGTATTCAGCAGCCTGCTGTTTGCCAAATCCTCTTTCTCATCGCCTTCGGGCTTCATC
ATGTGTATACCAGTATAGAGCAGGAACGCGCCAAACAGATACAGAATCCACTCAAACTGC
TGAACCAGTGCCGCGCCGACGAAAATCATGACGGTGCGCAATACCAATGCGCCCAATACG
CCGTACAGCAGCACGCGGTGCTGAAACTGTGGTGCGACTTTGAAGTAGCCGAATATCATC
AGGAACACGAAAATATTGTCGACTGCCAACGATTTTTCCAAAATGTAGCCGGTAAAGAAT
TCCAATACTTTTTCTTTTGCGACTGCCGCGCCGTAGCCGGGATTGCCGGCGAGTTCAAAA
TACAGCCAGCCCGCGAACAGGCAGGATACGGCAACCCACAAGCCGCTCCATGCCAAGGCT
TCTTTGACGCCGACTTTATGGCTGCCGTTTTTCTTCAGCGAAAACATATCCAAGGCAATC
ATGACCAGCACTGCCGCAAAAAAAACGCCGTAAACAACGGCGACCyGATGCCGGGATAT
TCTGTCATGGTTCAATCTCCTGATTTGAAATGTAATTGTGTTACCAGCTGATATAAAACA
TCGCTTTTGCCAAAAAGACAATCAGCAGCATATGGGTAAAGACGACGGCGTGTATGTATT
TCGACCAACCGACCGTCAGTGTGGAACGCGCCATTTTGACGACGGCGATGGCGAAGTGCG
CCAATACGCTGAACGCCAACAGGATTTTCAGCGTCAGCATCGTACCGAAGGAAGTGGCAA
ACGGTTCGCCCAATATAGAAAGATAGCGGTTTGCCGCCATCACGATGCCGCTGGCGAACA
GCAGTCCGACCACAAACGGCATCACCCTGACGGCGCGGTAAGACATTGCCTTTTCCACTT
CGCGCCGCGCCTCGCGCGACACCCGTCCCGTATGCAGGACGGACAAAACCAGCACTTCAA
AAAACACGCCGCCGACAAAGGCAATAGCGCAATACAGATGAACGATGTGCGCGACGGCAT
AAATACTCATACGATGCTCCAAACGGAAAACTCGGATACGGATTGTATCACTATCGCCCC
CGATATCCGCATACCGCTTCCCGCACCGCCTCGGCGATTCTCGCGCCCGCTCCGCGATGT
TGTGCGATAAAGCCGTCCACGCGCGCCTGCATCTGCATCCCCCCCCCTCGGACGATAAG
GTTTTTTCAACGGCTTCCCGCCACGCATCCGCCGATTCGACTTGAACCGCCGCACCCGAT
GCCAAGGCGTGTCGGCAGGCTTCGGAAAAATTGTAGGTTGAAAAGCCGAATATCGTCGGA
ACGCCGCAGGAAAGCGGTTCGATGATGTTCTGACAACCCGAATCGACCAGACTGCCGCCG
ACAAAAGCGACATCGGCGCACAGGTAATACGCATACAGCTCGCCCATACTGTCGCCTATC
CACACCTGCGTATCAGGTTCGACCGGCAAACCGTCGCTGCGCCGCTGAACCTTAAACCCG
AAGCGTTTTGCCGTTTCAAATACCGTCTGAAAATGCTCGGGATGGCGCGGCACGACGACC
AGCAGCGCATCGCCGCGATATTGTTGCCACGCCGCCAGCAGTTTTTCCGCCTCGTCTTCA
```

5

10

15

20

25

30

35

40

45

50

55

-264-

```
CCCCGATAAACGCGCGTGCTGCCGCACACGGCAACCGGCCGGCCTCCGATGCGTTTTTCA
AACTGCCCCGCCAGCGTTTTCATCTGTTCCGACGGTATGATGTCGTATTTGGTATTGCCG
CACACCTGCACGGATGCCGCGCCCAATTTCGCCAACCGCGCCGCATCCGCCTCTGTCTGC
GCCAGACACCCCGTCAGCGAAGCGGCGGCAGGACGGATCAGGCGGCGGACTTTCAGATAA
CCGTTCAACGATTTTTCCGACAGCCGCGCATTCGCCAAAAACAGCGGCACACCCGCGCGC
CGGCATTCCCTCATCAGGTTGGGCCAGATTTCGGTTTCCATCAAAATGCCGAACATCGGG
CGGTGTTCGCGCAAAAACTGCCGTACCCACGTTTTTTTGTCATACGGAAGATAGCGGCAT
TGCGCATCGGGAAACAGAACTTGCGCGGTTTCCCGCCCCGTCGGGGTCATCTGCGTCATC
AGCAGCGGCGCATCGGGAAACGCCGCCGCAACTCGCGTATCAAGGACTGGGCGGCACGC
GTTTCTCCGACCGAAACGGCGTGTATCCAAACCGCGCCGGTAACGGGATTCGGATACGGC
TTGCCGAAACGCTCGTCCCGATGCGCCCGATATGCCGGGGCACTTCCGGAGCGTTTGTCC
AAATAACGCCGTATCCATATCGGCGCAAGCAGCCACAATACATCATAAAGCCATTGGAAC
ATCTTTCTATTTCCTGCAAAACAAATGCCGTCTGAACGGTTCAGACGGCATTTCGGCAAC
GGAATCAAATATCGTAGGTTGTCGAAGCGGTATCTCCGCCCTTGCCCGTCCAGTTGGTAT
GGAAAAACTCACCGCGCGGTTTGTCGGTGCGCTCGTAAGTGTGCGCGCCGAAGTAGTCGC
GCTGTGCCTGCAAGAGGTTGGCAGGCAGACGTTCGGTCGTGTAGCCGTCCAAGAACGTAA
TCGCCGAAGCCATGCAGGGCATAGGGATGCCGCATTCGACCGCCTTGGCAACCACCTTGC
GCCACGCCGGCAGGCAGTTTTCCAAAATATTTTTGAAATACGGATCCGCACCCAAGAACA
CCAAATCGGGATTGTTTTCATACGCGTCGCGGATATTGCTTAAGAATGCGCTGCGAATGA
TGCACCCCTCGCGCCACAGCAGCGCAGTGTTGCCGTAGTCCAAATCCCAGCCGTAGCTTT
CGCCCGCTTCGCGGATCAGCATAAAGCCTTGTGCGTAGGAAATGATTTTAGATGCAAGCA
GGGCCTGTCTCAACGCCTCGACCCATTCTTGTTTGCCGCCTTCGACGGGCGTAACGGTTC
GGGCGAACAGTTTGCCGGTCTGCACGCGCTGTTCTTTGAACGACGAAACGCAGCGGGCGA
ATACGGCTTCGGAAATCAGCGTCAGCGGAATACCCAAATCCAAAGCATTGATGCCCGTCC
ATTTGCCTGTACCTTTTTGCCCTGCCGTATCGAGGATTTTCTCGACCAGCGGTTCGCCGC
CTTCGTCCTTATAGCCCAAAATTGCCGCTGTGATTTCAATCAGATAAGAATCCAGCTCGG
TTTTGTTCCACTCGGCAAACACGCGGTACATTTCGTCGTAAGACAGCCCCAAGCCGTCTT
TCATGAACTGGTACGCTTCGCAAATCAACTGCATATCGCCATATTCGATGCCGTTATGCA
CCATTTTGACAAAATGCCCCGCACCGTCTTTGCCGACCCAGTCGCAACACGGTTCGCCCT
GCGACGTTTTGGCGGCAATCGCCTGAAAAATCGGCTTGACCGCATCCCAAGCGCGCTTAT
CCCCGCCCGGCATAATGGACGGCCCGCGCCGCGCCCCTTCTTCCCCGCCGGACACGCCCG
CGCCGACAAACAAAATCCCTTTTTCAGCAAGGTAATGTGTCCGCCGTGTCGTGTCGGGGT
AATTGGCATTGCCGCCGTCGATAAGGATGTCGCCTTCTTCCAACAGCGGAAGCAGTTGTT
CGATAAATTCGTCAACCACCGAACCGGCACGAACCATCATCATAATTTTTCGCGGTTTTT
CCAGCTTATCGACCAAATCTTGCAAAGAATACGCGCCGATAATATTAGTTCCTTTTGCCG
CGCCGTTTAAAAAATTCGTCCACCTTGGCAGTCGTGCGGTTGTAGGCAACCACCTTAAATC
CGCAATCGTTCATATTCAAAATCAGGTTTTGCCCCATAACCGCCAAACCGATTACACCAA
TATCGCCGTTCATTGCAGGAAGCTCCGTTATAGATTTAATTTATCGACCGCAACTCTACC
CGATTTACACTTGTTTAACAATCCTTAACTTTTTAATTTTTTGAAAAGATGCCTTTACGC
TTTGCTGTACCGTTTTGCTGAAGGGTTATAAATAAAATATAAAATTTAAATAATAAAACG
ATGATTATATTGATAGGAGAAATTTTCTGTGGGTAACTTTTTTTTATTTTAAAAATCATC
AGGATTTCTTTTTTTTAGGGTGTCGGTAAGGCGGATTCCCTTTTGTGCATACCTGTGGAT
TGTTTTTCATGAAGAATAGTTTTTGTGGACAGTTTGCTTGTTGTGCAAATGGCATCCTAC
TTTTCTTTACCGAATGGCTGCCGATGTCTTTAAGAACCGGAATACTGTGGAGGTTTGAGA
GGAAAGTGTGTTTGGAACTTGTGGAAATGGTCAGGTGTCGGCACGAATGTCTTATTTCTG
CATATCGGCAGAGTGCGCATCCGAATTTGTGTATAAGTGGTGGAAAAAATGAGATTTGCG
GGTAAATCTCACAATATTTCAGTCAGATAACTTTGGATTGCTTGTGTATAAGTAAACTTT
CGGATGGGGATACGTAACGGAAACCTGTACCGCGTCATTCCCACGAACCTACATTCCGTC
ATTCCCACGAAAGTGGGAATGATGAAATTTTGAGTTTTAGGAATTTATCGGGAGCAACAG
AAACCGCTCCGCCGTCATTCCCGCGCAGGCGGGAATCTAGAACGTAAAATCTAAAGAAAC
CGTGTTGTAACGGCAGACCGATGCCGTCATTCCCGCGCAGGCGGGAATCTAGACCATTGG
ACAGCGGCAATATTCAAAGATTATCTGAAAGTCCGAGATTCTGGATTCCCACTTTCGTGG
GAATGACGGGATTTGAGATTGCGGCATTTATCGGAAAAAACAGAAACCGCTCCGCCGTCA
TTCCCGCGCAGGCGGGAATCCAGACCTTAGAACAACAGCAATATTCAAAGGTTATCTGAA
AGTCCGAGATTCTGGATTCCCACTTTCGTGGGAATGACGGGATTTTAGGTTTCTGATTTT
GGTTTTCTGTTTTTGTGGGAATGATGAAATTTTGAGTTTTAGGAATTTACCGGAAAAAAC
AGAAACCGCTCCGCCGTCATTCCCGCGCAGGCGGGAATCCAGACCTTAGAATAACAGCAA
```

```
      TATTCAAAGATTATCTGAAAGTCCGGGATTCTAGATTCCCACTTTCGTGGGAATGACGGC
      ATCAGTCTGCCGTTTACAGCACGGTTTCTTTAGATTTTACGTTCTAGATTCCCGCCTGCG
      CGGGAATGACGAATCCATCCATACGAAAACCTGCACCACGTCATTCCCACGAACCTACAT
      CCCGTCATTCCCACAAAAACAGAAACCTCAAATCCCGTCATTCCCGCGCAGGCGGGAATC
  5   TAGACTTGTCGGTGCGGACGCTTATCGGATAAAACGGTTTCTTGAGATTCCGCGTCCTGG
      ATTCCCACTTTCGCGGGAATGACGAATTTTAGGTTTCTGTTTTGGTTTTTTGTCCTTGTA
      GGAATGATGAAAATTTAAGTTTTAGGAATTTACCGGAAAAAATAGAAAGCGTTATCCACA
      AGTTCTGATGTTCAGCTCGTGAAATGCGTCGGGCAAATCATCGCTGTCGGCAAATTCCAC
      CCGGTCGTAAGCCGTTTCGTCTGCCAAAACCGCGCGCAAGAGTGCGTTGTTGATGGCGTG
  10  TCCCGATTTGTAGCCTTCAAATGCGCCGACAATCGGATGTCCGACGATATACAAATCACC
      GATGGCATCAAGGATTTTGTGGCGCACAAACTCATCGGGATAGCGCAAGCCTTCAGGATT
      CAGGACATCCGTGTCGTCAATCACGATGGCGTTGTTCAAATTGCCGCCCAAACCCAGATT
      GTGGGCGCGCATCATTTCCACTTCGTGCATAAAGCCGAAAGTGCGCGCGCGCGCGATTTC
      GTCGATGTAGGATTTGCCGGCGAAATCGATTTCAAAAGTGGGCGAGCTGCGGTTGAAAAC
  15  CGGATGGTCGAATTCGATGGTCAGCGTTACCTTAAAGCCGTCATACGGCGTAAAGCGCAC
      CCATTTGCCCGCTTCTTTGATTTCGACAGGCTTGAGGATTTTCAAAAAACGCTTTTGCGC
      CTTTTGATCGACCACGCCCGCATCTTGCAAAAGGTAAATAAACGGCAGGCTGGAGCCGTC
      CATAATCGGGATTTCGGGCGCGTTCAGCTCAATCAGCGCATTGTCGATGCCGTAGGCGGA
      CAGCGCGGACATAATGTGTTCGATCGTGCCGACGCGCACGCCTTTGTCGGTAACGATGGT
  20  GGAGGAAAGGCGGGTATCGTTGATCAAATAAGGGGTCAGCTTGATTGTTCGCCCATCTC
      GCCGTCCAAATCGGTACGGCGGAAGGAAATCCCGCTGTTTTCAGGCGCGGGGTGCAGGGT
      CAGCGCGACGCGTTCGCCCGAATGCAGCCCGACGCCGGTAACGCTGATGGATTTCGCCAA
      AGTTCTTTGCAGCATAAACCGCTTCCTTATCAAGGGGGTAAGTTTTGGAATAATACGATA
      AAACCGGAAAAACAGGCTATGTTTTTCCATAGTATTTGCCAATGTATCCGTTTTCAATAC
  25  GTAAGCCGCATAAAAATGTATAGTGGATTAACAAAAATCAAGACAAGGCGACGAACCCAC
      CCCCCTCCTGAAAAACGCAAAAAATGCCGTCCGAAAACCTTTCGGACGGCATTTTCGCGT
      AAACCGTCATTCCCACAAGGACAAAAAACCAAAACAGAAAACCAAAAACAGCAACCTAAA
      ATTCGTCATTCCCGCGCAGGCGGGAATTTGGAATTTCAATGCCTCAAGAATTTATCGGAA
      AAAACCAAAACCCTTCCGCCGTCATTCCCACGAAAGTGGGAATCTAGAAATGAAAAGCAG
  30  CAGGCATTTATCGGAAATGACCGAAACTGAACGGACTGGATTCCCGCTTTTGCGGGAATG
      ACGGCGACAGGGTTGCTGTTATAGTGGATGAACAAAAACCAGTACGGCGTTGCCTCGGCT
      TAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTA
      TTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATCTAGC
      CGAATTACTTTATTTTTTGATACGTAACCGGCCGGTTGCCGTCATTCCCGCGCAGGCGGG
  35  AATCTAGACATTCAATGCTAAGGCAATTTATCGGGAATGACTGAAACTCAAAAAGCTGGA
      TTCCCACTTTCGTGGGAATGACGCGGTGCAGGTTTCCGTACGGATAGCTTCGTCATTCCC
      GAGTAGGCGGGAATCTAGTCCGCTTGTTCGGTAAATGAGAGGGCGGATTGCGCGCCTGTC
      AGATAAACCACGTGTTTAAACGGGCGGCAATGAGGTACGCGCAGAGCCTTGAAGCGCAAT
      CGATATATTATTTTCAGCCAAAACGGACGCCCCGCTTGCCTTGCAAACCTTTAAAAAGG
  40  AAGCCACCCGGATTAATCCGAGTGGCCGTGGAAAATCACTTACCGCTTGATTTATTTAAA
      ATTTATGGTATAATTTACCTTAGCTGGCATCACTTGCGTCGCGGCAGGTTGACGGCAGGT
      GCTTGGTGTCAATCTTCTTACCGTTGGCGGCGGCGGCGGCGGTAACGTCGTCGTTGGCGG
      CTTTGGCTTTGTCGCGCGTAACCGGCTGTCCGCAGAACCATTTTACCGAACCGTTTTGAC
      GCTTGGCCCACAGGGAGAGTTTTTTGCCTTTGATTTCGTTGTTTACGTTGCTTGAAGCCA
  45  TTTGGGCGGTAACGACGCCGTTTTTGACTTCAACGCTTTTAACATATTTGCCTTTGATTT
      CAGAGGAGGTTGCCACGCCGGCAGAAGTGTTGTTGCCGGGCCATTCGCCGTGATTCAGGT
      AATACTCGGTAACGGCTGATTTTTGACCTTCGGCCAAAGAATGGCTTCGGAAACTTGTG
      CGCGGGCTGTGTAGTCTTGATAAGCAGGAAGGGCGACTGCCGCCAAAATGCCGACGATGG
      CAATCACAATCATCAGCTCGATAAGGGTAAAACCTTTTGAAGGGTGTTCATAAAATTAC
  50  TCCTAATTGGAAAGGAAATGCCTCAAGCTTACGCCATCGGCATTATGCAATGTATTTGAC
      CATCGGTATTTTGTTGCGATACCTGTGTATTATAAAGCAAGATTGGTACCAAGTTTGTAT
      TTTGAGGTGAAAATTTATGCGTTTATCTCTATGTAATTGTTTTATTTTACATTTTCTTT
      CGTTTGGCGTGGTTTGAGTAATTAGGGGGTTGCCGTTTTTTGTCAGCAGTGTTGAAAATT
      GTCAGTTTTAGTGCCGATTTTCGGCACTTTTTTATTGGCGTGGGGTATCTCTATTGGCAT
  55  GGGGCATCGGGTGTGTTGATTGGGTCGGAATTTGAGATTTTTGAATTTGCGCGGTAGCAT
      AGGGTGGGTTGGGTGGGAAATTTTAAATTTAATTTTTAAAAATTTCCGTTTTCTTGGAAA
      GTGATTGAAATCGGCGCGTGGTGTTCCTGTGCAACCGGCAGTTGAATCATCGCGGCAGGT
```

```
TTCCGTGCGGATGGCTTCGTCATTCCCGCGCAGGCGGGAATCCAGCCTTGTTGGTACGGA
AACTTATCGGGAAAACGGTTTCTTGAGATTTTACGTTCTGGATTCCCACTTTCGCGGGAA
TGACGCGGTGCAGGTTTCCGTATGGATAGCTTCGTCATTCCCGCGCAGGCGGGAATCCAG
GTCTGTCGGCACGGAAACTTATCGGGTAAAAAGGTTTCTTGAGATTTTTCGTCCTGGATT
CCCACTTTCGTGGGAATGACGGGATGTAGGTTCGTGGGAATGACGGTTTAGGTATTTTTA
TAGAAAGCCGTAGGTGGTGTTTCTATGCAAACGACAGATGAATCATCGCGGCAGGTTGAC
GGCAGGTGCTTGGTGTCGATTTTGTCGGTGCCGGTGGCGGCGGCGGTAACGGCGTCGTCT
TTGGCGTTGTCGGCGCGCGTAACCGGCAGTCCGCAGAACCATTTTACCGAACCGGCTTGA
CGCTTGGCCCACAGGGAGAGTTTTTTGCCTTTGATTTCGTTGTTTACGTTGCTTGAAGCC
ATTTGGGCGGTAACGACGCCGTTTTTGACTTCAACGCTTTTAACATATTTGCCTTTGATG
TCGGCGGAGGTTGCCACGCCGGCAGAACTGTTGTTGCCGGGCCATTCGCCGTGATTCAGG
TAATACTCTGTGACGGCTGATTTTTGACCTTCAGCCAAAAGAATGGCTTCGTCATTCCCG
CGCAGGCGGGAATCTAGGTCTGTCGGCACGGAAACTTATCGGGAAAACAGTTTCTTGAGA
TTTTGCGTTCTGGATTCCCGCTTTCGCGGGAATGACGGGATTAAAGTTTCAAAATTTATT
CTAAATAACTGAAATTCAACGAACTAGATTCCCACTTTCGTGGGAATGACGAATTTTAGG
TTGCTGTTTTTGTGGGAATGATGAAATTTTAAGTTTTAGGAATTTATCGAAAAAACAGAA
ACCGCTCCGCCGTCATTCCCGCGCAGGCGGGAATCCAGCCTCGTCGGTACGGAAACTTAT
CGGGTAAAAAGGTTTCTCTAGTTTGGTGTCGATTTTCTTGTCGATGCTGTTGACGGCAGG
TGCTTGGTGTCGATCTGCTTGCCGTTGGCGGCGGTGTCGGCTTTGACGGCGTCGGCGCTG
GCGTTGTCGCGCTTAACCGGCTGTCCGTAGAACCATTTTACCGAACCGTCTTGACGCTTG
GCCCACAGGGAGAGTTTTTTGCCTTGGATTTCTTTGTTTACGCCGCTTGAAAGCATTGTG
GCGGTAACGACGCCGTTTTTGACTTCAACTTTCTCAACATATTTGCCTTTGATGTTGGCG
GAGGTTGCCACGCCGGCAGAACTGTTGTTGCCGGGCCATTCGCCGTGATTCAGGTAATAC
TCGGTGACGGCTGATTTTTGACCTTCAGCCAAAAGAATGGCTTCGTCATTCCCGCGCAGG
CGGGAATCTAGACCTTAGAACAACAGCAATATTCAAAGATTATCTGAAAGTCCGGGATTC
TAGATTCCCACTTTCGTGGGAATGACGAATTTTAGGTTGCTGTTTTTGGTTTTCTGTTTT
TGAGGGAATGATGAAATTTTAAGTTTTAGGAATTTATCAGAAAAAACAGAAACCGCTCCG
CCGTCATTCCCGCGCAGGCGGGAATCCAGGTCTGTCGGTACGGAAACTTATCGGGTAAAA
CGGTTTCTCTAGTTTGGTGTCGATTTTCTTGTCGGTGCTGTTGACGGCAGGTGCTTGGTG
TTGATGTTGGCGGTGCCCTTGCCGGTGGCGGCGGTGACGGCGTCGTCTTTGGCTTTGTCG
CGCGTAACCGGCTGTCCGCAGAACCATTTTACCGAACCGTTTTGACGCTTGGCCCACAGG
GAGAGTTTTTTGCCTTTGATTTCGTTGTTTACGTTGCTTGAAGCCATTTGGGCGGTAACG
ACGCCGTTTTTGACTTCAACGCTTTTAACATATTTGCCTTTGATTTCAGAGGAGGTTGCC
ACGCCGGCAGAACTGTTGTCGCCGGGCCATTCGCCGTGATTCAGGTAATACTCGGTAACG
GCTGATTTTTGACCTTCGACCAAAGGATAGCTTCGTCATTCCCGCGCAGGCGGGAATCC
AGCCTTGTCGGTACGGAAACTTATCGGGTAAAACGGTTTCTTTAGATTTTGCGTTCTGGA
TTCCCACTTTCGTGGGAATGACGGGATTAAAGTTTCAAAATTTATTCTAAATAACTGAAA
CTCAACGAACTAGATTCCCGCTTTTGCGGGAATGACGAATTTTAGGTTTCTGTTTTGGGT
TTTCTGTTTTTGAGGGAATGATGAAATTTTAGGTTTCTGTTTTTGGTTTTCTGTCCTTGT
GGGAATGATGAAATTTTAAGTTTTAGGAATTTATCGGAAAAAACAGAAACCGCTCCGCCG
TCATTCCCGCGCAGGCGGGAATCCAGCCTCGTCGGTGCGGAAACTTATCGGGAAAACGGT
TTCTTTAGATTTTACGTTCTGGATTCCTACTTTCGTGGGAAAGACGAATTTTAGGTTTCT
GTTTTTGGTTTTCTGTCCTTGTGGGAATGATGAAATTTAAGTTTTAGGAATTTATCGGA
AAAAACAGAAACCGCTCTGCCGTCATTCCCGCAAAGCGGGAATCCAGCCTCGTCGGTGC
GGAAACTTATCGGGTAAAAAGGTTTCTTTAGTTTGGTGTCGATTTTGTCGGTGCCGGTGG
CGGCGGCAACGTCGTCTTTGGCGTTGTCGGCGCGCGTAACCGGCTGTCCGCAGAACCATT
TTACCGAACCGGCTTGACGCTTGGCCCACAGGGAGAGTTTTTTGCCTTTGATTTCGTTGT
TTACGCCGGTTGAAAGCATTGTGGCGGTAACGACGCCGTTTTTGACTTCAACTTCCTTAA
CATATTTGCCTTTGATTGTTGAAGAAGATGCCACGCCGGCGGCATCATTAAATCCCGTCA
TTCCCACTTTCGTGGGAATGACGGGATTAAAGTTTCAAAATTTATTCTAAATAACTGAAA
CTCAACGAACTAGATTCCCGCTTTTGCGGGAATGACGAATTTTAGGTTGCTGTTTTTGGT
TTTCTGTCCTTGCGGGAATGATGAAATTTTAAGTTTTAGGAATTTATCGAAAAAACAGAA
ACCGCTCCGCCGTCATTCCCGCGCAGGCGGGAATCCAGCCTCGTCGGTGCGGAAACTTAT
CGGGAAAACGGTTTCTTGAGATTTTGCGTTCTGGATTCCCGCTTTCGTGGGAATGACGGT
TTAGGTATTTTTATAGAAAGCCGTAGGTGGTGTTTCTATGCAAACGACAGATGAAGCGTC
GCGGCAGGTTGACGGCAGGTGCTTGGTGTTGATGTTGTCGGCGGTCTTGGCGGCGGCGGC
GACGGTGTCGGCTTTGGCGTCGGTGCGCGTAACCGGCTGTCCGCAGAACCATTTTACCGA
```

```
ACCGTCTTGACGCTTGGCCCACAGGGAGAGTTTTTTGCCTTGGATTTCTTTGTTTACGCC
GCTTGAAAGCATTGTGGCGGTAATGACGCCGTTTGCGACTGTAACTTCCTTAACATATTT
GCCTTTGATTGTTGAAGAAGATGCCACGCCGGCAGAAGTGTTGTTGCCGGGCCATTCGCC
GTGATTCAGGTAATACTCTGTGACGGCTGATTTTTGACCTTCGGCCAAAAGGATAGCTTC
GTCATTCCCGCGCAGGCGGGAATCCAGGTCTGTCGGTACGGAAACTTATCGGGTAAAACG
GTTTCTTTAGATTTTGCGTTCTGGATTCCCACTTTCGCGGGAATGACGGGATTAAAGTTT
CAAAATTTATTCTAAATAACTGAAACCAACGAACTAGATTCCCACTTTTGCGGGAATGAC
GAAGTTTTTCTGCCATTTGCCGTGATTCGGGCAATACTCGGTAACGGCTGATTTTTTGAA
AGTGTTTGAAATCGGCGCGTGGTGTTTCTATGCAACCGGTAGATGAATCATCGCGGCAGG
TTGACGGCAGGTGCTTGGTGTTGATTTTGTCGTCGGTCTTGCCGTTGGCGGCGGCGACGT
CGGTGGCGGTGGCGGTGGCGGTGTCGTTGCGCGTAACCGGCTGTCCGCAGAACCATTTGA
CCGAACCGTTTTGACGCTTGGCCCACAGGGAGAGTTTTTTGCCTTTGATTTCTTTGTTTA
CGCCGCTTGAAAGCATTGTGGCGGTAACGACGCCGTTTTTGACTTCAACTTTCTCAACAT
ATTTGCCTTTGATGTCGGAGGAGGATGCCACGCCGGCGGCATCATTAAATCCCGTCATTC
CCGCAAAAGCGGGAATCTAGAACTCAGGACCGGAGAAACCTTTTTACCCGATAAGTTTCC
GTGCCGACAGACCTAGATTCCCGCCTGCGTGGGAATGATGGGATTAAAGTTTCAAAATTT
ATTCTAAATAACTGAAACTCAACGAACTAGATTCCCGCTTTTGCGGGAATGACGAATTTT
AGGTTTCTGTTTGTGGGTTTCTGTTCTTGTGGGAATGATGAAATTTTAAGTTTTAGGAAT
TTATCGGAAAAAACAGAAACCGCTCCGCCGTCATTCCCGCGCAGGCGGGAATCCAGCCTT
GTCGGTACGGAAACTTATCGGGTAAAAAGGTTTCTCTAGTTTGGTGTCGATTTTCTTGTC
GGTGCTGTTGACGGCAGGTGCTTGGTGTTGATTTTGTCGGTGTCGGGTGTGGCGGCGGTG
ACTTCGTCGGTGCCGGCTTTGGCGTTGGCGGCGTTGCGCGTAACCGGCTGTCCGCAGAAC
CATTTTACCGAACCGTCTTGACGCTTGGCCCACAGGGAGAGTTTTTTGCCTTGGATTTCT
TTGTTTACGCCGCTTGAAAGCATTGTGGCGGTAATGACGCCGTTTGCGACTGTAACTTCC
TTAACATATTTGCCTTTGATTGTTGAAGAAGATGCCACGCCGGCAGAAGTGTTGTTTTTC
GGCCATTCGCCGTGATTCGGGTAATACTCGGGTGTTTTTGTGCAAACGGCAGATGCTGCG
TCGCGGCAGGTTGACGGCAGGTGCTTGGTGTTGGTTTTCTTGTTGCCGGTGTTGTCGGCG
GCGACGGTGTCGTCGGTGCCGGCGCGCGTAACCGGCTGTCCGCAGAACCATTTTACCGAA
CCGTTTTGACGCTTGGCCCACAGGGAGAGTTTTTTGCCTTGGATTTCTTTGTTTACGCCG
CTTGAAAGCATTGTGGCGGTAACGACGCCGTTTGCGACTGTAACTTCCTTAACATATTTT
CCTTTGATTTTAGAGGAGGATGCCACGCCGGCGGCATCATTAAATCCCGTCATTCCCACG
AAAGTGGGAATCTAGAACTCAGGACCGGAGAAACCTTTTTACCCGATAAGTTTCCGTGCC
GACAGACCTGGATTCCCGCCTGCGCGGGAATGACGAAGTTTTTCGGCCATTCGCCGTGAT
TCGGGCAATACTCGGGTGTTTTGTGCAAACGGCAGATGCTGCGTCGCGGCAGGTTGACGG
CAGGTGCTTGGTGTCAATCTTCTTACCGTTGGCGGCGGCGGCGGCGGTAACGTCGTCGTT
GGCGGCTTTGGCGTTGTCGCGCTCAACCGGCTGTCCGCAGAACCATTTTACCGAACCGGC
TTGACGCTTGGCCCACAGGGAGAGTTTTCTGCCTTTGATTTCTTTGTTTACGCCGCTTGA
AGCCATTATGTCAGACGGTATTGCCCGGGCAGCTTTATTCGTACACTTTCAGCAGCTCGA
CTTCAAATATCAAAGTGGCGTGCGGGGGAATCACGCCGCCCGCGCCGTGTGCGCCGTAGC
CCATTTCCGAAGGGATGGTCAGCTTGCGTTTGCCGCCTTCCTTCATGCCGCCGAAGCCTT
CGTCCCAGCCTTTGATGACTTGTCCGACACCGAGCGTGATGGTCAGCGGCTGGCGGCGGT
CGAGGCTGGAGTCGAATTTGGTTCCGTTTTCCAGCCAACCTGTGTAATGCACGGTAATCT
CTTTGCCTTTAACTGCTTCTTTTCCGAAGCCTTCTTGCAAGTCTTCAATAATCAGGCCGC
CCATATTTGTCCTTTCGTTGCTTGTTGGTCAAAACGGCAAGGGTAACATACCGT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 22>:

gnm_22

```
AATTAATAATAATTATCATTATATTAATATGTACAGATAATATCAAGCCGTTTTTATAGT
GAATTAACAAAAATCAGGACAAGGCGACGAGCCGCAGACAGTACAGATACATTCCGTCAT
TCCCACGAACCTACATCCCGTCATTCCCACGAACCTGCACCACGTCATTCCCACGAAAGT
GGGAATCCAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCTACTTCGTCAT
TCCCACGAACCTGCATCCCGTCATTCCCACGAAAGTGGGAATCCAGGACGCAAAATCTCA
AGAAACCGTTTTACCTGATAAGTTTCCGCACTGACAGACCTAGATTCCCGCCTGCGCGGG
```

```
AATGACGGGATTTGAGATTGCGGCATTTATCGGGAGCAACAGAAGCCGCTCTGCCGTCAT
TCCCACGAAAGTGGGAATCCAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTT
CCACTTCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTTCCGAT
AAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGGATTTTAGGT
TGGGGGCATTTATTGGGAAAAGCAGAAACCGCTCCGCCGTCATTCCCACGAAAGTGGGAA
TCCAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCCACTTCGTCATTCCCG
CGAACCTACATTCCGTCATTCCCACGAAAGTGGGAATCCAGTTCGTTCGGTTTCGCTTGT
TTTAAGTTTCGGGTAACTTCCACTTCGTCATTCCCACGAACCTGCATCCCGTCATTCCCA
CTAAAGTGGGAATCCAGGACGCAAAATCTCAAGAAACCGTTTTACCTGATAAGTTTCCGC
ACTGACAGACCTAGATTCCCGCCTTATATGATGCGCTCTATCAAAGGGGCGCATTAATTT
TCTTAACATTCCCCTTTGACAGCCAAGTGAAAGGGGCTTTTTTATGTCAGCAGTAAATGT
AATATTTTCCTGTTCTTATTGGAGAATATTTAAAAAATCAGATTCTTGTGTTTTGTGTTT
TTATCAGTTCAGACATGGCGAACCGCATAAACTCATTAATCAAGAGAATTTTTCAAAGCT
TTATCAGGCGTTCGATTATATAGATTCGGTTGGTTCGAATTTTCCAGTGATTATCACAAC
GGATGGTTGTGGTCTTTTTTGTTGATCTTTAAAAGTTTGTCAGGATTTGGCTTTCGGTCG
TTGACCGTCGTACGCGCTTTAGCGCGGAAGACGGGAAACGGCTGAAAGCCCCCCCCTTGA
CTAACAGGGGGGGAGCGAAATTAAAAACCAATTCCAAGAGTAGTGAACGAATGAGTGAAG
TTGAATATTTCTCACACTTTATATCGGACGGAAAAGGGAAGCTTTTAGAAATTCCGCAGC
GAAGAGGTAAGCAAGACGGGGTTTTTGTTGATTGGATTTCATTCACATTCCATGAAGATA
CTTTACTGAAAGTTTCCGGTTGCCCTTTATTTTCTGATGCTGAATACATGTATGTATTAA
GCAGAAAGCTGGAAGAAATTCTAGGTTTTGGCATAACGCGCAAATGCAAATCAAGGGGCA
ACAAATTCTATGAATCCATGTATAGGTTAGGTTCGGATGATGTTGATTATGGAGAGGTGC
ATTTCGGAGGTCAGCGCAATACTGTTTTAGTTGAGTTGAAAGGTACTGGTTGCAGCGTTG
CAAGTCCGGGTTGGGAGTTGAGGCTAAAGCAGTTTCTCGATGATTCGATAAGGACAAGAA
TAACGCGAATTGACCTAGCACTTGATTTTTTTGATGGAGAGTACACGCCGGATCAGGCGT
TGTTAGATCACGATAATGGTTTTTTTGATAACAGCAATCAAAGGCCGAAATCTGAAACGA
TCGGTACGGCTTGGCGGAATGAGGACGGGAGCGGCAAGACATTTTATGTAGGTCGCAAGA
AAAATTCTCGTTTTGTTCGTGTTTATGAGAAAGGCAGGCAGCTTGGAGATAAAGAAAGCA
AATGGGTAAGGTTCGAGATCCAGTTTAATTATGGAGATATAGAAATACCCTTGGATATTT
TAATAAATCAGGGTTCGTATTTCTGTGGAGCTTTTCCAATTTGTAGAAAATTTAAAAATA
TGCCGGTTCCCGAAAGGTTTGATCAGAGAAAGAAAAAGCTTAATTTAACTTTCGAGCATA
AATTGCATTACGCGAAAAACGCGGTTGGAAAACTGGTCAATTTCATGATTGAAATGGGTT
TTGATAATAGCGAAATTGTGGAATCTTTAAAGGCAGATTCGGGATTTCCCAAAGGATTAG
AACCTGAAAAATATGCTCTGGAAATGTTAAGGGACGGTTTGAAACACGGTTTTATTCATG
AACAGCCGGATATTGATTTGGAAATTGAACTTGATGAATTGGGGGTTATTGCTTTTAAAA
ATTCTGACAAATTCGATAGGGAAAAAAGGCTTTTTAGTCCTGATTATGATGTCGAGAAAG
AAAGGAAATATCAGGAATATTTAAGTAAAGTTTATCATCAAAATGTAGATTATGATTATT
TTTAAAGGAAATCAAAATGTTTAATCAAACTCAAACTGTAACTTATCCTGCAACTTTTTT
GGGAGCCAAAAAATTCAAAGGCGAAATTGATGGCTCTAATATCGACACTTGTTCCGTATT
GGTTGCAACACCCTTTGCCGGCACAGTCGGGAAATGCTGTTGGATTCACGGCAGCACAAAT
GAAGTTCGGGGACAGTAAGAATTTCTCAAAATTAGAGAATCTCAAATACCCGTGCGAAGT
TATGGTAACGGTTGAAATGACTTCGACAGGTAAGGGCATGGTTCCTTCATTAATTGATTT
TCAGGTGGCAGAAAAGCCGAAAGGTTGATTTATGAAATTTGAAGAACGTTTCATAGTTCA
AGACTTGGAAACGCATGACTTTATTTATCCCGATCCTTTCGGTGATGTGGGGTTTACTCA
AAATATTAAATCAGCAGGTCAATTTGAAAGCTACGAAGATGCGTTGAATTCAGGCATAAA
TGAAATAGGCGGAGGATTCCAGATATTTCAGTTCTTCGTAAAATCGGAATAAAAGAAAAA
CAGGCTCGGCGGGCGGTCTGTCAACCTTTCACAAAGCCCGCAACAAAGGAAAAATATCAT
GAAAATGAACCTTGCAACACTAATTATCGGCTGGGTGGTCTGTATGTTTCTTTTTCTTTT
CGCAATCCTCTATTTTATCGGCTAAAAACGAGATTCGGAAAGACTTCGTCCGGATGAAG
CAAGTCAAGAAGTCGTCTTATTTTAAATATCAAAAAAGGAAAAAAACGATGAACATCGTT
AAAAAAATACGCTGTAAAAGCAGCCTTGGCAGCCGGTATCTTCACACCGGCCATTGTTATG
GCAGATACCTTTGATCCATCCGCGATTGGTACGCAAGTAGCGAATGTAATCATGGGTTTC
GTGTCAATGGTTTCCGCCGTGGGTATGGCGGCCATTACCGTGATTCTTGCAATCCAAGGC
TTCAAAATGGCTTGGAGCATGATTAAATCTGTCAAATAAACAGAGTGAAGAAAAAGGGGC
GTATAAATGGGCTATCGTGTCGGCATAAATTGTTTTGATACAAGATTGCAGGCAGACGAC
TATTTATTGTCGTCCCTTCCTCCTACTGTTACCCAGGACGGAAAAATCATCAGGCCGGAA
AGGGTGGGCGATAAATGGATTTTGAACGGAAAGCCGGTTACGTTGTCTTATCCGGAATGT
```

```
                TCCAATTTTGAGCAGATAAAGCAAGGTTCTTATGTCGGTTCGACGGTTCTAATTCTGTTT
                GTAGTCATTTACGGTTTCAGGCTTCTGATTAATTTTTTAAAAGACATAGGCAAGGTTGGG
                ACTGATTGATGATTATAGATTTCTGGTTTCTTCTCGGTTTCTTCTTGGCTTTGTCTGTTG
                CTTGGCTGTTTTGGTAACGGTTGGTAGAATCGGCTTTTTAGAGTGTTTTAAAAGGTCCGA
            5   ATTATGTTTATTTCTGAATATCATTTAGTTAAATTTCAAACTGATTCACATATTTATAGA
                GATTTACCACAAGCGTTAATTTATTATAGGGAATTGATTAGAAAAGGGGTTTTTAAAACT
                TCGTTTTCATTTGATATTTTTAGGAATTTCTTTCATCGTTATGATAGAGATTTTATAGAA
                ATTCAATTCCCTGATTCTTCTACATTATTAATTAAATTAGATGAAGCAAAATGTTATGTT
                TATTATCCTAGGGCGAAATTTTTAAAGATTATCCTATGCTTTAGTTTTTTTGTATCTAA
            10  ATTTGCATTGGCATCAGTAAATGCTCCGGGTAAATTTGATAGGGTTGAAGTTTATGATGA
                TGGCAGATATTTAGGTATTCGAGGTTCAGATGACAAAAGAAGAAGAATTTGGAAAGGTGT
                ATTTGATAGAGAATCGGGAAGATATTTAACTTCAGAAGCTCAAGATTTAAAAGTTAGGCA
                TGTATCTACTGGAGCATCAAGTACGGGTAAAGTTAGTTCGGTTGTATCTTCATCAGTTTC
                CCGCGCTGGCGTATTGGCGGGGGTCGGCAAACTTGCCCGCTTAGGCGCGAAATTAAGCAC
            15  AAGGGCAGTTCCTTATGTCGGAACAGCCCTTTTAGCCCATGACGTATACGAAACTTTCAA
                AGAAGACATACAGGCACAAGGCTACCAATACGACCCCGAAACCGACAAATTTGTAAAAGG
                CTACGAATATAGTAATTGCCTTTGGTACGAAGACAAAAGACGTATTAATAGAACCTATGG
                CTGCTACGGCGTTGACAGTTCGATTATGCGCCTTATGTCCGATGACAGCAGATTCCCCGA
                AGTCAAAGAATTGATGGAAAGCCAAATGTATAGGCTGGCACGTCCGTTTTGGAATTGGCA
            20  TAAAGAAGAACTGAATAAATTAAGTTCTTTGGATTGGAATAATTTTGTTTTAAATAGTTG
                CACATTTGATTGGAACGGCGGAGATTGTGTGGTCAATAAAGGTGATGATTTCAGAAATGG
                GGCTGATTTTTCCCTTATTCGCAATTCAAAATACAAAGAAGAAATGGATGCCAAAAAGCT
                GGAAGAGATTTATCGTTGAAAGTCGATGCCAATCCCGACAAATACATAAAGGCAACCGG
                TTATCCCGGTTATTCCGAAAAAGTAGAAGTCGCACCCGGAACAAAAGTGAATATGGGTCC
            25  CGTCACGGACAGGAACGGGAATCCCGTTCAGGTTGTCGCAACATTCGGCAGGGATTCGCA
                AGGCAACACCACGGTGGATGTTCAAGTAATCCCGCGTCCCGACTTGACCCCCGGAAGCGC
                GGAAGCACCGAACGCACAGCCGCTGCCCGAAGTATCGCCCGCCGAAAACCCCGCAAACAA
                CCCGAACCCCAATGAGAACCCCGGCACGAGCCCCAATCCCGAACCCGACCCCGATTTGAA
                TCCCGATGCAAATCCCGATACGGACGGACAGCAGCCCGGCACAAGACCCGATTCCCCGCCGT
            30  TCCGGGACGCACAAACGGCAGGGACGGCAAAGACGGAAAGGACGGCAAAGATGGCGGCCT
                TTTGTGCAAATTCTTCCCCGACATTCTCGCTTGCGACAGGCTGCCCGAGTCCAATCCGGC
                AGAAGATTTAAATCTGCCGTCTGAAACCGTCAATGTAGAGTTTCAGAAATCAGGAATCTT
                TCAAGATTCCGCACAGTGTCCCGCACCTGTCACTTTCACAGTGACTGTGCTTGATTCAAG
                CAGGCAGTTCGCGTTCAGCTTTGAGAACGCATGTACCATAGCCGAACGGCTAAGGTACAT
            35  GCTTCTCGCCCTTGCTTGGGCGGTTGCCGCCTTTTTTGTATCCGCACAGTATCTCGTGA
                AGTCTAGCAGGCGCAGCACCGCCGGGCTTCAGTAACTTGTACCAAGGCAGGGGGAGGACG
                TCCAGAAAGATTTGTAAAGACGGCTTTATCGTCTTTATAAATCTTTTTGGATACCCCTTG
                CCGCCCCGCCAAAAGAACACATTCTGCCGCAAGGGCAGGTGGTAAGGCGCGCGCCTTTTG
                CGCCGTTCCCCCTGCCCCCGCGGCGTCGCAAGTGAGACTGGGGGTGCGGGGGCTAGTCCC
            40  CGCAAAGCCTTTCAGCTTCGGAAGCCACGGCCGAAAGGCAGGCGCAGCACTGCCGGTCTG
                AGCGGAAGCCAGGCTACAGGCAGGCGCAGCACCGCCGAGCTAGGCGGAAGCCAGGCTACA
                GGCAGGCGAAGCACCGCCGGTTGGGCGGAAGCCACGGCCGAAAGGCAGGGCGAAGCACCG
                CCAGGCTTAGGCGGAAGCCACGGCCGAAAGGCAGGCGAAGTACCGCCGGTCTGGGCGGAA
                GCCATGGTAAAAGGCAGGCGAAGCACCGCCGGGCTTCAGTAACCTTTGTTCAGGCAGGGG
            45  GAGGATGTCCGTAAAGAATCGTAAAGGCGGGGTTTTTTCGCCTTTATGATTCTTTTTGGA
                TACCCCTTGCCGCCCCGCCAAAAGAACACATTCTGCCGCAAGGGCAGGTGGTAAGGCGCG
                CGCCTTTTGCGCCGTCCCCATGCCCCCGCGGCGTCGCAAGTGAGACTAGGGGGTGTGGGG
                GACTAGTCCCCCGCAAAGCGTTCAGCTTCGGAAACTTTGGCCGAAAGGCAGGCGAAGCAG
                CGCACTTTGCGACGAATGTCGCAAATAGCCGAGAAGCGCGGGGGGATTGGCGATAAGCGC
            50  GAGGGGGGTGTCCCCACAGCGCCGCCGCGCCGCGAATGCGGCGCAAAATCTTTCAGATTA
                AGAAACATTTGTTTAATGAGGCAACCGTGCCTTTTAAGAAAGGGATAGCAAATGAAATTG
                TTGGCCGCATTGATTCCGCTTTTGATGAGCGTGGCAGGCCGTATATTGACTGCATTAGGC
                TTGATGGCGGTAACCTATTCAGGGGTGGATAGATTGGTAGCCCATTTTCAGCAGGCGATA
                ACCAATAGCATAACGGGCGCGCCTCAAGCGATGTTGCAGCTTTTTTATATAAGCGGCGGT
            55  GGAACCGTTCTTAATATCCTGTTTGGCGCGATCGCCTTTATTCTGTCATTCAAACAAATG
                ACAAAACTAGCAACCTCAATCGGGAAGAAAAAATAAATGGCAGAGATCTGTTTGATAACC
                GGCACGCCCGGTTCAGGGAAAACATTAAAAATGGTTTCCATGATGGCGAATGATGAAATG
```

-270-

TTTAAGCCTGATGAAAACGGCATACGCCGTAAAGTATTTACGAACATAAAAGGCTTGAAA
ATACCGCACACCTACATAGAAACGGACGCAAAAAAGCTGCCGAAATCGACAGATGAGCAG
CTTTCGGCGCATGATATGTACGAATGGATAAAGAAGCCCGAAAATATCGGGTCTATTGTC
ATTGTAGATGAAGCTCAAGACGTATGGCCGGCACGCTCGGCAGGTTCAAAAATCCCTGAA
AATGTCCAATGGCTGAATACGCACAGACATCAGGGCATTGATATATTTGTTTTGACTCAA
GGTCCTAAGCTTCTAGATCAAAATCTTAGAACGCTTGTACGGAAACATTACCACATCGCT
TCAAACAAGATGGGTATGCGTACGCTTTTAGAATGGAAAATATGCGCGGACGATCCCGTA
AAAATGGCATCAAGCGCATTCTCCAGTATCTATACACTGGATAAAAAAGTTTATGACTTG
TACGAATCAGCGGAAGTTCATACCGTAAATAAGGTCAAGCGGTCAAAGTGGTTTTACACT
CTGCCAGTAATAGTATTGCTGATTCCCGTGTTTGTCGGCCTGTCCTATAAAATGTTGAGC
AGTTACGGAAAAAAACAGGAAGAACCCGCAGCACAAGAATCGGCGGCAACAGAACAGCAG
GCAGTACTTCCGGATAAAACAGAAGGCGAGCCGGTAAATAACGGCAACCTTACCGCAGAT
ATGTTTGTTCCGACATTGTCCGAAAAACCCGAAAGCAAGCCGATTTATAACGGTGTAAGG
CAGGTAAGAACCTTTGAATATATAGCAGGCTGTATAGAAGGCGGAAGAACCGGATGCGCC
TGCTATTCGCATCAAGGGACGGCATTGAAAGAAGTGACGGAGTTGATGTGCAAGGACTAT
GTAAAAAACGGCTTGCCGTTTAACCCATACAAAGAAGAAAGCCAAGGGCAGGAAGTTCAG
CAAAGCGCGCAGCAACATTCGGACAGGGCGCAAGTTGCCACATTGGGCGGAAAACCGTAG
CAGAACCTAATGTACGATAATTGGGAAGAACGCGGGAAACCGTTTGAAGGAATCGGCGGG
GGCGTGGTCGGATCGGCAAACTGAAGAAAACGGCAAGAGAGAAAAAAGACCCGTAAACCG
TTTGAATATAGACGGTTTACGGGTCTTTGTTTCGCGCAAAGCAAGGGCTAAGGCAGTCAG
GCAGCAAATCCCGCAATGTATTAAAACAGACGCGTAGAAATGCCGGCTGCCTTTATCCAT
CCTCGAAATTGAATATCATCCTAGCCGTATCAAGGCTGTATAAATAAGGAAAATACCAAT
GAATATAATCGGGCTGGACATCTCAAAGGACACCATAGACGCAACATTGCATAAAACAAA
CGGAAGTATCCATTACATTAAATTTAAGAATAATGATGATGGATTAAAACAGTTTAGATT
GTGGATAAAGGGAAACAGAATCAGAAAGTCTATATCGGCATGGAGCAACAGGCATCTA
TTACGAAAAGGCAGCAGATATGCTTTCTTCCTACTATACTGTTTACGTTATTAATCCCTT
AAAAATCAAGGACTACGGAAAAAGCAGGTTTAACCGTACCAAAACCGACAAAGCAGATTC
AAACCTGATAGCAGACTACATAAAAAGGCATCAAGATACATTGATACCGTATCAGATACC
CAAAAACAAAGCACTGCAAAAACTGATTAACCTTAAAAATCAATTACATCAACATCAGAA
GCAAATTAAAAACCGTCTTCATAGCACTGAAGAAGACTTCATAAGGAACATACATCAAGA
CTTGATAGATACCATACAGGACAAGATGGAACAGGTAAAAATAGCCATATCCGAACAAAT
CAAAAAACAAACGGACAATAACCATTACCGCAATCTTCAAACCATCCCGAGCATAGGCAA
AGACACCGCATCAGTTCTTTATGCGCAACTGACAGAAAAACATTTTAAAACCGCAAACCA
GTTTGTATCCTATGCCGGATTAAATCCCGCCATCATACAATCAGGGACAAGCGTAAGAGG
TCGGGGCAGATTGAGCCGATACGGAAACAGACGATTAAAAAGTACGCTGTATATGCCCGC
CCTTTGTGCTTACCGTTTTAACGCATTTCCGAAATTAATAAATAATCTGAAAAAAGCGGG
TAAGCCAAAGATGGTAATCATCGTTGCCATCATGCGCAAACTGGCGAAGCTCGCCTATTA
CATTGTTAAAACCGGCCAGCCTTACGATGCGGAAAGACACCGATTGAATCAATAAAATTC
AACAAAATTAAACGGTTACGCGAATATATTTGTGTAACCGTGCATTTGCATATCGTAAAT
AAACGTAAATAAAAATAACAATATAAATCAGTATATTGCAACTTTGTTTTTTATTTTGTG
TTGACGGGCAACATATCATCTGCGCGGGAATGACGGGATTTGAGATTGCGGCATTTATCG
GGAGCAACAGAAGCCGCTCCGCCGTCATTCCCACGAAAGTGGGAATCTAGTTCGTTCGGT
TTCGCTTGTTTTAAGTTTCGGGTAACTTCCACTTCGTCATTCCCACGAAAGTGGGAATCC
AGTTTTTTGAGTTTCAGTCATTCCCGATAAATTGTCTTAGCATTGAATGTCTAGATTCCC
GCCTGCGCGGGAATGACGAATCCATCCATACGGAAACCTGCATCCCGTCATTCCCACGAA
CCTACATTCCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTCCC
GATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGGGATTTT
AAGTTGGGGTCATTTATTGGAAAAAGCAGAAACCGCTCCGCCGTCATTCCCACGAAAGTG
GGAATCCAGTTTTTTGAGTTTCAGTCATTTCCGATAAATTGCCTTAGCATTGAATGTCTA
GATTCCCGCCTGAGCGGGAATGACGAATCCATCCGTACGGAAACCTGCACCACGTCATTC
CCACGAACCTGCATCCCGTCATTCCCACGAAAGCGGGAATCCAGTTCGTTCGGTTTCGCT
TGTTTTAAGTTTCGGGTAACTTCTACTTCGTCATTCCCGCGCAGGCGGGAATCCAGTGCG
TTGAGTTTCAGCTATTTAGAATAAATTTTGAAACTCTAATCGCGTCATTCCCACGAAAGT
GGGAATCCAGTTTTTTGAGTTTCAGTCATTTCCGATAAATTGCCTTAGCATTGAATGTCT
AGATTCCCGCCTGCGCGGGAATGACGAATCCATCCATACGGAAACCTGCACCACGTCATT
CCCACGAAAGTGGGAATCTAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTC
CACTTCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTCCCGATA

```
AATTGTCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATCCAT
ACGGAAACCTGCATCCCGTCATTCCCACGAAAGTGGGAATCCAGCTTTTTGAGTTTCAGT
CATTTCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACG
GATTTTAGGTTGGGGGCATTTATTGGGAAAAGCAGAAACCGCTCCGCCGTCATTCCCACG
AAAGTGGGAATCCAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCCACTTC
GTCATTCCCGCGCAGGCGGGAATCCAGTGCGTTGAGTTTCAGCTATTTAGAATAAATTTT
GAAACTCTAATCGCGTCATTCCCACGAAAGTGGGAATCCAGCTTTTTGAGTTTCAGTCAT
TCCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGAAT
CCATCCATACGGAAACCTGCACCACGTCATTCCCACGAACCTGCATCCCGTCATTCCCAC
GAAAGTGGGAATCTAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCCACTT
CGTCATTCCCGCGCAGGCGGGAATCCAGTTTCTTGAGTTTCAGTCATTTCCGATAAATTG
CCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATCCAGTGCGTTGAGTTTCAGC
TATTTAGAATAAATTTTGAAACTCTAATCGCGTCATTCCCACGAAAGTGGGAATCCAGTT
TTTTGAGTTTCAGTCATTCCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCT
GCGCGGGAATGACGGCGGAGCGGTTTCTGTTTTTTCCGGTAAATACCCACAAGCTAAAAT
CCCGTTATTTTCACAAAAACAGAAAACCAAAAACAGAAACCTGAAATTCGTCATTCCCAC
GAACCTACATCCCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATT
TCCGATAAATTGCCTCAGCATTGAATGTCTGGATTCCCGCCTGCGCGGGAATGACGGCGG
AGCGGTTTCTATTTTTTCCGGTAAATACCCACAAGCTAAAATCCTGTTATTTTCACAAAA
ACAGAAAACCAAAAACAGAAACCTGAAATTCGTCATTCCCGCGCAGGCGGGAATCTGGTT
CGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCCACTTCGTCATTCCCGCGCAGGC
GGGAATCCAGTGCGTTGAGTTTCAGCTATTTAGAATAAATTTTGAAACTCTAATCCCGTC
ATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTCCCGATAAATTGCCTT
AGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGGCTGCAGATGCCCGACTGTC
TTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGT
ACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGC
GAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATACTGTAATCAGGGATGCTCAGTTC
GTCGAAACGGCAAAACAGGTTGAAGTCGATGCGGGTGATGAGGCTGTGTTCGAGTTCGGG
ATCGGAGAGGCTGTGCCATTGTCCGAGCAGGACGGCTTTGAACATGGACAGCAGGGGATA
GGCAGGACGGCCGCGGTGGTCTCTAAGGTAACGGGTTTTTTGACGGTTCAGGTATTGTTC
GATCAGCTGCCAATCAATCACCCGGTCCAACTTCAATAGCGGGAAGCGGTCGATGTGTTT
GGCAATCATGGCTTGGGCGGTTTGCTGGAAGAAGGTGCTCATGAGAAATCTCCTAAATGT
CTTGGTGGGAATTTAGGGGATTTTGGGGAATTTTGCAAAGGTCTCAACTTGAGTTTCACG
CCCCGCTTAACAATATTCAGTTGGTAAATATTAGATAAAACCATAAAAATTAAATTGATG
GCTTTTATAATCCCCGATTTGCGAAAATGCCGTCTGAAAGTCTTCATTCAGGCTTTCAGA
CGGCATTTTGATCATCAAGTAACGCTTTATCAGGCTTTTTATTGTTCAACGCAGCTTTG
ACAAACGCGGTGAACAAAGGATGCCCTTTGCGCGGATTGGAGGTAAACTCGGGGTGGAAC
TGGCAGGCGAAGAACCAAGGATGGTTCGGCAGTTCGATGGTTTCGACCAAGCGTTCGCGT
CCGGCAGATACACCGCCGATGACCAAACCTGCCTGTTCCAGTGTAGGAACGTAGTTGTTG
TTGACTTCGTAGCGGTGGCGGTGGCGTTCGCGGATATGTCCGCTGCCGTAGATTTTGGCG
GCGAGGCTGCCTGCTTTCAATTCGACTTCTTGCGCGCCCAAACGCATCGTGCCGCCCAAA
TCGGTGGATTCGTCGCGGGTTTCGACGCTGCCGTCGGCAGTTTGCCATTCGTCAATCAGG
GCAACGACTGGCGCGGCGCATTTGAGGTCGAACTCGGTGGAATTCGCGCCTTTCAAGCCT
GCCACGTCGCGGGCGTATTCGATCAGCGCAATCTGCATACCGAGGCAGATGCCCAAGTAT
GGCACGTTGTTTTCGCGGGCGTAGCGCACGGCGGCGATTTTGCCTTCCACACCGCGCGAA
CCGAAACGCCGGGAACGAGGATGGCGTCCATGTCTTTAAGCATGGAAACGTCGCCCTTG
TTTTTCTCGATGTTTTCGCTGTCGACAAAGGTAATCTGCACGTCGGTTTCGGTGTGAATG
CCTGCGTGTTTCAAGGCTTCGATCAGCGATTTGTAGGACTCGGTCAAATCGACGTATTTG
CCGACCATGGCGATTTTGACGGTGTGTTTCGGGTTTTGGATGGCGTGGACGATTTTTTTC
CACGCGGTCAAATCCGCCTGCTGCACATTAAGCTGCAACTGCTCGGTAATGATGTTGTCG
ATGCCTTGGTCGTGCAGCATTTCGGGGCATTCGTAGATGCTGTCCACATCGTAGCTGCCG
ACAATCGCGCGTTCTTCCACGTTGCAGAACAAGGCGATTTTGCGGCGTTCGTCCGCAGGC
ATTGTCCTGTCCATACGGCAAATCAGGATGTCGGGTTGCAAACCGATGCTCAACATTTCT
TTAACGGTGTGCTGGGTCGGCTTGGTTTTGATTTCGCCTGCGGCGGCGATGTAGGGGACG
TAGCTCAAGTGGGCAAACAAGGTGTTGTTGCGCCCCAACTGGCTTCGCATCTGGCGGATG
GCTTCCAAAAACGGCAGCGATTCGATGTCGCCGACCGTGCCGCCAATTTCGACAATCGCC
ACATCGTAACCTGCCGCGCCTTCGTGGATGCGTCGTTTGATTTCGTCGGTAATGTGCGGA
```

```
        ATGACTTGAACCGTACCGCCGAGGTAGTCGCCCCGTCGTTCTTTGGCGATAACGTTTTCG
        TACACCTGTCCCGTGCTGAAGCTGTTGCGGCGGGTCATCGTGGAATCGATAAAGCGTTCG
        TAGTGTCCCAAGTCGAGGTCGGTTTCCGCGCCGTCGTCGGTTACGAACACTTCGCCGTGT
        TGGAACGGGCTCATCGTGCCGGGATCGACGTTGATATAAGGATCGAGCTTGAGCATGGTA
   5    ACGTTCAAGCCGCGCGATTCGAGGATGGCGGCAATAGAAGCGGCGGCGATACCTTTACCC
        AGTGAGGAGACAACGCCGCCGGTGACGAAAATGAATTTGGTCATAATGAAATACCCGTAT
        TGGAATGCGTGATTTTAACGTGAAGCGCGCGGTTCTGGCAAACGGACGGATGCCGTCTGA
        ACGATGGACGGCTGTTTTCAGACGGCATCTTTTCTTTATTTCCCGGTACTTTGCCGCAAC
        TCGCGGCGCAGGATTTTGCCGACGTTGGACTTGGGCAACTCGTCGCGGAATTCGATATTT
  10    TTCGGTACTTTATATGCGGTTAATTCGGTGCGGCAAAAAGCGATAAGTTCTTCTTTGGTC
        AAAGACGGGTCTTTTTTGACGACGAATACTTTGAGTGCCTCGCCGGTTTTTTCGTCGGGA
        ACGCCGATACAGGCGACTTCCATGACTTTGCCGTGATGCGCGATGACTTCCTCGATTTCG
        TTCGGATAAACATTGAATCCGGAAACAACGACGAGGTCTTTCTTACGATCGACCAGCTTC
        AACCAGCCTTTTTCGTCCATGACGGCAATATCGCCGGTTTCCAAGAAGCCGCGCGCGTCT
  15    ATGGCTTTGGCGGTTTCTTCGGGGCGGTTCCAGTAGCCTTGCATCACTTGAGGGCCTTTT
        ACCCACAATTCGCCCGGCTGCCCGACGGGGACTTCTTTGCCGTTTGCGTCGCGCAGTTCG
        ACTTCGGTGGACGAGACGGGCAAACCGATGCTGCCGCTGTATGATTCGATGTTTAAGGGG
        TTGCAGCACACGCCGGGGCTGGCTTCGGTCAGACCGTAGGCTTCGACGATGGGCGTGCCG
        GTGATTTTTTTCCATTTTTCGGCAACGGCTTTTTGGGTCGCCATACCGCCGCCCAAAGTC
  20    AGCCGCAATTCTGAAAAATCGACTTCGGCAAAATCAGGACGGTTAACCATCGCGTTAAAC
        AGCGTGTTCACGCCGATAAATACATTAACCCGCTGTTTTTTCAGTTCTCCGATAAAGCCT
        TTCATATCGCGCGGGTTGGTAATCAGGATGATTTTCGAGCCGGCATTGGCAAAAATCATC
        AGATTCACGGTTAAGGCAAAAATATGGTACAGCGGCAAGGCGGCGATAACGGTTTCTTTG
        CCCTCGCGCAACTGGTTTTTAATCCATTCTTTTGCCTGAAGCATATTGGCGCAGATGTTG
  25    CCGTGACTCAGCACCGCCCCTTTGGCAACACCTGTCGTGCCGCCCGTGTATTGCAACAGC
        GCGGTATCTTCGCGGTTTAATGCGACAGGTTGGAAAACGTGCTTCGCCCCTTCTTTCAAT
        GCCGTCTGAAAGGAAACGGTTTCCCGAATACGGTATTCGGGCACCATTTTCTTGATTTTC
        CGGATGACGAAATTGATCAGCGAACCTTTAAGCAGCCCGAACATTTCGCCGACGGAGGCT
        ACGATGACGTGTTTGATCTGCGTGCGCGGCAGCACCAGCTCCAGCGTGTTGGCGAAATTT
  30    TCCAAAACGATGATGGCGGTCGCGCCGCTGTGTCTTTCAACTGATGCTCCAGCTCGCGCGGG
        GTATAGAGCGGATTGGTGTTCACCGCTACCAAACCTGCCAAAATGCCGAAAAGGGCA
        ACCGGATATTGCAGTACATTGGGCAACATTATTGCCACGCGCTCTCCTCGAGGCAATTTA
        AGGACGTTTTGCAGATAAGAAGCAAAATCTGTTGCCAGTTTGCCGGTTTCGGCATAAGTC
        AGCGTCTTACCCATGTTTTGAAAAGCAGGTTGGTCGGCAAATTTTTCCACGCTTTGGCGG
  35    AATACGTCGCTGACGGAATTGTATTGCGTGATGTCGATTTCGGCACTGACGCCCTTCTCG
        TAGCTGTCTAACCAGATTTTTTCCATAGGTATCGGTCTTTAAAGTGGAATTGAGCGGAAC
        AATGCCGTCTGAAAACCGTTTCAGACGGCATTACCTTTATCGTGTGATGATGACGGGTTT
        GTCGGTCGTTTGGATGATACCGCCGCCCAAACAGATATCGCCGTCGTACAGCACGGCGGA
        CTGACCCGGCGTAACCGCCCATTGCGGTTCGTCAAACACCAGCTCGGCGGTTTCATCATC
  40    CAAATAGCGCAACTCACAAGGCGCGTCCGCCATACGGTAACGCGTTTTGCAGGTATAGCG
        TCCTGCCTTCGGGCGTTCGGGCAGCGTGAAACTCAAATCGTTCATCACAAGGCTGCGGGT
        ATAAAGCAGCGGATGGTCGTGTCCTTGCACGACAATCAGTTCGTTTTTCGTCAAATCTTT
        AGCCGCAACAAACCACGGTTCGCCCGCGCCGCCAATGCCCAAACCTTTGCGCTGTCCGAG
        CGTGTAGAACATCAGCCCGACGTGTTCGCCGACGGTTTTCCCTTCGGGCGTAACCATTTT
  45    ACCATTGTCGGTCGGCAGGTATTTCTGCAGAAACTCGCGAAACGGGCGTTCGCCGATGAA
        ACAGATGCCCGTGCTGTCTTTTTTAGCGGCGGTCGGCAGTTTGAACTCGGCGGCAAGGCG
        GCGCACTTCGGGTTTTTCCAAACCGCCCAACGGAAAAATCGCGCGCTCGAGTTGGAAAGG
        CTTGAGGCGGTAGAGGAAATAGCTTTGGTCTTTGTTTCGATCCAAACCTTTGAGCAGGTA
        ATGCACGCCGTTGCGAACTTCTTTGCGCGCATAGTGGCCGGTGGCGATGGTATCCGCGCC
  50    CTGCCCTACGGCGTAGTCCAAAAAGCATTTGAATTTGATTTCGGCGTTGCACAACACATC
        CGGATTCGGCGTGCGCCCCGCACTGTATTCCTGAAGAAAATAAGCAAAGACTTTGTCTTT
        ATATTGCGCGGCGAAATTAACGATGTCGATATCGATGCCGATAATATCGGCAACGGCGAT
        GGCATCGAACGAATCCTGTTTGATGCTGCAATATTCGTCGTTGTCGTCGTCTTCCCAGTT
        CTGCATGAACACACCGCGCACTTGATAACCCTGCTGCTTGAGCAGGGCGGCGGTTACGGA
  55    AGAATCGACACCGCCGGAGAGCCCGACGATGATATTGGAAGGGTTTGCTGTCGTATTCAT
        GCGTAGAATATGGTTGGAAACGGCGGTTTTTAAAGGCGGATTTTAACACATTTTAAAGGC
        GGGCATAAAAATGCCGTCTGAAAGCCCGGGCTTTTTCAGACGGCATTTCAAACATTTTCA
```

```
GCAGATTAGTGCTGATGCGCTTCGCCGTGGTGATGACCGTGGTTCATTGCCGGCATCGGC
GCGATTTTGACTTCCAGTTGGACGGTTTGCGCTTTGGCGTTTTTAAATTTCAGGGTAACG
GGAATTTTATCGCCCTCTTTTAATTGTTTTTTCAAACCCATAAACATCACATGATAGCTG
CCGGGTTTGAGTTCGGTAACGGATTTCGCTTCCAAAGGCACGCCGCCTTCGACTTCGCGC
ATCCGCATCACGCCGTTGTCGTTGATGTGGGTATGCACTTCGACGCGGTCGGCAACGGGG
CTGCTTCCGCCGAGCAAAAAGTCTTGTTTGGCTTCGTCGTTGTGGATTTTCATGAACGCG
CCGCCTATTTTCATACCTTCGACGGTGGTGCGCGCCCAGCCGTCCTCAACGTGGACTCCG
GCGGCGGAAACCGCGCCTGCCAAACCTGCCATCATCACGGCCGCCAATAATTTTTTCATC
TTTCTGCTCCTTATAATATCAGACGGGGAATGTGCTTAATCTTATAGCGGATTAACAAAA
ACCAGTACAGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCA
CCAAGTGGATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATT
TTTGTTAATCCACTATACATACAAATACTGCCTGGAAATTTGATGTAGATTAAGTGAATA
ATAAATACCACATACTAATCCTAAAGGATTACAAATCCTGCTGCAAGCGTTTTACCCGAA
CAGGGCAGACAGCCAAACCGCCGCCAACATCAGCATCGCGAACAATTGTGCGGCAGAACC
TGCGTCTTTGGCGAGTTTGGCCAGCTCGTGTTTTTCGGTCGAAGTATGATCGACGGCAGC
TTCGACGGCGGTGTTGAACAGTTCGACAATGACCGACACAAAAGACGCGATAATCAACGG
CAGGCGGACGGCGGTTTCGGAAACCCAAAAAAATGCCGCGCACACCAGCAGTACGTTCAG
CCACAAAACCTGACGGAATGCCGCTTCGTAACGGTAGGCGGCGGCGATGCCGTCTATCGA
ATAGCCGAATGCGTTAATGACGCGCCTGATGCCGCCTTTGCCTTTTTTTTCTGCCGCGTA
GGAGGAAGGTTCCATCGGTATCCTTTCAAAATGTTCTCAATATAGTGGATTAACAAAAAC
CTGTACGGCGTTGCCCCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACC
GAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCAGCTTCGCCGCCTTGTCCTGATTTT
TGTTAATCCACTATATATACCGTCTGAAAACGGGGCGGCGGGGTGTCCGTACGGTATTAA
GCGTATCCCTGCCGGCTGAGAGAAAACCCTGCCTGCCCAATCAAACCAGGCGGTTGTGAA
GCAAAAGCCTTTCAGACGGCATCGGTTTAACGTACCGACCACGCGGCAACGGCATCGGCA
AACATTGCCGCCACATCGAAACCTTTTTGTTTCATAATTTCTTGGAATCCGGTCGGGCTG
GTTACGTTGACTTCGGTCAGGTTGCTGCCGATAACGTCCAAACCGGCCAGCAGGATGCCG
CGCCGTTTGAGTTCGGGGGCGAGCGTTTCGGCAATTTCGCGGTCGCGTCCGCCCAATTCC
TGCGCCACGCCGCGCCCGCCTGCCGCAAGGTTGCCGCGTGTTTCGCCGTTTTGCGGGATA
CGCGCCAAAGCATAGGGGACGACTTCGCCGCCGATAATCAGGATGCGTTTGTCACCGTGT
ACGATTTCGGGAATGTAGCGTTGCGCCATAATGGTGCGGGAATCAAGCTGCATCAGGGTT
TCGAGGATGCTGCCGATGTTGGGGTCTTTTTCGGTCAGGCGGAAAATTCCCATACCGCCC
ATGCCGTCGAGCGGTTTGATGATGATGTCGCCGTGTTCTTTCAAAAATGTGCGGACATCG
GCGGAACGGGTCGTTACCAGCGTGGGCGCGATAAAGCGGCTGAAGTTCAAAATCGCCAGT
TTTTCATTAAAGTCGCGCATCGCCTGTCCGCTGTTAAAGACCTTCGCGCCCTGCTGTTCC
GCCAGCGTCAGTAATTGGGTGGCGTAGAGGTATTGCATATCGAACGGCGGATCGGTACGC
ATAATCACGGCATCAAATGCTTCCAATGCCGTCTGAACTTTGTCGGCAGATTTGAACCAC
GCATGATCATCATCGTTTTTTGCACCCAAAAATTCAAATGCCGATGCCTGCGCCGTTACC
AAACCGCCGTTTACAGACAATTCCCCGCTCAATGTGTGAAACAGCCGCCAGCCGCGTTTT
GCCATTTCGCGCATCATCGCGTAGGTGGTGTCTTTATAGGTTTTGAAACTTGCCATCGGG
TCGGCGATAAAGAGGACTTTCATCATATTTCCTTTCCGGTGTGCCGAATGTGCCGCATTT
CGCGGGTAAAGGAGAAATTCCGCCCGAACAATATTCAGACGGCAGGGATGGGGTTTTACT
TAGGCTGCCAAGAGTCTTTCAGCGTTACCGTGCGGTTAAACACCGGCGTGTCTTTGCCGT
GGTCTTTACGGTCGGTTACGAAGTAGCCGATACGCTCGAACTGCCAACGGCTTTCTGCCG
GCAAATCTTTGGCGGCAGGTTCGGCGTAGGCGGTGATTTCCTTGACGGATTCCGGATTGA
GGAAATCGGTGAACGGCAGGTATTCGCCGTCTTCGCCGCGCACGGCATCGGGACGCTCGA
CGGTAAAGAGGCGGTCGTACAGACGGACTTTGATTTCGGCGGCGTGTTCGGCGGAAACCC
AATGAATCACGCCTTTAACTTTACGGCCTTCTGGATTTTTGCCCAAGGTGTCGTGGTCGA
TGCTGCATTTGAGTTCAACCACATTGCCTGCTTCGTCTTTGACGACTTCATCGCACTTGA
TGACATAGCCGTGGCGCAAGCGTACTTCGCCGCCGGGAATCAGGCGTTTGAAGCCTTTGG
GCGGATTTTCGGCAAAGTCGTCGGCTTCAATATAGATGGTTTGGGAAATAGGTACTTCGC
GCTCGCCCATTTCCTCGTGGTTCGGATGGAACGCGGCACGGCGGCTTTGGGTTCTGCCGG
TTTCAAAGTTGGTCAGGGTCACTTTGAGCGGGTTCAACACCGCCATCAGGCGTGGGGCGG
AATTTTCCAACTCTTCGCGAATCGCGCCTTCCAACACGCTCATATCGACGATGTTTTCAG
ATTTGGAAATACCGGCGCGTTTGGCAAACAGGCGCAGCCCTTCGGGCGTGTAGCCGCGTC
GGCGCATACCGGAAATGGTCGGCATACGCGGATCGTCCCAGCCGGAAACGTGTTTTTCCA
CAACCAACTGATTCAATTTCCGTTTGGAGGTAATGGTGTACAAAAGCTCCAAACGGGAAA
```

```
ACTCGTATTGGCGCGGACGGGTGGCATGCGGCGCAGGAATGTTGTCCAACACACAGTCGT
ACAGCGGACGGTGTGCTTCGAATTCGAGCGTACACAAGGAATGCGTGATGCCTTCGATGG
CATCGGAGATGCAATGCGTGTAGTCGTACATCGGGTAGATACACCATTTGTCGCCGGTGT
TGTGGTGATGGGCGCGGCGGATGCGGTAGATGACGGGGTCGCGCATATTGATGTTGCCCG
ATGCCATGTCGATTTTCAGGCGCAGGGTTTTGCTGCCGTCGGGGAACTCGCCGTTTTTCA
TGCGTGTGAACAGGTCGAGGTTTTCTTCGACGCTGCGGTCGCGGTAAGGGCTGTTTTTAC
CCGCTTCGGTCAGCGTACCGCGGTATTCGCGCATTTCTTCGGGCGTCAAATCATCGACAT
ACGCTTTGCCGTCTTTAATCAAACCGACGGCGTAGTCATAAAGCTGGTCGAAATAGTTGG
AAGCGAAACGCGGCTCGCCCGCCCAATGGAAACCGAGCCACTCGACATCTTCTTTGATGG
CGTTGACGTATTCGTCGTTTTCTTTTTCGGGGTTGGTATCGTCAAAACGCAGGTTGCACA
AGCCGTCGTAAATATACGCCAAACCGAAGTTCAGGCAGATGGATTTGGCGTGTCCGATGT
GCAGGTAGCCGTTGGGTTCGGGCGGGAAACGGGTTTGGACAGCTGTATGTTTGCCGCTTT
CGAGGTCTTCTTCGATGATGGTGCGGATAAAATGGTTGTCCGCAAATTGGTCTTTATTGA
GCATAGTTTTCTTTGAACAGATGGCTTCAGACGGCATTGGAATGATTCCGTATGCCGTCT
GAAGCGGTTTGGGAATGTGTTTATTGTACCCGACTTGCGCGCTTTGACATAGCGTTCAGA
CGGCATCGGCAATCAAGCATTCCACCCCCGCCTCTTTCAGCATCTTCTGCATCGCGGTAT
CGGGCAGCCGGTCGGTAAATACTTTGTCAAACGCCGTAATGTCGCCGAGCCTGACCAGCG
CGTTGCTGCGGAATTTACTGTGGTCCACGCCGAGGAAGCGGACGCGCGCATTGGCAATCA
TCGCCTGCATCACGCTGACTTCTTTGTAGTCGTCGTCCAAAAGCGAACCGTCGCTTTCCA
CGCCGTGCGTACTCATCACGGCATAATCGACTTTGAACTGGTTGATAAAATCGACGGTTG
CCACGCCGGTAATACCGCCGTCCAAAGGGCGGACGACTCCGGAAGTGATGATGACCGTAT
AATCCGTCCGCGCCGAAGCAATCGAGGCGGCGTGGATATTGTTGGTAATCACCCTCAGGC
TGCCGCGCCGCCTGACCAGCTCCGACACCACGGCCTCCATCGTCGTGCCGATACTGACAA
ACAGCGACGAACCGTCGGGGATGTGTTCCGCAATCAGCCGGGCAATGGCGTTTTTTTCGT
TTTGACACCGGGTTTGGCGGTCGGCGGGCAGGCCCTCCGGCAAGTTTCCGCCCGAAGATG
CGCCGCCGTGATGGCGTTTCAGGCTGCCGACCTCCTCCAACTCGCGGATGTCGCGGCGTA
TCGTCTGCGGGGTAACGTCCAATGCGGCGGCAAGCTCGTCCACCGACATAAACTGATGCC
GGCGGACAAGGCTTAAAATCTCTCCGTGCCTTTGGATTTTCGGCTTCATCGTTTTCTGCC
TCCTTGCATCGGGATGCCGATTTTACCGCGTTCAACCCAAAGCGGAAACACCACCATCA
GAAACGGGGCGGCGATATTGACCACCACGCCGAAGCTGACCGCTACCGGCACGACTTCCA
AACCGCCCGCACCCTGAATCACGGGCAATGTAAAATCCATACTGGTCGCACCGCCAACCC
CCACCGCCGCATCTGGAAAACGCTTCATCAGCAGCGGGATAAATGCCAGTGCAAACAGCT
CTCGTGCCAAATCGTTCAGCAGCATGATGCTGCCCCATACCGCGCCGTAAGCCTCGGTCA
TGACCAAACCCGAGAGGGAATACCAACCGAAGCCGGAAGCCATCGCCAAACCTTTCGTCC
ACGACACACCGTCTGTCGATGCGGCAAACAGCAGCCCGCCCCGAAAGAGATGAAAGCATAA
ACCAGACCGACAACCGAATACCCCTGCGGTTGACCAAAACCTGCCGCAACGATACGCCGC
TGCTTTTGAGCTGTACGCCGATGAGGAACACCAGCAGCATCAGACAATACATGCCCGCGC
TTTCAGACGGCATCCAAATATCGCGCATCAGTTTGCCGAATGCAAATCCGAGCAGCACGC
ATCCGAGCTGCCCCACACTGCCCGACACGCCGACCGAAACGCCCTTCCCTTTCCCTTTA
TCCGCCACGGGAATAACTTTCCCAACACTGCCAAAGCAAGCAGGTTCGCCCCGACCGTAC
AAACAAACAGCCACAGAACCGTCAACGCCATATCGTCCAACCGCGAACCCAAATCCTCCA
CGCGCGACAACGAGACGCCGATCAGCAGCAGCACAGCATACACCAAGACCGATAGCACCT
TATCCAAAGCGGGCAGGTAAGGCTTGGGCACACGGATAAAAAATCCGGCAAACATCGGTA
TCAATACCGAAAGCAACGTCATCAGGCTGTCCATCTACTGCTCTCCTTTATTGCCGCATG
ATATGTGCGGTTTAAAAAATTGCCGTCTGAAAATTGCAGATACCCGCATCCATATTTCAGA
CGGCATCAGGTTCGCCATTAAAAAAACCGCCTGAAGGTTCAGGCGGCTTATCCGCTCCGGC
ATTCAATCTTCCAAAGTCTTTTCCAAACGCTCCATACAGTTGCCCAAATGGCGGCGCAGG
ATTTTGACCACGCGGTTGCGCCTGCCCGCCAGCAGCAGGTCGAGGATTTCGCGGTGTTCG
GAATGCGTATGCGTATTGATGGCGTGTTTTTCCTCGCGATGCACGCCCGCCACGGCGACA
ATCAGGGAAGACCGCGCGCACAGCGTATTCATAATGTCGAACAGCACATCGTTGCCCACC
AGGCGCGCCAGTTCGACGTGGAAGGCATTGGACAGGCGGTTCCAGCCGACGCGGTCGCCC
CTGCCGGAGGCCTCTTCTTCGCGCCGTATCATCGCATAAAGCGGCTTGAGGCGCGTTTCC
AAATCCGGCAAATCTGCGAGGATATTCAAAATCATCGTCTCCATTTCGATGCGCGCATTG
AACACATCCTGCATTTCTTTCAAATCGGGAACGTGGACGAACGCGCCCCTGTTGGGTTGC
AAATCGACAATCTTGTCGTGCGCCAAAAGCGACAGCGCGCCGCGGACGGTGTTGCGCGAA
CACACCATCTGACGGCAAAGTTCGGATTCGGTCAGCTTTTTGCCGGGCAGCAGCACCTGA
TCGGTAATGCCGTCCAAAATCAGGGCGTAAACACGGAACAGCTCCGAATCGTGCCGCTCT
```

```
    TCGAGAATCAGGGAAGACGTGGTCGGCGCATGGATAATGTCGTCGTTTTCAAAGTTCATG
    ATGTTTTCCGTATTTTTACGCTTTCAAATTTTTTAAGATGTTTTAAGGCGGCTGTGTTTC
    AAATCGTGTCAGAGGAATTAAAGCATTGCACAAATTTATTTTATAGTGGATTAACAAAAA
    TCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTG
 5  CTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCCAAGGCGAGGCAACGCCGTACTGGTTT
    TTGTTAATCCACTATAATTCAATAAATTAATATATGGCTTAAAATAACGGGATTCTCGCC
    TCCCGCCCGCCCGCAGAAGCAGGCGGATATCATTTTAAAACGCGGCATTTAAAATTTGAC
    CGAAAATTGTTGACAATCCGGAATCAAGTCTGCACAATACCCCGACAAGTCCAAGTATTA
    TAAAGGCTGAATAAAGAGGAAACAGCAGGCAGATATATTCGGGAGGTGCAGTCCGAATAT
10  ATCTGCTTTTTTATGCGCCTCCGGATTGCCTGCCGCACCTTTCCCTTCAGACGGTATCAG
    CCGTTTCCCCATAATGCCGCCCGATGCCTATTTATCTGCCCCGGCAATTTCAAAACTGTG
    GGTAATCTTTGCCGCTTTGCCCAACATAATCGAAGCCGAACAGTATTTTTCGGCAGACAT
    CTGAACGGCGCGCTCAATGGCCGATTCTTTCAAATCATGCCCGAATACTTTGAAATGGAT
    GTGGATTTCGGTAAACACGCGCGGCGCATCGTCCGCCCGTTTCGCCGTAACCGTCGCACG
15  GCAGTCAGTCACTTTCTGACGCTGTTTTTCGGCAATCATCACCACATCGATGCTCGAACA
    GCCCGCCACGCCCAACAGCAGCATTTCCAAAGGGCTGGGCCCGCGCTTAGCCTTACCTTC
    TGCCGCCGACCCCTCCATAACGACGCTGTGCCCGCCTTCCGTCGTGCCGACAAAACACAT
    CCCGTCTATCCATTTTGATGTAACCTGCATGGTGTCATTCCTGAAAATAGCGTTAAAAACC
    GCTTTGCATATGGCGTTATTGTAAACAATTTCAAGCGGCTTATGCAGAAATATGGACAAA
20  ACGGCAAAAAAACACTTGAAAACCGATTTACGGTTTGGCTGCCTGGCCGTTGATCTGCAC
    CGATTTGAGTTTCAGCGTATAGGTTTTGCCGTCGTCGGTATAGCCGATTTGTGCCGGAAT
    ATTGTTCAGGGACGGTGCGAAGAAATACATTACCGCATCGTCGCCGCGCCGCACCCGATA
    TTTGACGACTTCGGTTTCCACGCCGCCTATGCTGTATTTTCCTGTACCCGCCTTATTCAA
    ACCGCCGACGGAATAAAGTTTTTTGCCGTTGGTGATTTTCAGCCCCGGGGGGAGTTTCGC
25  GTCATTTGCCGCCAACTGCCAGGCAAGCGTGAACAAATCCATAGCCTTGGGGCTTTGCTC
    GGTTTTGCTCTCGCCCGCTTTGCCGTAAGTTACGCTGCCGTCGGCGAATTTGGCTTCCGC
    ATACAGTTTGCCCCTGCGTATGTCTCTATAGTAGGTAGGGTGCAGGGTATTGCCGACAAC
    CGTACCGCCGGACTCGAAACGGATATTGTATAGCGGCACTTTAATCGTCGAAACGATTTT
    GTAAGCATTGCCGCTGCGTTCAAATGTCATCGTGGCGGGAATGCCGTAGCTGCCGGAATA
30  GTGCAGCACGGCGGATTGGGGCAGCCCTGCCGCATACGCGCACGGCAGGGCGGCGGACAA
    AATGGCGGCGGAAAATATATTTTTAAAAGTCTTCATCATTTGCTCCCGCCCGGTTTACGC
    CGTCAGAAAACGGGCGGCATCGGCGTTTTCCGAATTTCTGACGCGGTTTCCCTCAATAAT
    CAGGCGGCCGGCGGCAAAATCGGCAACGGCTTTCGGATAAAGTTTATGCTCGACAGCCAA
    AACCCGTGCGGCAATATCGTCTGCCGTATCGCCGTCGAGTATCGGCACAACCCCTTGCGA
35  TACAATCGGGCCGCAATCCAGTTCGGCAGTAACGAAATGGATGGTGCAGCCGGCAACGCG
    GCAGCCCGCCTCCAAAGCGCGTTCGTGCGTATGAAGTCCGGTAAACGAGGGAAGGATGGA
    CGGGTGAATGTTCATCAGCCTGCCTTCGTAACGGGCGCAAAACTCGGGGGGTCAGAATCCG
    CATAAAACCTGCCAAAACCACCAAGTCGGGTTGATATGCGTCGATTTTCTCCATCATGGC
    GGTATCGAAGGCAAGCCGGGATGTAAAGTTTTTATGATTCAGGCTATCGGTCGGGATGCC
40  GCGTTCGGCCGCCCATTGCAAACCGGCAGCCGTTTCGCTGTTGCTCAACACGGCGGCAAT
    GCGGACGTTGTGAATGGCGGCATTGACGATTGCCTGCATATTGCTGCCGCGTCCAGAAAT
    CAGGATGACGATGTTTTTCATAATGGTGCGCTTTTGAAAGGGATGCCGTCTGAACCGCTG
    TTTGGTGGTTTCAGACGGCATTTGCCGTAAAAATGCCCGAAAACCTGTTTCGGGCATGGA
    TTCGGACTTAATTTACTTTTTTGATGTCGACTTGAGCCGGCTGCTTGGCGGGCGCGTTTT
45  CGGGTGCGCCGATTTTGACCAGTTTCACATCAAATACCAAAGTGGCGTTCGGACCGATTT
    TGTCGCCCGCACCCTGTTCGCGGTAGGCAAGGTTGGACGGGATGTAGAACGTGGCTTCGC
    CGCCTTCTTTCAGAAGCTGTACGCCTTCGGTCCAACCCGGAATCACTTGGCTCAAAGGGA
    AGGTGACCGGGCCGCCGTTGGCTTTGCTGCTGTCGAATACCGTACCGTCAATCAGGCGGC
    CTTCGTATTCCACGGTAACGATGTCGTCTTTGGTCGGCTGTTTGCCTTCGCCCTGTTTGG
50  TGATTTTGTATTGCAGGCCGGAAGCAGTGGTCTTCACGCCGTCTTTGGCGGCATTTTCTT
    TCAGAAAGGCTTCGCCTTTTTCTTTATTGGCCTTCGCGTCCGCCTTGTGTTTTTCTACGG
    CTTTAGCCTGTTGTTCCTGAAGGAATTTCATCATGACTTCCTGAGCCTGCTCTTCGGTCA
    TTTTGATTTCTTTGCCGTCATACACTGCCTGCATGGCTTCGGTAAAGACTTTCAAATCGA
    TTTCCGCGCCCTGTTCCTTCATTTGCTTCAGGGAGCGTCCGATGTCCACGCCCATCGCAT
55  AGCTTGCCTGCTGCATCGTGCTGCCGATCGAAGAGGTGTCGCCCTGCGCGGAAGAAGCGG
    CGGCAGGTTCGGATGCAGATGCGGGGGCGGCTTCTTTTTTGCCGCAGGCGGAAAGTGCCA
    AAGTCGGCGGG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 23>:

gnm_23

5

10

15

20

```
CGTTTTCATCACCAAATGCTGCGTCAGGTTGTGGAACTCGGCGCGACTGATGCTTGTGTC
GATTGCCATGCCGTCTGAAAGCGTCGCCTGAATGCGCGCTTCGGTTTGCGTGGTTAATTG
TTCTTTGGCGGCGCGGACGAGCGAGAGCAGGAGTTGGCTGTCTTGTTCGTTGAGTTGGGA
GAGTCCGTTTTGTTCGAGCAGGCGGCAGAACAGGCGGTGGTCGAAATCGTCGCCGCCCAA
CGCGCTGTTGCCGCCGGTGGCTTTGACTTCAAACAGTCCTTTGGTCAGTTGCAATACGGA
TACGTCGAATGTGCCGCCCCCTAAGTCGTACACGACAAACGTGCCTTCCGAGGCGTTGTC
CAGCCCGTATGCGATTGCGGCGGCGGTGGGTTCGTTGAGCAGGCGCAATACGTTCAAACC
CGCCAGACGCGCGGCATCTTTGGTGGCCTGGCGTTGGGCATCGTCGAAATAGGCGGGGAC
GGTAATCACCACGCCGACCAAATCGCCGCCCAAGGTTTCTTCGGCGCGCGATTTAAGGGT
TTTGAGGAkTTCCGCCGACACTTCGACAGGCGTTTTCACCCCCTGCCGCGTATGCAGTTC
GATAACGCGTTGATTGTCGCCGAAACGGTAAGGCAGGTAGTGCGTATTTTnAGGCGGCGC
ACGGCGTTGCGTTCTTCCATCAGACGCGAATCGGCAACGCGGGTnTCGGGGTGGGCGCAA
AACGGGCATTTCATCGGGTTCGTCCTCCTATGTCGTCTGAAGTTCAGACGGCGACGCCGC
GGGCGGGCnATTTCCAGACCTTCTTCGGCACTCATATAGACGGGGTTTTCGGGACGGTCG
TGTCGGACGATGTTGCCTTCGCGGAACATGACCAGTTTGTnCACGGCAAGTTGGGACCAT
GATTCnTCGCGGGTCA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 24>:

gnm_24

25

30

35

40

45

50

```
CGGCGAAAATAGCGGTCAATGAGGCGAAGCCTGCCGATGCCAATGCCCAAAACAGCCATG
CGTTGCTGCCCATGTTTTCTCCTTGGATTGTGAACAATATGAACGGTATTTTTGTTGCTG
CGTCAAAAATTTCACTGCGGGTTTGGTGCGGATAACGTTATAATATGCCTGATATTATTT
TCAATCCACCTGTTTGTCGCCTGATGCTTTCAGACGGCATGTCCCTCCTCATTTCTAAAG
GAAAATCATGAGCTTCAAAACCGATGCCGAAATCGCCCAATCCTCCACCATGCGCCCGAT
TGGCGAAATTGCCGCCAAGCTTGGTCTGAATGCCGACAACATTGAGCCTTACGGTCATTA
CAAGGCGAAAATCAATCCTGCCGAAGCGTTCAAACTGCCGCAAAAACAGGGCAGGCTGAT
TTTGGTTACCGCCATCAACCCGACTCCGGCGGGCGAAGGCAAAACCACCGTAACCATCGG
TTTGGCGGACGCGTTGCGCCACATCGGCAAAGATGCCGTGATTGCCCTGCGCGAACCTTC
TCTGGGGCCGGTGTTCGGCGTGAAAGGCGGCGCGGCAGGCGGCGGCTATGCCCAAGTTTT
GCCGATGGAAGACATCAACCTGCACTTCACCGGAGATTTTCACGCCATCGGTGCGGCAAA
TAATCTGCTTGCCGCGATGCTCGACAACCATATCTACCAAGGCAACGAGTTGAACATCGA
CCCCAAACGCGTGCTGTGGCGGCGCGTGGTCGATATGAACGACCGCCAGTTGCGCAACAT
CATCGACGGCATGGGTAAACCCGTTGACGGCGTGATGCGTCCTGACGGTTTCGATATTAC
CGTTGCTTCCGAAGTGATGGCGGTATTCTGTCTTGCCAAAGACATCAGCGATTTGAAAGA
GCGTTTGGGCAACATCCTTGTCGCCTACGCCAAAGACGGCAGCCCCGTTTACGCCAAAGA
TTTGAAAGCGAATGGCGCGATGGCGGCATTGCTTAAAGATGCGATTAAGCCCAACTTGGT
GCAAACCATCGAAGGCACGCCCGCCTTCGTACACGGCGGCCCGTTCGCCAACATCGCCCA
CGGCTGCAACTCCGTAACCGCAACCCGTCTGGCGAAACACCTTGCCGATTACGCCGTAAC
CGAAGCAGGCTTCGGCGCGGACTTGGGCGCGGAAAAATTCTGCGACATCAAATGCCGCCT
TGCCGGTTTGAAACCTGATGCGGCTGTTGTCGTGGCGACTGTCCGCGCGTTGAAATATAA
CGGCGGCGTGGAACGCGCCAACCTCGGCGAAGAAAATTTAGACGCTTTGGAAAAAGGTTT
GCCCAACCTGCTGAAACACATTTCCAACCTGAAAAACGTATTCGGACTGCCCGTCGTCGT
TGCGCTCAACCGCTTCGTGTCCGACGCCGATGCCGAGTTGGCGATGATTGAAAAAGCCTG
TGCCGAACACGGCGTTGAAGTTTCCCTGACCGAAGTGTGGGCAAAGGTGGTGCGGGCGG
CGCGGATTTGGCGCGCAAAGTCGTCAACGCCATTGAAAGTCAAACCAATAACTTCGGTTT
CGCCTACGATGTCGAGTTGGGCATCAAAGACAAAATCCGTGCGATTGCCCAAAAAGTGTA
CGGCGCGGAAGATGTTGATTTCAGCGCGGAAGCGTCTGCCGAAATCGCTTCACTGGAAAA
```

```
ACTGGGCTTGGACAAAATGCCGATCTGCATGGCGAAAACCCAATACTCTTTGAGCGACAA
CGCCAAACTGTTGGGCTGCCCCGAAGACTTCCGCATCGCCGTGCGCGGCATCACCGTTTC
CGCAGGCGCAGGTTTCATCGTCGCCCTGTGCGGCAACATGATGAAAATGCCCGGCCTGCC
CAAAGTTCCGGCTGCCGAGAAAATCGATGTGGACGCAGAAGGCGTGATTCACGGCTTGTT
CTGAACGGTTTTCTGAAACCGGATGCCGTCTGAAGCCGTTTCAGACGGCATTTTTTCGGA
ACGCGGGCGGCGGTATGCTATAATCCGCCGTTAAATTTCTCTATTTTCAGGAAAAAACAT
GAGTTTGAAATGCGGCATCGTCGGTTTGCCCAACGTCGGCAAATCCACCCTTTTTAACGC
GCTGACCCAATCGGGTATCGAAGCGGCAAACTATCCTTTCTGTACCATCGAACCCAACGT
CGGCATCGTCGAAGTCCCCGATCCGCGTATGGCCGAATTGGCAAAAATCGTCAATCCGCA
AAAAATGCAGCCTGCCATCGTCGAATTTGTCGATATTGCCGGTTTGGTTGCAGGCGCGAG
CAAAGGCGAGGGCTTGGGCAACCAGTTCCTTGCCAACATCCGCGAAACCGATGCGATTGT
GAATGTCGTGCGCTGCTTTGACGACGACAACATCGTCCACGTTGCAGGCCGCGTCGATCC
GATTGCCGACATTGAAACCATCGGCACAGAGTTGGCACTTGCCGACCTGGCAAGTGTCGA
AAAAGCCATCGTCCGCGAAGAAAAACGCGCCCGCTCAGGCGACAAAGACGCGCAAAAGCT
GGTCGATTTGTGCAAAAAACTGCTGCCGCATCTGGACGAAGGCAAACCCGTGCGTTCCTT
CGGTTTGGACGCGGAAGAACGCGCGATGCTCAAACCGCTGTTCCTGCTGACCGCCAAACC
GGCGATGTATGTGGGCAACGTCGCCGAAGACGGTTTTGAAAACAATCCGCACCTCGACCG
CCTGAAAGAATTGGCGGCAAAAGAAAACGCCCCCGTCGTCGCCGTTTGCGCCGCGATGGA
GAGCGAAATTGCCGAATTGGAAGACGACGAAAAAGCCGAGTTCCTCGCCGAAATGGGCTT
GGAAGAACCGGGCCTGAACCGCCTGATTCGTGCCGGTTACGACCTCTTGGGGCTGCAAAC
CTATTTCACCGCCGGTGTGAAAGAAGTCCGCGCGTGGACGATACACAAAGGCGACACCGC
GCCGCAAGCCGCCGGCGTGATTCATACGGATTTTGAACGCGGCTTCATCCGCGCCCAAGT
CATTTCTTACGACGACTTTGTCTCGCTCGGCGGCGAAGCCAAAGCCAAAGAAGCCGGCAA
AATGCGTGTGGAAGGCAAGGAATATGTCGTGCAAGACGGCGATGTGATGCACTTTTTGTT
TAACGTGTAACCCAAATGCGGCAGGTTTCAGGCGGCTTGCCGGAAATGCCGTCTGAAGCC
GATTTTGATGATTTTCGGCGTTTCCCGTACCGCCGGAATGCAGCCGCATCAAAATAAACT
CCCACCCGCATTTCCGATTTGCCCTCCCCGATTCCTGCAAAACAAACCGCCTGCCCCGCC
GTTACGGGAAGCCGTCCGGCATTCCGAATATCCCGATCCCCGATACGAAATGACCTTTCA
GACGGCATTTGCGCCGCCGCGTTTCGAGTATAGTGGATTAACTTTAAATCAGGACAAGGC
GACGAAACCGCAGACAGTATAGATAGTACGGCAAGGCGAGGCAACGCCGTACTGGTTTTT
GTTAATCCACTATAAAAACATTATGAGCCAAGCCTTACCCTACCGCCCGGACATCGACAC
ATTGCGCGCCGCCGCCGTCTTGTCCGTCATCGTGTTCCATATCGAAAAGGATTGGCTGCC
GGGCGGGTTTCTCGGTGTCGATATATTCTTTGTGATTTCAGGCTTTTTGATGACGACGAT
TCTTCACCGCGAAATGTCGGGGGGGGGGGGGGAGGTTTTCCCTGAAGGCATTTTATATCCG
CCGCATCAAGCGGATTCTGCCCGCATTTTTCGCCGTATTGGCGGCAACGCTGGCAGGCGG
CTTCTTTTTATTCACCAAAGATGATTTCTTTCTTTTGTGGAAATCCGCGCTGACCGCCTT
GGGTTTCGCCTCTAACCTGTATTTTGCAAGGGGGAAGGATTATTTCGATCCCGCGCAGGA
AGAAAAGCCCCTGCTGCACATCTGGTCTTTGTCGGTCGAAGAACAATTTTACTTTGTCTT
TCCGATACTGCTGCTGCTTGTCGCCCGCAAAAGCCTGCGCGTACAGTTCGGCTTCCTTGC
CGCACTGTGTGCCTTAAGCCTTGCCGCCTCCTTTATACCTTCCGCGCTCGATAAATATTA
CCTGCCCCACCTGCGCGCCTGCGAATTACTGATAGGATCGCTGACCGCCGTGTGGATGCG
CTGCCGGCAACCTGCCGTCGGCAGACGCTGTGCCGCCGTCGGCGCATTGTTTGCCGTGTG
CATATTGTCAACCTGCCTGTTTTCCTATTCGGAACAAACCGCCTATTTCCCGGGCCCCGC
CGCTTTGATTCCCTGTCTGGCTGTTGCCGCGCTGATTTATTTCAATCATTACGAACACCC
GCTTAAAAAATTTTTCCAATCGAAATCACTGTTGCCGCCGGTTTGATTTCCTATTCGCT
TTATCTGTGGCATTGGCCGATATTGGCCTTTATGCGCTATATCGGCCCGGACAACCTGCC
GCCTTATTCGCCGGCGGCGGCGGTCGTCCTGATATTGCTGCTTTCCCTGTTTTCTTACCA
CTGCATCGAAAAACCGTTTAAAAAAATGGCAAGGTTCGTTCGCACAATCCGTTTTATGGAT
TTATGCCTTGCCTATGCTCATTTTGGGGGCGGGCTCGTTTTTTGCGATGAGACTGCCGTT
TATGGCGCAATACGACCGCTTGGGGCTGACGCGTTCCAACACCTCCTGCCACAACAATAC
CGGCAAACAATGCCTATGGGGGGATACGGAAAAACAGCCGGAACTGCTGGTTTTGGGCGA
CTCCCACGCCGACCATTACAAAACATTCTTCGATGCCGTGGGCAAAAAAGAAAAATGGTC
CGCCACTATGGTTTCCGCCGACGCTTGCGCCTATGTGGAAGGCTACGCGTCCCGTGTGTT
CCAAAACTGGGCAGCCTGCCGCGCCGTTTATCGCTATGCCGAAGAACACCTGCCCCGGTA
TTCAAAAGTGGTTTTGGCGATGCGCTGGGGCAGCCAAATGCCCGAAAACAGCCGCTCCCT
TGCCTATGATGCCGGTTTTTTCCAAAAAATTCGACCGTATGCTGCATAAACTCTCGTCCGA
AAAACAAGCCGTTTACCTGATGGCGGACAACCTTGCCTCGTCTTACAACGTCCAGCGCGC
```

-278-

```
CTATATCTTGTCTTCACGCATACCGGGTTACCGCCAAGCCCTGCGCCCGGACGACGAAAG
CACCCTGAAAGCCAATGCACGCATCAGGGAATTGGCAGCCAAATACCCCAACGTCTATAT
TATTGATGCCGCCGCCTATATCCCCGCAGATTTTCAAATCGGCGGATTGCCGGTTTACTC
GGACAAAGACCACATCAACCCTTACGGCGGCACGGAATTGGCAAAGCGTTTTTCCGAAAA
ACAACGGTTTCTCGATACGCGCCATAACCATTGATTCGCTTAAATTTGTTACAATCGGCG
GTTTGCAAAAACGCTAATTTTTTTTGAAAGAGACCGATGAGCGTCATCCAAGACCTGCAA
TCGCGCGGCCTTATCGCGCAAACCACCGACATCGAAGCCTTAGACGCTTTGTTGAACGAA
CAAAAAATTGCCCTTTATTGCGGCTTCGACCCGACCGCCGACAGCCTGCACATCGGACAC
CTGCTGCCCGTATTGGCATTGCGCCGCTTCCAACAGGCGGGGCATACGCCGATTGCTTTG
GTGGGCGGCGCGACCGGTATGATCGGCGACCCCAGCTTCAAAGCCGCCGAACGCAGCTTG
AATTCCGCCGAAACTGTTGCCGGCTGGGTGGAAAGTATCCGCAACCAATTAACCCCTTTC
TTGAGCTTTGAAGGCGGAAATGCCGCCATTATGGCGAACAATGCCGACTGGTTCGGCAGC
ATGAACTGCCTTGACTTCCTGCGCGACATCGGCAAGCATTTCTCCGTCAACGCCATGCTG
AACAAAGAATCCGTCAAACAGCGCATCGACCGCGACGGCGCAGGCATTTCCTTCACCGAG
TTCGCCTATTCCCTGCTGCAAGGTTACGACTTCGCCGAGTTGAACAAACGCCACGGCGCG
GTTTTGGAAATCGGCGGCTCCGACCAATGGGGCAATATCACCGCCGGTATCGACCTGACC
CGCCGCCTGCACCAAAAACAAGTATTCGGTCTGACCCTGCCTTTGGTAACCAAATCAGAC
GGTACCAAATTCGGCAAAACCGAAGGCGGCGCGGTATGGCTGAACGCGAAAAAAACCTCG
CCCTATCAGTTCTACCAATTCTGGCTGAAAGTCGCCGATGCCGATGTGTATAAATTCCTG
AAATACTTTACCTTCCTGTCCATCGAAGAAATCGATGCCATCGAAGCCAAAGACAAGGCA
AGCGGCAGCAAGCCCGAAGCGCAACGCATCCTCGCCGAAGAAATGACCCGCCTGATTCAC
GGCGAAGAAGCCCTTGCCGCCGCGCAACGCATTTCCGAAAGCCTGTTTGCCGAAGACCAA
AGCAGCCTGACCGAAAGCGACTTCGAGCAGCTCGCCCTCGACGGCCTGCCTGCATTTGAA
GTTTCAGACGGCATCAATGTCGTCGAAGCCTTGGTAAAAACCGGTTTGGCATCCTCCAAT
AAAGAAGCGCGCGGCTTTGTGAACAGCAAAGCGGTTTTGCTCAACGGCAAACCTGCCGAA
GCCAACAACCCCAACCACGCCGCCGAACGCCCCGACGATGCCTGCCTGCTGAACGGCGAA
CACAAACGTTTCGGCAAATACACTATCCTTCGGCGCGGCAAACGCAACCACGCGCTTTTG
GTTTGGAAATAATCCGATTGCCGCAGAAATGCCGTCATTCCCGCGCAGGCGGGAATCCGG
ACCTGTCCGCACGGAAACTTATCGGGCAAAACGGTTTCTTAGATTCCACGTTCTAGATTC
CCGCCTGAGCGGGAATGACGAGTTTCAAGATTACGGTGTTGTCGGAACGCAACTGAACCG
TCATTCCCACGAAAGTGGGAATCTAGAATCTCGGGGTTTGAGCAACTGTTTTTATCCGAT
AAGTTTCTGTGCGGACAGGTCCGGATTCCCGCCTGCGCGGGAATGACGGCGGAGGGTTGT
TTGTCTCGGTTTACCTGGTTAAAAAAGAACGATTTTCACTGATGTTGCATCAGGTTTGGG
GCGATGTTTCAACACATAGCACCGCGCCTGCTGCGCGTTTTTGTGCGTTTGGCGCGTTCG
GCGGCGGGAAATTTGCCTACTTTTCCCGCGTCGGGCGGGCGTAACGGGCGGCACACTGTC
TATAAACCGCAATACCGTTTACAATGACCGCCTGTTTCACCACACATACCCGAATGCAACAA
TGAGAATCAGGCTGGGGCGGCACAACGCGCCCGACTTTCCACAGGGTGCCGCCGTAACCA
TAGGCAATTTCGACGGCGTACACCTCGGACACAAACACATCCTCCAAAAACTCCGCCTCG
AAGCCGACGCGCGCGGACTGCCCGTCGTGACCGTCGTTTTCGAACCCCAACCCAAAGAAT
TTTTCGCACTCCGCACCGGCAGGATGCCACCGTGTCGGATCAGCCCCCTGCGCACCAAGC
TCGAATTATTGGAAGGCACAGGCTGTGTCGATGCCGTCTGGGTTTTGCGTTTCGATCAAA
ATTTTTCCGAAATATCCGCGCAAGGGTTTATCGACCGCCTGCTGCGTCAAACCTTGAATA
CGCGTTATTTGCTCGTCGGCGATGATTTCCGTTTCGGTGCGGGGCGGGAAGGCTGTTTTG
AACTTTTGGCACAACAGCCCGATATGCAGACCGAGCGTACGCCTTCCGTCATCGTCGAAG
ACATCCGCACCAGCAGTACCGCCGTGCGACAAGCCCTTTCAGACGGCAACCTTGCCTATG
CGAAAAAACTTTTGGGACACGACTACGTCTTGAGCGGCAGGGTGGTGCACGGCAGAAAAC
TCGGACGCACCTTAAACGCCCCGACTGCCAACATCCGCCTGCCCCGCCACCGTTATGCAC
TCGGCGGCGTGTTTGTCGTCGAAGCAGACGGCGCATTCGGCACGCGGCGCGGCGTGGCGA
GTTTCGGCTTCAATCCCACCGTTGATAGCGGCTGTTCTCAAAAGCTTGAAGTCCACCTGT
TCGACTTTCAAGGCGACCTGTACGGACAAGGGCTGAACGTCCGCTTCCTGCACAAACTGC
GCGATGAGGAAAGTTTGACGGTATGGAAGAACTGAAAAGGCAGATTGAAGCCGATATGG
AAGCCGCAAGGCGTTGGTAGAAAAACCTTATACAAACCATCCGATTGGGCTACAATCAAT
CTTTTAACTGTTCAGACGGCACAGGGTTTTCCCGTTGTGAAATGCTGTTTGGGGCGCAAT
GCCGTCTGAGACCGAAATATTGTAACAATAGAGATTAAAAAATGACCGATTACAGTAAAA
CCGTAAACCTGCTCGAGAGCCCGTTTCCGATGCGCGGCAATCTTGCCAAGCGCGAGCCTG
CATGGCTGAAAAGCTGGTACGAGCAAAAACGCTACCAAAAACTGCGCGAAATCGCCAAAG
GCCGTCCGAAATTTATTCTGCACGACGGCCCGCCGTATGCCAACGGCGACATCCACATCG
```

```
GTCATGCCGTCAATAAAATTCTCAAAGACATCATTATCCGCAGCAAAACCCAAGCCGGTT
TTGACGCGCCTTATGTGCCGGGTTGGGACTGCCACGGCCTGCCCATCGAAGTGATGGTAG
AAAAACTGCACGGCAAAGATATGCCCAAAGCACGTTTCCGCGAATTGTGCCGCGAATACG
CCGCCGAACAGATTGCCCGTCAGAAAAAAGACTTTATCCGCTTGGGCGTGTTGGGCGACT
GGGACCATCCTTACCTGACTATGGATTTCAAAACCGAAGCCGATACCGTGCGTATGCTCG
GCGAAATCTACAAATCCGGCTATCTCTACCGGGGTGCGAAACCGGTTCAATTCTGCTTGG
ACTGCGGTTCTTCGCTGGCCGAAGCGGAAGTGGAATACAAAGACAAAATCTCGCCCGCGA
TTGACGTTGCCTATCTGTTTAAAGACACTGCCGCGCTTGCCGCCGCATTCGGTTTGGCTG
GTTTCGAAGGCAAAGCGTTTGCCGTCATTTGGACGACTACGCCTTGGACGCTACCGGCGA
GCCAAGCCGTGTCTGCGGGTGCAGACGTGGTGTATCAACTGATTGATACGCCGAAAGGCA
AATTGGTATTGGCGAAAGATTTGGCAGAAGACGCGCTCAAACGTTACGGTTTTTCAGACG
GCATTGCTATTCTCGCCGAAACCACCGGCGACAAGCTGGAAAATCTGCACATGAACCATC
CGTTCCTCGAACGCGATATTCCCATGCTCAACGGCGAACACGTTACCACCGATGCCGGTA
CCGGCTTGGTACACACCGCCCCCGCGCACGGTTTGGAAGACTACGCCGTCTGCAATAAAT
ACGGCATCGAGCTTTACAACCCCGTCAACGCCGAAGGCCGATACATCGGCGAAACGCCGC
GTGTCGCCGGTATGCGCGTTTGGGAGGCGAACCCCGTCATCCTGCAATGGTTGGAAGAAA
CCGGCAACCTTTTGGCAAGCAGTAAAATCGAACACAGCTACGCCCACTGCTGGCGGCACA
AAACGCCGCTGATTTACCGCGCGACAGGTCAATGGTTTGTCGGTATGGACAAAGCCGGTG
CCGACGGCAAAACCCTGCGCGACAAAGCCATCAAGGCCGTGGACGACACCGAATTCTTCC
CGTCTTGGGGTCGCGCGCGTTTGGAAGCCATGATTGAAGGTCGTCCTGACTGGGTGGTTT
CACGCCAACGCTATTGGGGCACGCCGATGACTTTCTTTGTTCACAAAGAAACGGGCGAGC
TGCATCCGAACTCTGCCGAACTTTTGGAAAAAGTTGCCCTGAAAATCGAAGAAAAAGGCA
TCGAAGCGTGGTTCTCCCTCGATAAGAGCGAACTCTTGAGCGCGGAAGATTGCGAAAATT
ACGATAAACTTTCTGACACAATGGACGTATGGTTCGACTCCGGCTCGACCCATTATTCCG
TTGTGAAACAACGCGAAGAATTGGAATGGCCGGCTGATTTGTATCTCGAAGGCAGCGACC
AACACCGCGGCTGGTTTCAATCGTCCATGCTGACCGGCTGCGCCTCATCAATGGGTCGCG
CGCCGTATAAACAGCTGCTGACCCATGGTTTCGTTGTCGACGGCGAAGGCAAAAAAATGT
CGAAATCCATCGGCAACGTCGTTGCACCGCAAGAGGTTTATAACGAATTCGGCGCAGACA
TCCTGCGCCTGTGGGCGGCATCTACCGATTACAGCGGCGAATTGGCGATTTCCAAAGAAA
TCCTCAAACGCGTAACCGAAAGCTACCGCCGTATCCGCAATACCTTGAGCTTTTTGTTTG
CCAACTTGAGCGACTTTAATCCGATTGAAGATGCCGTGCAACAGGCGGATATGGTGGAAA
TCGACCGCTACGCCGTGGTATTGGCACGTCAGCTGCAAGAGTGTCTGGCAGGCGATTACT
ATCCGCGTTATGCCTTCCACTTTGCCGTAAAAGACATTGTTTCTTTCTGCTCGGAAGACT
TGGGTGCGTTCTACCTCGACATCCTGAAAGACCGCCTCTACACCACCAAAGCAGACAGCC
ATGCACGCCGCAGCGCACAAACTGCCCTGTATCACATCACACGCAGTTTGGTTCTCTTGA
TTGCACCGATTTTGTGCTTCACCGGCGAAGAAGCGTGGGACATCATCGGCGGCGGCGAAG
AAGACAGCGTCCTCTTCCATACTTGGCACGAGTTCCCGACCATCAACGAAAAAACCGAAG
CCGAACTGGTGAAAAAATGGACGGCAATCCGCGAAGCCCGCGAAGCGGTAACCGCCGCCA
TCGAGCCTTTGCGCGCCGACAAAACCGTCGGTTCGTCCTTGCAAGCCGAAGCCGAAATTA
CCGCGCCGGAAGAAATGGCCGGCTATCTGAATGCTTTGGGCGAAGAATTGCGCTTTGCTT
TGCTGGTGTCTAAAGCAGAAGTGAAAGTAGGCAGCGAACTTGCCGTTGCCGCTAAAGCCA
GTGATGGTGAAAAATGCGAACGCTGCTGGCACTACACCCGCGATGTGGGCGCGGTTGCAG
GCTATGAAACCGTCTGCAAACGCTGTGCAGAGAATGTCGGCGGAGAAGGCGAAACGCGCC
ATTACGCCTGATAAAGTTTGAGCAAATGCCGTCTGAAACCGCCGAACAGCATTTCAGACG
GCATTTTTTGTGCCGCGATTTGTCTTTATAACGGCGGAGGGGTTTCAAGATTGCGGTGTT
GTCGGAATGCAACTGAACCGTCATTCCCACGAAAGTGGGAATCTAGAATCTCGAGGTTTC
AGTCATTTCCGATAGATTCCCGCCTGTGCGGGAATGACGGATTTCGAGATTACGGTGTTG
TCGGAACGCAACTGAACCGTCATTCCCACGAAAGTGGGAATCTAGAATCTCGGGGTTTCA
GTCATTTCCGATAGATTCCCGCCGCGTCGGAGGTCTGGATTCCCGCCTGCGCGGGAATGA
CGGGTTTCAAGATTGCGCTGTTATCGGGAATGACGGATTTCAAGATTACGGTGTTGTCGG
AATGCAACTGAACCGCCATTCCCACGAAAGTGGGAATCTAGAATCTCGGGGTTTCAGTCA
TTTCCGATAGATTCCCGCCGCGTCAGGGGTCTGGATTCCCGCCTGTGCGGGAATGACGGA
TTTCGAGATTGCGGTGTTGTCGGAACGCAACTGAACCGTCATTCCCACGAAAGTGGGAAT
CTAGAATCTCGGGGTTTCAGTCATTTCCGATAGATTC
CCGCCGCGTCGGAGGTCTGGATTCCCGCCTGCGCGGGAATGACGGATTTCGAGATTGCGG
```

```
                TGTTGTTGGAACGCAACTGAACCGTCATTCCCACGAAAGTGGGAATCTAGAATCTCGAGG
                TTTCAGTCATTTCCGATAGATTCCCGCCTGCGCGGGAATGACGGATTTCAAGATTACGGT
                GTTGTCGGAATGCAACTGAACCGTCATTCCCACGGAAGTGGGAATCTATAGTGGATTAAA
                TTTAAATCAGGACAAGGCAACGAAGCCGCAGACAGTACAAATAGTACGGCAAGGCGAGGC
        5       AATGCCGTACTGGTTTGAATTTAATCCACTATAGAACGCGGGGTTTGGGCAACTGTTTTT
                ATCCGATAAGTTTCTGTGCGGACAGGTCTGGATTCCCGCCTACGCGGGAATGACGGGTTT
                CGAGATTACGGTGTTGTCGGGAATGACGGGTTTTAAGATTACGGCATTTGCCGTTTCGGG
                TACAGGAAAGGGGGTTTTCGGGTAAAATGGTACTCTTTTACCGGCTGTTGAAAAATATGT
                CTTCATCTGTTTCAAGTAAAACGCGCTATTGGGTATTGGCACTTGCCGCCATCGTGCTGG
        10      ACCAGTGGTCGAAGTGGGCGGTGCTGTCGTCGTTTCAGTATCGGGAACGCGTCAATGTCA
                TTCCTTCCTTTTTCGATCTGACGCTGGTGTACAACCCGGGTGCGGCGTTCAGCTTCCTTG
                CCGATCAGGGCGGCTGGCAAAAATACTTTTTTTTGGTGCTGGCGGTGGCGGTGAGCGCGT
                ATTTGGTACGCGCCATCTTGCGCGATGAGTTTGCAACCCTCGGCAAAACGGGTGCGGCAA
                TGATTATCGGCGGTGCGTTAGGCAATGTCATCGACCGCCTGATACACGGTCATGTCGTCG
        15      ATTTCTTATTGTTTTATTGGCAAAATTGGTTTTATCCCGCCTTTAATATTGCCGACAGCT
                TTATCTGCGTCGGTGCGGTGTTGGCGGTGTTGGACAACATCGTCCACCGTAAAACCCAAG
                AAGAAAAATATTGATGCCGTCTGAAAACGAAATACCGGGCTTATGAACGAGAAACCATC
                ATCCTTGCCAATCCGCGCGGCTTCTGCGCTGGTGTGGATCGGGCAATCAGTATTGTCGAA
                CGTGCTTTGGAAGAGTTCGGCGCGCCGATTTATGTGCGCCACGAAGTCGTTCACAACAAA
        20      TTCGTCGTGGACAACCTGCGTGAAAAAGGTGCGGTGTTATTGAAGACTTGGCGGAAGTG
                CCGCCGGGCGCGACACTGGTTTATTCGGCACACGGCGTATCGAAGGCGGTGCGGCAAGAA
                GCGGCGGAGCgCGGTTTCCGCGTGTTTGATGCGACTTGCCCGCTGGTGACGAAAGTGCAT
                AAGGAAGTCGCCCGACTGGATGCCCAAGACTGTGAAATCATCATGATCGGGCATAAGGGG
                CACGTCGAGGTCGAAGGAACGATGGGGCAGCTTGCGCCGGGCAAAATGCTTTTGGTCGAA
        25      ACGGTCGGAGATGTGGCAAAACTCGAAGTCAGAAACCCCGACAAACTCGCCTATGTCAGC
                CAAACCACGCTCTCGGTCGATGAAACCAAAGACATCATCGCCGCGCTGAACGCGCGTTTC
                CCCAATATCCGCAATCCGCACAAGGAAGATATCTGCTATGCGACGACCAACCGGCAAACC
                GCCGTCAAAGAGTTGGCAGAACAGTGCGACATCGTGATTGTGGTCGGTTCGCCCAATTCG
                TCCAACAGCAACCGCTTGCGCGAAGTGGCGGCATCGCGCGGAATCGATGCGTATATGGTG
        30      GATAATGCAGGCTACCTGCAACGCGCATGGTTTGAGGGCAAAAACAAAGTCGGCGTAACG
                GCAGGCGCGTCCGCGCCCGAAGTGTTGGTGCGGGAAGTACTGGCAACCATACGCGGATGG
                GGGCACGAAACCGTACGCGAAGGCGAGGGTGCGGAAGAAAGCATTGTGTTCGTCCTGCCC
                AAAGAGTTGCGCCGCGAGGGCGAAACCAAACCCGATTTGTGCAAACGTTGACGCAGGCGT
                TGAATGTTTGGGCAACACAAATGCCGTCTGAACAGGCTTCAGACGGCATTTTTGCCGTGT
        35      GCCGGATGCGGAAACCAATCAGGCGTAATGTTGTGCAAGAAAACCGGGCAGTTCGGACAA
                ACCGTCCAATACGGCGAGATGCGGTGCGCTAAGGAGCTGTTCGCGCGAATGTGCGCCGGT
                GGCCACGCCGACTGCCGCCGCGCCTGCGTTTGCCGCCATATGCAGGTCGTGCGCCGTATC
                GCCGACGACCAATGCCTCTTTCGGGTCGAGTCCCAGTTCGCCGCAGATTCCGAATACCAT
                TTCGGGCGAGGGTTTGGAGGGATATTCCCCCGCGCAGGCGGTGGCGAGCCAATAGCCGCC
        40      GGTGGCGGTTTGACTGATGGCGTTGTCCAAACCCGCCGCCCTTTGCCCGTGGCGACGGC
                AAGCCAGTATCCTTGTGCTTTGAGCTTGTCCAGACAGGGCAGGGCATCGGGAAATAAGGA
                CATATTGCGGTTGTTGGGATTGAGGTAATGTGCGGAATAAGTGCGTGTGATGTCGGCAAC
                GGCGGTTTCAGACGGCATTTCGAGCAGGGTGCGGATGATTTCGGGCAGGCTGTAGCCAAT
                CAGGCTGCGGACGCGTTCCGCTTCGGGCGGCGGAAAACCGCATTCGGCGAAGCTGCGGCG
        45      CATGGTGTCGATGATGGGTTGGGTCGTATCGGCAAGCGTGCCGTCCCAGTCGAAGATGAT
                GAGTTTGGGCGTGGTCATAGCAGGTTGGTTGCAGTAAAAAAGCAAATTTTATGCGGAAAA
                CGCAGACGTGTCGCATTTTCGACAAAATTTGTCGGCTGCGCGATATGTTTTCCGAACAA
                GCCGCGTTGCGCTTTATTAAAATAGAACCATTATCATTTATGTGAATGGGACAGTTTATG
                TCAGTTTTCCGCATCAATATGACCGCCGCCACGGTTTTGGCAGCACTCTCGTCTTCGGTT
        50      TTTGCCGCACAAACGGAAGGTTTGGAAACCGTCCATATTAAGGGTCAGCGTTCTTACAAC
                GCGATTGCCACCGAGAAAAACGGCGATTACAGCTCGTTTGCCGCCACCGTCGGTACAAAA
                ATCCCCGCTTCTTTGCGCGAAATTCCGCAATCCGTCAGCATCATTACCAACCAGCAGGTC
                AAAGACCGCAATGTTGATACGTTTGACCAGTTGGCACGCAAAACGCCCGGCCTGCGCGTG
                TTGAGCAACGACGACGGACGCTCTTCGGTTTACGCGCGCGGTTACGAATACAGCGAATAC
        55      AACATCGACGGCCTGCCCGCGCAGATGCAGAGTATCAACGGCACGCTGCCCAACCTGTTC
                GCCTTCGACCGCGTGGAAGTGATGCGCGGGCCGAGCGGACTGTTCGACAGCAGCGGCGAG
                ATGGGCGGCATCGTGAATCTGGTGCGCAAACGCCCGACCAAAGCGTTCCAAGGTCATGCG
```

```
GCGGCAGGGTTCGGTACGCACAAACAATATAAAGCCGAGGCGGACGTATCGGGCAGCCTC
AATTCAGACGGCAGCGTGCGCGGCCGCGTGATGGCGCAGACCGTCGGCGCGTCTCCGCGT
CCCGCCGAGAAAAACAACCGGCGCGAAACCTTCTACGCGGCGGCGGATTGGGACATCAAC
CCCGATACGGTTTTGGGCGCGGGCTATCTTTACCAGCAACGCCGCCTCGCGCCGTACAAC
GGCCTGCCTGCCGATGCCAATAACAAATTACCGTCCCTGCCGCAACACGTATTTGTCGGC
GCGGATTGGAACAAATTTAAAATGCACAGCCACGACGTGTTCGCCGATTTGAAACATTAC
TTCGGCAACGGCGGCTACGGCAAAGTCGGTATGCGCTATTCCGATCGGAAAGCCGATTCC
AATTATACGTTTGCGGGCAGCAAACTCAACAATACCGGACAAGCCGACGTAGCGGGTTTG
GGTACGGACATTAAACAAAAAGCCTTTGCGGTTGACGCAAGTTACAGCCGTCCGTTTGCC
TTGGGCAACACCGCCAACGAATTTGTGATTGGTGCAGACTACAACCGCTTGCGCAGTACT
AATGAACAAGGGCGTTCGACTTTGTCAAAAAGCGTCGCTTTAGATGGTTTCCGCGCTTTG
CCTTATAACGGCATACTTCAGAACGCCCGCGCCGGAAACAAAGGTTTCAATCACTCCGTT
ACCGAAGAAACCTCGACGAAACCGGTTTGTATGCCAAGACGGTGTTCCGTCCTCTGGAA
GGTTTGTCGTTGATTGCAGGCGGACGTGTAGGACATCACAAAATCGAGTCGGGCGACGGC
AAAACCCTGCATAAAGCTTCGAAAACCAAATTTACAAGCTACGCCGGCGCGGTTTACGAT
ATAGACGGCAGCAACAGCCTGTACGCTTCCGCCTCCCAACTCTACACACCGCAAACCAGC
ATCGGCACCGACGGCAAGCTGCTCAAACCGCGCGAAGGCAACCAGTTTGAAATCGGCTAC
AAAGGCAGCTACATGGACGACCGCCTCAATACCCGGGTTTCGTTCTACCGCATGAAGGAT
AAAAACGCCGCCGCACCGCTGGACTCAAACAACAAAAAAACCCGTTACGCCGCATTGGGC
AAACGCGTGATGGAAGGTGTTGAGACCGAAATCAGCGGCGCGATGACACCGAAATGGCAA
ATCCATGCAGGTTACAGCTACCTGCACAGCCAAATCAAAACCGCCTCCAATTCGCGCGAC
GAAGGCATCTTCCTGCTGATGCCCAAACACAGCGCAAACCTGTGGACGACTTACCAAGTT
ACGTCCGGGCTGACCATCGGCGGCGGCGTGAACGCGATGAGCGGCATTACTTCATCTGCA
GGGATACATGCAGGCGGTTATGCCACGTTCGATGCGATGGCGGCATACCGCTTCACGCCC
AAACTGAAGCTGCAAATCAACGCCGACAACATCTTCAACCGCCATTACTACGCCCGCGTC
GGCAGCGAGAGCACCTTTAACATTCCCGGTTCGGAGCGCAGCCTGACGGCAAACCTGCGT
TACAGTTTTTAAAGACCAATATGCCGTCTGAAACGGCAGCCGCAGCATCATCAAACTACA
ACAAGCTGCGCGGCATACCCTATGCTCTCACAACTGGAGTATGGCATTGCGAAGGAAAAT
AGACCGAACCGGCAGGCAGACCGCTTTGCCGGTTCGGTTTTACCGCTTGCCGCCAGTCTG
ACCCACAAGCCGAACATCATGAAACCCATACCGACCGACACATTCCAACCTGCCATACTG
CCCCAAGCCTTTGAAACCGAAATCAAATCCACCTGCACGGGGCGAATCTATCGGATTCAG
ACGGCAACACTCGGCGAAATACCGTCTGAAGGCTATCCCGTCCTCTTTGTCCTCGACGGC
GAAGCCTTTTTCCCCGCACTTTTCAACATCATGCAGTCGCTGATGAACAACCCCGTTACC
CGAAGCAACGCCCCCTGCCTGATTGTCGGTATCGGCTACACGACAGGCAGTGTGCGCGAT
TTGGCACAACGTGCCGCCGACTACACGCCGCCGCTTGGAGACAACGCCACAGCAGACGAA
CGGCAGCAGTTCGGACAGGCAGACCGCTTCGCCGCCTTTATCGACAGCGAGCTGACCGCC
TTTTTAGAAAGCCGCTACACCCTCAACCGCAATGAAACCGCCGTATTCGGACACTCGTTC
GGCGCACTGTTCGGACTGTATTCCCTGCTTTCCCACCGCCGTTTCAGACGGCATTGGCTC
GTATCCCCATCGATTTGGTGGCACAACAGGCGGATACTCGACTTTATGCCGTCTGAAAAC
CGGCTAAACGGCATCGATGTCTGCCTCAACATCGGCGCGCTAGAACGGGGTAGCGGATTGT
AAACGCAGGGAAGAACGCGATATGGCAGGGCAGGCCGAACAAATGGCGGCAGAGTTAGAC
AGGCACGGGGCCGCCGTCTTTTTCCGGGAATATCCGAATGCCGACCACGGCAATGTCCCG
TTCTACTCGCTGACCGATTGCGTCGAATATTTGAGGAAGGCTTGGCAGAGGTAGGGGGAA
TTAAATATATGACTGCTTTGTTTTGCATCGGAAAATAACAAGAGCTACCTAAGGGTTATT
GCTCCCTTTCTCATTTTATTTTGATATAAAAATCCCTGCTTCAGGCCGTCTGAAACAGGG
ATAGGTTAATTTAACGGACGGGTGGGCGTTTTTTCAGGCGGCACGGTCTGATTTCTTTGC
CCGGTTTGTCGATTTGGTATTTTTGGAGTGAAAGGGCGGTTTTGATACCGATACTTTGGA
AAATGCCGTTTTTCCCTTTGGTGCTGTCTGTGTCATGCACACGGATATCAATCGTCCCGG
TTGCTCTATTTAGACTGGCGAAATAACCAAAAAATACGTTTTTCTTGGCAGTTACTTTTA
TTCAATCATTCGAATAAAGTACGAATGAAACCGGTTTTTGGGCTTCAGACGGCATTTATA
TTTTGGGTTACCAGTTGACGCGCACCGACCGGCTGCCGAGCAATGTTTCCAGTTCGCCGA
ACAATGCGGAGCTCGGTGTAACCGTCCATTTCGGCGGCACTTGAAGCCTGCCCGACGCTT
TTTCGTTGGCATACGACAGTTGCAGCGGGATGCGCGGCGTGTCGGGCAGTTGGTGGGCGG
CGAGCAGCCGTACCAGTCCGCCGATGTCGTGATGCGGGGCGAGGGCGAGGCTGAGGCTGC
GGGCGTAGCGTTCGCGCGCCGTTTGCAGGGTCATGACTTGGTTTGCCAGAATACGCAGCC
CGTCGCCGCCGCCGTAGTCGTCGCGGCTGACTTTGGATTCGATAATCAGCACTTGGTCGG
CTTTGAGGCAGTCGGCGCAGTTTTCCAACGTCTGACCGCCGACCATGATTTCAACCTGTC
```

-282-

```
CGCTCAAATCTTCGAGGCTGACGAAGGCGATTTTGCCGCGTTTGCCCATCATCGTACGCA
CGGCGGTAACGAATCCGGCGAGGCGCACGCTGTCTTGCGGCTTCAGACGGTCTAATTTGG
TCGGTGCGATTTGGCGGACTTCTTGGGCATACGGGCCGAACGGGTGGCCGGACAGGTAAA
AGCCGATGACGGTTTTTTCTTCGGCGAGTTTTTCCGATTCGCTCCACATCGGCGCGTCGA
TGAGCCGCACCGGTTCGATGGCGTCTTCCATCATGTCGAAAAGCCCGCCCTGATTGGCGT
TGGCGGCTTTTTGGTCGGCGTTGTCCATAGCGAGGTCGATGTTCGCCAAGAGCATGGCGC
GGTTGGGTTCGATGCTGTCGAACGCGCCGCCGCGTATCAGGGCCTCGAGGGTGCGGCGGT
TCATGTGTTCTTTGCCGACGCGCTCGCAGAAGTCCAACAGACCGGTAAACTTGCCGCCGC
TTTGCCGCGCGGCGGTGATGGATTCGACGGCGGCTTCGCCCGTGCCTTTAATCGCGCCGA
GCGCGTAGCGGATTTTCATGTCCGGATACGGCGTGAAGCGGTAGTCGGATTCGTTGATGT
CGGGCGGCAGGAACTCAATGCCGTTGGCGCGGCAGTCGTCGTAGAAATGCTTGAGCTGGT
CGGTGTTGTCCAATTCGGACGACATGGTCGCCGCCATAAATTCGGCGGGGTAGTGCGCTT
TAAGCCATGCGGTCTGGTAGGAAATCAGGGCGTAGGCGGCGGCGTGGGATTTGTTGAAAC
CGTAGCCGGCGAATTTTTCCATGTAGTTGAAGATTTCGTCGGATTTTTCGCGCGAAATGC
CTTGTTTTGCCGCGCCTTCGGCGAAGATTTCGCGGTGTTTCACCATTTCTTCGGGTTTTT
TCTTACCCATGGCGCGACGCAGCAGGTCCGCGCCGCCGAGCGAGTAGCCGCCGATAATTT
GCGCCGCCTGCATCACTTGTTCCTGATACACCATAATCCCGTAGGTCGGCGCGAGGATGC
CTTCGAGTAGCGGATGGATGTATTGGAATTCTTGCCCCTTCATACGTGCGACGAAGTCGG
GAATGTTGTCCATCGGGCCGGGGCGGTAGAGCGATACGAAGGCGATGAGTTCTTCAAACT
TGGTCGTGTGCGCCGTTTTCAGCATTTTTTTCATGCCGGTCGACTCAAACTGGAAGACGG
CGGTGGTGTTCGCATCGCGGAAGATTTGGTAGGCGACCTGGTCGTCAAGCGGGATTTTGC
CGACATCGATGATGTCGCCGGTAGTGTTTTTGATGTTGTTCTGCGCCATTTCGATAATGG
TCAGGTTGCGCAGACCCAAAAAGTCGAATTTCACCAAACCCACATCTTCCACGTCGCCCT
TGTCGTACATGGATACGGGCGAGGCGGATTCGTCCGCCTGATACACGGGGCTGTAATCGG
AAATCTTGCCCGGCGCAATCAACACGCCGCCTGCGTGCATACCCAAACCGCGCGTTAAAT
CTTCCAGCTTTTTCGCCAGCGTAATCAGTTCGTCCGCTTCTTCCGCTTCGATTAATTCCT
GAATCTGTGGCTCGGTCTCCATGGCTTTTTCCAAACTCAGGGGTTTGTTGGCTTCCAACG
GAATCAGCTTGGACAGTTTGTCGCACAGCATAAACGGCAGCTCTAACACGCGCCCGACGT
CGCGGATGACCGCTTTGGACGACATCGTGCCGAAGGTAACAATCTGGCTGACCGCCTCCG
CGCCGTATTTCTCGCGCACATATTCAATCACGCGGCCGCGGTTGCTTTGGCAAAAGTCCA
CGTCGAAGTCGGGCATAGAAACGCGTTCGGGGTTTAGGAAACGCTCGAACAGCAGCGCGT
ATTTGAGCGGATCAAGGTCGGTAATCTTCAATGAATACGCCACCAGCGAACCCGCGCCCG
AACCACGGCCCGGCCCGACCGGACAGCCGTGTGTTTCGCCCAGTTGATAAAGTCTTGTA
CGATAAGGAAATAGCCGGGGAATTTCATTTGGATGATGATGTTCAGCTCAAAATCCAAAC
GTTCCTGATATTCCGGCATTTTTGCCGCCCGCTCCGCCTCGTCGGGATAAAGCTGAACCA
TACGTTCCTGCAAACCCTCGTTGGAGAGTTTGATGAGATAGTCATCGAGTGATAAACCGT
CGGGCGTGGGGAAAAGGGGCAGGAAGTTTTTGCCCAATGTGATGTGCAGGTTGCAGCGTT
TGGCAATTTCTACCGTGTTTTCCAAGGCTTCAGGCAAATCGGCGAAACGTTCGGCCATGG
TTTCCGGCGGAATGAAAAACTGGCCCGGCGTGAAATCGCGCGGACGTTTCTTGTCCGTCA
ATACCCAGCCGCCTGCGATACACACTCGCGCCTCGTGCGCGTTGAAATCGTCGCGGCTCA
TAAACTGTGTCGGATGCGTCGCCACCACCGGCAAACCCAATTCCTCCGCCAGCTTCACGC
TGCCCGAAACGCAAGCCTCCCATTCGGGGCGTTCGGGTAGGCGTTGCAGCTCCATATAGA
ACGCATCGGGGAACCACGCCGCATACTTCAACGCCGCCGTACGCGCCGCGTCTTCATTGC
CGTTCAACAGATTCACGCCCACTTCGCCGTAATGTGCGCCGCTCAAACAAATCAAGCCGC
TGTTGTCGCCGTTTTCCAGCCATTCGGGATTGAGTTCCGCATGATGGACATTGCGGTCTT
TGCCGACATAAGCCGCCGTCAGAAGCTCGCTCAAGCGCAGATAGCCCGCATCGTTACGGA
TAATCAGCATAGCGCGGAACGGCTTGTCGGGCGCATCCGGATTGCCTATCCGCACATCCG
CCGCGCCGATAGGCTTAATCCCCGCGCTGCGGCAGGCTTTATAAAATTTCACCAAACCGA
ATTCGTTCATCAAATCGCTGATGCCCAAAGCAGGCAAACCGTATTCCTGCGCTTTGGCAA
TCAGTTTTTTAATCCGCACCATACCGTCGGTAATCGAAAATTCGGTATGCAGGCGCAGGG
GAATGTAGGTCGGCTCGGTCATGGCAAAATCGGCGTGGACAATAAAAGGCGTATTGTAGC
AGGGTTGTCTTTAGATGGCGGTGTAGGTAATGCCGTTTCGGGTTCAGACGGCATGACCTG
CAAATGTTTTTGAGCTTTTACTACGGCAAAAAAATGCCTCCTGCCGTATGGCGGAGGCTT
CCCAAGGAGTATTGATAGATATAAAGGACTATCAAACTAGTTATAAAGAACTATATGCCT
TATTCGGACGGATGGCAAGCAGTTAAATTAATTTTACGTTCAAACAGGTTTTTGATTTCG
TTTTGATGCCGATTGCCGGTGTATCGGGCAGTTCGCGTTTGAGGATGTGCATCAGCGTCA
ATGCGGATTCGTCGGGGAACAGGATTTGCAGTCTGCCGTTGGGCAGGATTTCTTTGAACG
```

```
    GATGGCGGCATATGGGGTTTCAGACGGCATTTTTACTTTTACGGAACAGGCGGTGCGGAT
    ACATCGCCGGTTTTTCGGTAATTTTGGGTACGGCGGCGGCAGGTGCTACAATAACGGCCT
    CTTTCTGCAAGGGAACATTATGGAAGCCACTGTCTATCTCGAAGACAACGAATACATCGC
    CTTGTGCGACCTCTTGAAATTGGTCGGACTTGCCGAAAGCGGCGGACAGGCGAAAGCGTT
  5 TATCGCCGAAGGGCTGGTGTTGCGCAACGGCGAAACCGAAACCCGTAAAACCGCCAAAAT
    ACGCGGCGGCGAAGTCATCGAGTTTGACGGCGCTCGCTTGGAAATCGCCGATGGATACGA
    CCCTGAAGTATAAAGCCGAAGCCCTTTTTGGGCGAGCCGCTTTTAGACGAACCCGTCCGAC
    CCGAGTCGTGGGAATGCTGCGGCAGCGACTGCGGCGAGGCGTGCATTCAGACGATTTACT
    GGGCGGATAAAGCCAAATACGACGTGCAACGGCAGAAATTGAAAGAAGCGGGTTGGTCGG
 10 ACGATGCCGTCTGAAACGGTTCGGCTTGATATAGTGAATTAACAAAAATCAGGACAAGGC
    GGCGAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTA
    GAGAATCGTTCTCTTTGAGCCAAGGCGAGCCAACGCTGTACCGGTTTAAATTTAATTCAC
    TATAAAACCACGTTTTCAGACAGTCTTTTATAGTAGATTAAAACTGAAAACGTCCATATC
    GTCATTCCCGCGCAGGCGGGAATCCGGAAGTTCGAAATAGCGGTTAACCTTAAATATTTT
 15 TGACAAATCAAGGTCTGGATTCCCGCCTGCGCGGGAATGACGGCATAGGGACTTTTCCTT
    TGCATTTGCCATACACCTGTTTGTTGAAATCACCGCTGTATCCACACCAACCGATAATAT
    TAACCCCCGACCTTCATTCACAACACACATAACACCCCATGATAGACCTGCACTGCCATT
    CCACCGTTTCCGACGGTATGCTCTCCCCCGCCGAAGTCGTGCGCCTCGCGCATCAAAACG
    GCTGCACGCTGCTGGCGTTGACCGACCACGACCACACCGGCGGCATCGCCGAAGCGCGCG
 20 CCGAAGCCGACAAGCTCGGTTTGCGCCTGATTAACGGTGTGGAAATCTCCGTAACGTGGC
    GCGGGCGCACCATACACGTTGTCGGTTTGGATTTCGACGAGCAGGACGAAAACCTGCAAA
    ACCTGTTGGCGCAAGTGCGGAAAGGCCGTCTGAAACGTCTTGAAGCCATCGCCGCCAAGC
    TCGAAAAGAAAGGCATCGGCGGCGCATACGACGGCGCGCTGGCACTGGCGGCAAACAAAG
    AAATGGTCAGCCGCACCCACGTCGCCGAGTTCCTCATCCAAGCGGGACACGTCAAAAACA
 25 AGCAGCAGGCGTTCACCAAATACTTGGGCGACGGCAAATCCTGCGCCGTCCGCCACGAAT
    GGGCGACGCTGGAAGACTGCGTCTCCGCCGTCAACGGAGCGGGCGGCATGGCAGTCATCG
    CCCACCCCATGCGCTACGATTTGTCCGCCACCGCCAAGCGCAATTTGTTTGAAGAATTTA
    AAAACCTCGGCGGCGCAGGCATCGAAGTCCACAGCGGAAACTGCTGCAAAAACGACCGCC
    TCAACTACGCGCTTTTGGCAGAACGCTTCGGTATGCTCGCCAGCGCGGGCAGCGACTTCC
 30 ACCGCTTAAACGACTTCAGCGGCGGCATCCTCGGCGCGTGTCCCGAGCTGCCGGAAAACT
    GCAAACCGGTTTGGGAACATTTTTCCCGATATTGAATGCAGATAAAAATGCCGTCTGAAA
    ACTTTTCAGACGGCATTTTTTGCGTTTTAAACGTTGTCGTACAGTTTTCGGACGGTTTTA
    CCGATGGCGGCAATGCCTTTTTCCAGCGTTTGAGCGTCCTGCGCGATGCTCATGCGGATG
    CACTCGCCCGCATGCGGGTAATCCTGCGTGTCGATGCCGACGAAGAAATGTTCGCCCGGA
 35 ATAATCAGTGTGCCTTCGGCTTTGAGCATTTCGTACAGGGTTTGCGAAGAAACGGGCAGG
    TTTTCAAACCAGAGCCACAGGAAAATCGCGCCTTCGGGTTTGTGGATTTTCATCGGGTAC
    GCGCCCAGCTCCCGCTTGAGCAGCGAGACGGCGGTTTGCGCCTGATTGCGGTAAAACGGC
    CGGATGACTTGGTCGGCAAGCCGTTTCATCTCGCCGCTTTCCAGCAGCGGCGTTGCGATG
    GCCGCGCCGAAGCGCGTGGGGGCAAGGTTCACAATCGCGTTCAGGCTGCTGACGGCTTTG
 40 ACGACTTCGGGCGCGGCGACGATGATGCCGGTGCGCACGCCCGGCAGGCCGACTTTGGAC
    AGGCTGAAGCAGAGGATGATGTTTTCGTGCCAATTCAGCGTTACGTCGCTGTAAATGATG
    TTGGGGAACGGCATTCCGTAGGCGTTGTCGATAATCAGCGGAATGCCGTGTTCACGCGCC
    AAAGCGTCCAAACGCGCCATTTCGCCGTCGGTCAACACATTGCCGGTCGGGTTGGTCGGG
    CGCGAACAGCAAATCGCGCCGATTTTGCCCGCTTTGAGTTCGGGCAGGTTTTCCAGTGCG
 45 TCAAAGTCCACGCGGTATTTGAAGAAGCCGGCTTCGCCTTCGTGTTCGACGTTTTCGATT
    TTGGGCTTGACGGAAACGAAGTGCTGCCCTTCGACATGCACGTCGGCATAGCCGATGTAT
    TCGGGCGCGAGCGGCAACAAAATGGCTTTTTCTGCGGATGTGCCGTCTGAAAGGTTGAAT
    TTGCCGCCGAAGAGGTTGAAAAGATAGAAAAACGCGTTTTGCGAACCGTTGGTCAGCGCG
    ATATTGTCGGCGGTCAGATTCCAGCTGTATTCGCGGTTGAGGAAGGCGGTCAGCGCGTCA
 50 ATCAGCACGGCATCGCCTTGGGGATTGGAGTAGTTGCCGATGTTTTCGACGGCGTGTTCT
    GCCGCCAGTTTGGAGAATATGTCGGCGAACGCCTGATCGATTTCCGGAATGCGCGCCGGG
    TTGCCGCCGCCGAGCATGTTGACGGGCTTGTCGCTTTTGAGCGCGTCGCCGAGGTCGTCC
    ATCAGTTGGAGGATGCCGCTGTGTTGCGTGAATTTTTCGCCGAATGCTGAGAACTGCATG
    TCAAACTCCGTGTGTGTAAGGTAGGTTGGTTTGTACGTTATGCCGTCTGAAGGTTCAGAC
 55 GGCATTTTTTCTGTGTGTTTCTCGTACCCAAAGCAGGTCGCAGATGCCGTCGCTCGGGGC
    AAAGCCGGTCGGGGCGTTGATGAGCAGGGTGCGGATTGCCTGCTGGTCGTAACGGTCGCA
    GGCCGCACGGATGCGGTCGAGCAGGGCGGAGAGCTCGTGCCACGGCAGCATGGTCTCGTT
```

```
     GGCGGTCATGATGCGCGGATGGCCGGTTTTGCGGACGTTGTCGCCGATGAGCAGCTCTTC
     GTAGAGTTTTTCTCCGGGACGCAGTCCGGTAATGAGGATTTCGATGTCGCCGTCGGGTTG
     TTCGGGTGTGTTGGGTTTGAGGCCGCTTAGGGTAATCATTTGGCGGGCAAGGTCGATGAT
     TTTGACGGATTCACCCATGTCGAGGACGAATACGTCGCCGCCCGTACCCATCGCGCCTGC
  5  CTGTATGACGAGTTGGGCGGCTTCGGGTATGGTCATGAAATAACGTGTGATTTCGGGGTG
     GGTCAGGGTAAGCGGGCCGCCTTCTGCAATCTGTTTTTCAAACAGCGGGACAACGGAGCC
     GGACGAACCTAAAACATTGCCGAAACGTACCATGCTGAAGCGGGTTTTTTGTCCGGGTTC
     GGCGGCGAGTGCCTGAAGGCAGAGTTCCGCCATGCGTTTGCTGGCACCCATGGTGTTGGT
     GGGGCGGACGGCTTTGTCGGTGGAGATGAGGACGAAAGTTCTTACGCCCGATGTCGTGGC
 10  GGCAAGCGCGCACTCGAGTGTGCCGAAGATGTTGTTGCGTATGCCTTCGACGGTGTTGAA
     CTCGACCATGGGGACGTGTTTGTAGGCAGCGGCGTGATAGACGGTCGCAACGGAAAAGGC
     GGTCATGACGTGTTCGAGCAGCGTGCGGTTTTGCACCGAACCGAGAAAGGGCAGGATTTC
     GGTGTCGAGGCGTTTTTGGATGCAGGTTCGCGCAATTCTTTTTCGATGGCGTACAGGGC
     GAATTCGGATAACTCGAACAGCAGCAGCTTTTCGGGGCGGCGGCGGATAATCTGGCGGCA
 15  GAGTTCCGAACCGATGGAGCCGCCCGCGCCGGTTACCATGACGGTTTTGCCTTCGATGTC
     GGCACTCATCAGGCGGTCGTCGGGCGCGACGGAATCACGCCCGAGCAGGTCGGACACAGA
     GATTTTTTTGAGCGTGCCGATGCTGATTTTTCCGTCCATCAGGTCTTTCATTCCGGGAAT
     GGTCAACACTTCGCACGGATAGGCTTCCAGTTGTTGATGATTCGGCGGCGTTGTTCCTG
     GGTCGCGCCGGGGATGGCGAGCAGGATTTTTTCCACGCCGTAGCGTTCGATGAGGAAGGC
 20  GATGGCATCGGGCTGGTAAACGGCAAGGTCGTAGATGACGGTGTGCCACAGTTTGGGGTC
     GTCGTCTACAAAGGCGGCGGCGGAATATTCGCGCATTTGTTTGACGGCCTCAAGCAGTTG
     TCTGCCCGACCGTCCCGCGCCGTAAATGATGACAGGGATCATCTGTTTTTTGGGGTGTTC
     GGACAACAGTCCGCGCAAAACCATACGCGAGCCGGTCACGGAAACAAACAGCAGTAAGAA
     ATAGACAATCGGCAGGGCGAGGCGCAGCCTTTCTTCAAATATCAGCGTATTGAGGAAAAA
 25  CAACACGGCGGAGGCGAGGCTGCCCGCCAGTGCGGTGGTGAGGATGCGGAAGCTGACGAA
     GCGTGTAACGGCGTGGTAAAGCCCCATTCGGATAAATAATGTGATGGTCAGCAAGGCAGT
     CAGCAAAAAAGACTGCCAGTTGGCAAAATCGAACCATTCGTCCGAGTAGTCGGCCTTTAG
     GCTTTGGGTGAACCAAAAGGCAATGAAATCATCAGAAAATCGTGTATGAGGAAACAGAT
     TTTCTTGATGTTGCGCGGCAGGGCGATCAGAGTTTCCAGATTCATATCGTGGGGCGGTAT
 30  GTGTTTTCAGGCGGCATATGCCGTCTGAAGGGTTATCGTGCGGCTTCGGTCAAGACGGCT
     TCGATGTGTTTTTTGCAAAACGCAATTTCGTCGTCGGTCAGCGTCGGGTGCACCAAGAAC
     ATCAGGCTGGTGTCGCCCAACTCGACAGCATTTGTCAAACGCTCTTTCGGTCGCCACGGC
     GTGTTGTCGAAGGCTTTTTCCAAATAGACTTCGGAGCAGCTGCCTTGATAGCAGGGGACT
     TTGCGCGCGTTCAGTTCGCCGACGATGCGGTCGCGCGTCCAGCCGTCTTTGAGGTGTTCG
 35  GGTTTGACGAAGGCGTAGAACTTATATTGCGCGTGTCCGATGTAGTCGGCGACTTCAACC
     AAGCGGATGCTGCTGAATTTGCCCAAACTTTCCGCCAGCTTGGCGGCGTTTTCTCGGCGG
     CGCGCCGTCCATTCGGGCAGGCGTTTGAGCTGGATGCGTCCGATGACCGCCTGCATTTCC
     ATCATACGCCAGTTTGTGCCGAAACTTTCGTGCAGCCAGCGGAAACCGGGCGCGTGTTCG
     TGGTTGTACACGGCATCGTAGCTTTTGCCGTGGTCTTTGTACGACCACATTTTTTCCCAC
 40  AGGGTTTTGTCGTTGGTCGTAACCATACCGCCTTCGCCGCCGGTGGTCATGATTTTGTCT
     TGGCAGAACGACCACGCGCCGACGTGTCCGATAGAGCCGACGGATTTGCCTTTGTATTTT
     GCGCCGTGCGCTTGGGCGCAGTCTTCGATTACCCAAAGATTATGTTCTTTTGCCAAAGCC
     ATAATGCCGTCCATTTCGGCGGGCATACCGCGAGGTGGACGACGATGACGGCTTTGGTA
     GTCGGTGTCAGCGCGGCTTTGACGGTTTCCGCGCTGATGTTTTGGCTGTTCAAATCCACA
 45  TCGGCAAACACGGGGTTTGCGCCCGCGTTCACAATGCAGGACGCGGAAGCGAGGAAGGTG
     CGCGAGGTAACAATCACATCGTCGCCCGCGCCTATGCCCATTGCTTTGAGCGCGACATCG
     AGTGCCAGCGTGCCGTTGGCAAGGGCGACGGCGTACCGCGTGCCGGCAAAGGCGGCAAAT
     TCTTTTTCAAATTCGCGGCATTCGTTGCCCGTCCAGTAGTTGACTTTGTTGGACAGCAGG
     ACTTTGGAAACGGCATCGGCTTCTTCTTGGGTGAAGCAGGGCCACGGGGAAAGGAAAGTG
 50  TTCAGCATGATGGTTTGTCCGTCGGTTTTCAGACGGCATTTCCGACCCTATGCCGTCTGA
     AGGGGGGCGTGTTCCGAAGAATCGGGCGCGCGCCGCAGGTGTTGTCAAAATCGGTCTGTA
     CGGGGGGTGTATTTTAATCGCTTATGCTGTCGAGGTCTCGGGGTTTTTGCGCGGCAGCGGC
     TTTGCCGGATTGCCCGCGACGGTCATGCCGTCTGAAACGTCGCGTACGACGACTGCGCCC
     GCTCCAATGGTTGCGCGGCTGCCGATACGGATCTGCTGGCGGCTGCACGCGCCCGTGCCT
 55  ATCCAGCTTTCTTCGCCGATATGCGTGTTGCCCGACAGGTGCGCGCCTGGGCTGATGTGG
     ACGAAAGCGTTAAGCAGGCAGTCGTGATCGACGGTGGCGGCAGTGTTCACAATCACGCCG
     TCTTTCAATACGCTGCCTGCCTGTACGACGGCTTTCGCCATAACGACGCTGCCTTGTCCG
```

```
ACTGTTGCAGAAGGCGAGACGGTCGCGTCCGGATGAACCAGAACGGGCAGGGCGAAGCCG
AGCGCGGCGGCTTTTTCGGCGATTTGGCGGCGGATGCGGTTGTTGCCGACGGCGACGGCG
ACGTCGTATTGTTCGGGCGATAAACTGTTTTCAAGCAGCAGCGTCGTGCCGATGACGGAA
AAGCCGTTGACGCTGCCTTGTGCGCGGTCGTCCAGAAAAACGATTTCCCTGTACCGGCCG
```
5
```
AGTGCGGCGGCAAGGTCGGCAACGACTTTTCCGTGTCCGCCCGCACCGACGACGGCGAGT
TTGCGTTTTCCTGTGAAAGGGGGCATGGTGGCTTCGCCCTGTGCGAAATCCCTTCCTTG
ATTAATACTTTTTTAACCGTCAGCAGTAGGATTTTGATGTCGAGGCACAGGCTGAAGTGG
TCGATATACCAAACATCGCAGGCGAATTTTTCGTCCCACGAAAGCGCGTTGCGCCCGTTG
ACCTGCGCCCAGCCGGTAATGCCGGGTTTCATTTCGTGGCGGCGGTTTTGGAAGTTGTCG
```
10
```
TACAGCGGCAGATATTGCATCAGCAGCGGGCGGGGGCCGACCAGGCTCATCTCGCCTTTT
AAGATATTCCATAATTCAGGCAGTTCGTCCAAACTGGCGGCACGCAGTTTTTTGCCGAAC
GGTGTCAGGCGTTCTCCGTCGGGCAGCGGAATGCCGTCTGAATCAAGCGCGTCGCGCATG
GAACGGAATTTGACCATTTTAAAAGGTTTTCCGTCCTTTCCGGGGCGTTCCTGAAAGAAG
AAGACGGGCGAACCTAGATTCTTGCGGATGAGGTATATCAAAATCAAAAATACTGGCGAG
```
15
```
AGGAAAATCAGTCCCGAGGCGGAGGCAACAATGTCAAACAGGCGTTTGAAGAATTTACTC
ATTTGCCAATCTTTCAATCAGGTTGACGATTTTCCGATAGGAAATGTCGCGCCTGAAGCG
GCGGACGATTTCGTCGGACTGAACGGGGTCGTTTTTGCACGCCATTTGGCAATCGATGAT
ATCGTGCCCGTGCCGCCCAAGCCTGCCATAGATGTGGTCAAAACGATTTTCATAATGGGA
AACCTTGTTTTTCAAATAATGAAACAGTTTGTGCAAATCTTTCCGGTGGCGCAGGATGC
```
20
```
AGCCTGCCAGATATGCCGCCCATACGCCGGCAAACAGGGGATAGTTTGCCGGCGTGCCGA
AGCAGGTGTAGGCCGCCGAGGAGGTCAGGCAGAACAATGTGTGCAGATAAAGCGGCAGGC
GTTTGAGCGGCTGCCACAGGCGGCAGGAGCTTTCGGTCTTGAAGGCAAAAAACAGCCAGA
ATGAGGCGGCACAGGCAACCGCCGCGCCGCGCGCGCCGCCGGACGGCACGGCAAGCCCCA
GCAGCAGCAGGTTTGCCGCCAGCGCGCCCAAGGTGGCGAGCGCGATCGGGCGCGTTTTGC
```
25
```
GGACGACGTTCAAACCGATGCCGCTGATTTCCGCCAGCGTGCAAAACAGCGGCGGCAGCA
TACACGATACGACGATAAACCGGACGGCGGCGTAGTTTTCCGGCAGCAGGAGGGGAGGCAA
GGGGCGAGAAAATGCCGGTCAGGCAGAGGGCGGAGGCAAGCAGGGCGGCGGCGGATTCTG
CCGTTGCCGAGAGGCGGGCGGGCGGGGCGTTTCTTCGATTGCGCGGAAAATATACGGTG
TCCAGACCGTTGAAAAGATGCTTTGGAACAATAATGCCGCCCCGCCGAACGAAATACCCA
```
30
```
TCGAATAAACGCCGAGCTGTTCCAGGCCGGCATATTTTTTCAGGAACAAACGGTCGGCGG
ATGCCAGCCCCCAATAGGCGATGCTGCTCAGTGCGATCGGTATGCCGTAGCGCAGCCCCC
GGTGCAGGACGGCGGGCGAAAACGGTGCGTGCCGGACGGCCTTCAGACGGCATCGGTTTT
GAAACAGCAAAAAGGCGGCGGCGGCAAGGTTTGCCAGCGCGTAAACGGCGGTCAGGACGG
CGGTGTTCGCTGGAAAGTGCAGCAGCCCGACCGTCAGCGGCAGCAGCAGCAGGATGGCGA
```
35
```
GCTTGGGCACGAGTTGCGCGGACGAAAAGGCAAGGGCGCGTCCTTCCATACGCAAAACCA
GTAAGAGAAAGCGGATGGGCAGGAAGCTCAGTTCAAACAGCACCAGCCCGATGCCGGCGG
CGGCATCGTCGAGTGAAAACAGGATTTCAGACGGCAGGGACGGGCGGGAAAGCAGCAGGG
CGGCTATCGCGGCGGCAGACAGCAGCGGCGGCAGGAACAGGGTTTTGAACAAGGTGTCTT
TGTCGGCGGTGGCATAGTATTCGCGGACGTATGCCTGATCCAGCCCGAGGCACAACACCG
```
40
```
ACACCGTCAGCCCCGCCGCCGTCTGCATCAGCACGATGCGCCCGATGTCGTCGGCGGGGA
AATACCACGACAGCAGCGGCAGGATGATGACGGCTAAAACCGCGCTGCCGATCGAGCCTG
CCGCGTAGCCGAGGATTTCTTTTGTGTCCATTTTTGATGTCCGGGCGGCGGCGGGATGCT
GCCTGTGCCGTCTGAAGCCTTTCTTGATCGGAATTTGACGGCTTTCAGACCGTCGCGGCT
GCCGGCGGGGTGCGGCAGTCCGGGTTGCGTTTTTTCGGGCGGGCGGCGGTCTGAACGGGG
```
45
```
CCGTTTTTTATCGGCGTTATTATATAGTGAAACGGCGCAAACCCTTTAAAAGGCGTTGCC
GTTTTTTCGGAACACGGTTTTGATGTTGTGTCCGAGGATTTCGCTTGAAACGGGTGTCCA
CAAGGGCGGTGCGGAAAGGGCGGCCGCGGTTTTCGAGCAGGGAAAACAGGTCTTTGCCGCT
GCCGAGGATTTTGGGCGAACGGTACAGGACGATTTCGTCTGCCAGATTTTCTGCCAAAAA
TGCGGATGTGAGTTCGGAGCCTGCTTCGACCATGATTTCGCCGAAACCTTCGTCAGCAAG
```
50
```
GAGGCGCATCAGGTGGTGCAGGTCGATTTTGCTGTCTGCCGTTTCAGACGGCATCAGGAT
GCGGACGTGTGCGTGTTCCCGATAGGGGTGCAGTCTGTCTTCGTTGCGTTCGAGTGTGGC
GATGTAGGTCGGAGATTGTCCGTCGGTAACCAAATGGCTGTTCGGGGGCAGGCGCAGGCG
GCTGTCTAAAACGATGCGTGCGGGTTGGCGCAAAGTTGGAAAAGCGCGGACGTTGAGCCG
GGGATTGTCCGCCAACACCGTGCCGATGCCGGTCAGCACCGCGCAGCTTTCGGCACGCAA
```
55
```
AACCTGTACGTCGGCACGCGCGTCTTCGCCGGTAATCCAAAAGCTGCTGCCGTCTGAAAG
GGCGGTTTTGCCGTCCAGCGAAACGGCGCATTTGAGGCGGACAAAGGGGCGGCGGCGTTC
GATGCGCGACAGGAAGCCTCGGTTGAGTTCCCTTGCCTGATGTTCGAGTAAACCGCATTC
```

```
CGTCTTGATGCCTGCTGCTTCGAGCAGGGCAAGCCCTTTGCCTGCAACCAGCGGGTTGGG
GTCGCGCATGGCGGCAACGACGCGGGACACGCCCGCCCGCACCAGTGCTTCGGCACAGGG
CGGTGTGCGCCCGTAATGGCTGCACGGTTCGAGGGTAACAAAGGCGGTCGCGCCTTGTGC
CATTTCGCCCGCCTGACGCAGGGCGTGGACTTCGGCATGGGGTTCGCCCGCTTTGACGTG
GAAGCCTTGCCCGACAATTTGGCTGCCGTGTGCGATAACGCAGCCGACGCGCGGATTGGG
CGAAGTGGAAAAACGCCCCAAAGCGGCAAGTCGGAGGGCGTTTTCCATCATGGATATATC
TGTGTCCGAAAACATAGGGATACCGTATCAGTATGGGTTGGGGGAATCAGGCTTTGCCGC
CTGTTTTGACGGCTTGCGCCAGCCACGAGGCAAAGTCTGCCGGATTGTCGAAGCGTTTGT
GCAGGGCGGCGAAACGGACGGCGGCTTCCGTATCTTGTCGGAGCAGTTCTTTTAGCACCA
TGTCGGCAAGTGCGGCAGAGGGGATGTCGCGCTGACCCGAAGTGTAGAGCCTGTGTTCCG
TCAGGCGGACGGTTTCGTCGATCTGTTCGGGTGTCAGGGCGGATTTTCGGGCGGCGGCGG
TCAGGTCGTTGCGGAGGCGTTGTGCATTAAAGGGCGAGCGTTTTTTGTCCGGACCGATGA
CGGCGGGCATTTTGAGTTCGGCGGTTTCGAGCGTGCCGAAGCGTTTGCCGCAGTTGGGGC
AGTGGCGGCGGCGGCGCACGGCGTTGCGTTCTTCCATCAGACGCGAATCGGCAACGCGGG
TGTCGGGGTGGGCGCAAAACGGGCATTTCATCGGGTTCGTCCTCCTATGTCGTCTGAAGT
TCAGACGGCGACGCCGGCGGCGCGGGCGATTTCCAGACCTTCTTCGGCACTCATATAGAC
GGGGTTTTCGGGACGGTCGTGTCGGACGATGTTGCCTTCGCGGAACATGACCAGTTCGTC
CACGGCAAGTTGGGACCATGATTCGTCGCGGGTCAGTGGCAGGGTGGCGATAACGGCGAC
GCGGTCGGAGGGCGTGGTTACTTCGGCAAAATCGACCATCACGTCGTCGTCGAGCAGGCG
CGCCTTGCCGAACGGGGCTTGGCGGACGATGTAGTGCAGCAGCGTGCTGGCGTGGGCAAA
CAGGGCAATGCCGTCTGAAAGCATAAAGTTAAACAGCCCGAACTTGCGGATTTCGTGCGT
CAGCCCCGCAATCGCGTCAAACAGCGTGTCGTCGTCGGGACGGGCGGCAAAGCGGGTGCG
CAGGCGGTTGAGGATGTGGCAGAACGCGCGTTCGGAATCGGTTGTGCCGACGGGGTGGAA
AAATTCGCCCTGTTCGGGGAAAAAATCAATCAAATGTCCGTTGTGGGCAAACAGCCAGTA
GCCGCCCCACATTTCACGCATAAAGGGATGGGTGTTCGCCAGCGAGGTTTGTCCTTGCGA
TGCTTTGCGGATATGTGCGATGACGTTTTCCGATTTGATTTGGTAGGCACGCACGAGGTC
GGCGACGGGGGAATTTACGCTCGGCTTGTCGTCGTGGAACAGGCGCACGCCTTTGCCTTC
GAAAAAGCCGATACCGAAACCGTCGGCATGGTGGTCGGTAATGCCGCCCCTGCGGCGGAA
GCCTTCAAAGGAAAACATAATATCGGTCGGCGTATTGCAGTTCATGCCCAGCAGTTGACA
CATGGTTTGTCCCAATGATTCAGATGGTCGCAAGTATTCGGATTATACCCCGAACTGAAA
ATGCCGTCTGAAATACGGCTTGTTCCCCATTATTCCCTCGAAAACAGAAAACAGAAAACA
AAGACGGAAACTTAAGATTCCGTCATTCCCGCGCAGGCGGGAATCCGACTTGTCCGGTTT
TGGTTGTTTTTCGTTCCGTAACTTTTGAGCCGTCATTCCCGCGCAGGCGGGAATCTGGAA
TTTCAATGCCTCAAGAATTTATCGGAAAAAACCAAAACCCTTCCGCCGTCATTCCCACGA
AAGTGGGAATCTAGAAATGAAAAGCAACGGGAACTTATCGGAAACGACCGAAACCGAACG
GACTGGATTCCCGCTTTTGCGGGAATGACGGCGACAGGGTTGCTGTTATAGTGGATGAAC
AAAAACCGGTACGGCGTTGTCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGA
AGCACGAGTGAATCGGTTCCGTACCATCTGTACTGTCTGCGGCCTTCGTCGCCTTGTCCTG
ATTTTTGTGAATCCACTATAGAATTTCAATGCCTCAAGAATTTATCGGAAAAAACCAAAA
CCCTTCCGCCGTCATTCCCACAAAGTGGGAATCTAGAAATGAAAAGCAGCAGGAATTTA
TCGGAAACGACCGAAACCGAACGGACCGGATTCCCGCTTTTGCGGGAATGACGAGGTTTT
AAGTTGCTGTTTTGGTTTTCTGTTTTTTGTGGAAATAACGAGATTCTAGGGTTGCAGAAA
CTTCTCCGAAACAACAAAAACCTCTCCGCCGTCATTCCCACGAAAGTGGGAATCTAGAAA
TGAAAAGCAACGGGAACTTATCGGAAACGACCGAAACCGAACGGACTGGATTCCCGCTTT
TGCGGAGAAAGATGATGGAAAATCATCATCGTGCGTCAAACCCGCGCGGCAGCACATCGG
CAGAGGAAATCAGAGATACGGTTGCAGGGTGCGGCGGAGGATGTCCGTGTCGGTAATTTC
GGTGATGTTGGCTTCGCCCAGCCGGTTCAGACCGATAAAGCGCATGATGCCGCCGCTGAC
TTTTTTATCGTGGCTCATGTGTTCCAGCCATTTTTCAAAGGCAAACACGGGTGGCGCGGA
CGGCAGTCCGGCGGCTTCGAGCAGGCGGCGAGCCGCGCGGTATCTGCGGCGGAGGTTTT
GCCCAGTTGTTCGGACAAACGCGCCGCCAACACGCAGCCGGCGGCGATGGCTTCTCCATG
CAGCCAAGTGCCGTAACCCATCTCGGTTTCAATGGCGTGTCCGAAGGTGTGTCCGAGGTT
GAGCCATGCGCGTATGCCCTGTTCGGTTTCGTCTTGGGCGACGATGTCTGCCTTCATTTG
GCAGCAGCGGTACACGGCTTGGGCGAGTTTTTCCCGATCGAGCGTCATCAGTTCGGGCAT
ATGCTGTTCCAGCCATTCAAAAAAGCCGATGTCGCCGAGCGCGCCGTATTTGATGACTTC
CGCCATACCGGCGGACAATTCGCGGGCGGGCAGGGTGTGCAGCGTGTCCAAGTCGGCAAG
CACCGCCTGCGGCTGGTAAAACGCGCCAATCATATTTTTGCCGAGCGGGTGGTTGATGGC
GGTTTTGCCGCCCACCGATGAGTCGACCTGACTCAACAGCGTGGTCGGTATTTGAACGAA
```

```
     CGGTGCGCCGCGCTGGTAGGTGGCAGCGGCAAAGCCGACCATGTCGCCGATCACGCCGCC
     GCCCAGTGCGATTAATGTGGTTTTGCGTTCGGCGCGGTTTTGCATCAGCCCGTCAAAGAT
     GAGGTTGAGCGTCTGCCAGTTTTTGTGCGCCTCGCCGTCGGGCAGGATGATGCTGAAATG
     GGATACGCCTGCCGCATCCAATGCCGTCTGAAGCGTGCCGAGGTAGAGCGGGGCGACGGT
  5  TTCGTTGGCGATGATGGCGGCGCGTTTGCCCAAATGCGGTTTGAGCAGGCTTCCTGCCTG
     CGGCAGCAGTCCGTTGCCGATAAAGATGGGGTAGCTGTGGGACGGGGTGTGTACGGTCAG
     TGTTTTCATTGTTGTTCCTTAAAGTTTGAACCGCCGGCCCGCCGGGCGGGGCGCGGTTTG
     GTTTTCTGGGCGCGGCGCATATGCCGGTTTATCGGGATAAGCGTTTGAGCAGGGTTTGCA
     CGGTTTCCCGGCAGTTTGCCGATTCTACGGTAAAGTCGGCGGTTTGGCGGTAAACGGGGT
 10  CGCGTGCGGCGTAGAGTTCACGTAATTTCGCCAAAGGATCGGCAACTTGCAGCAAAGGAC
     GGCTGTTGTCGCAGCGCGTGCGTTCGAGCAGGGTTTCGGGCGGGGCGTGCAGATAGACGA
     CCGTGCCGCTTTTGCGGATAAGGGCGCGGTTTTCTTCTTTTAACACCGCGCCGCCGCCGG
     TGGACAGGACGATATGGGGCAGGATAACCAGCTTTTTGAGTATGGCGGTTTCGCGCGAAC
     GGAATCCCTGTTCGCCTTCCATTTCAAATATGGTGGGGATGGGAACGCCGGCGGCTGCGG
 15  CGATTTCGTGATCGCTGTCGTAAAAACGGTAATCCAGCCGCTGCGCCATTTGCCGGCCCA
     GCGTGGTTTTGCCCGCGCCCATCAGTCCGATGAGGATGAGTTTGCCGTTAAAGTTTTTCA
     TCACAATTCCTTAATGTTTGACACCCCGCCTTTCGGGGCGACAGGGTTCGGGCTTGTCGG
     GTTACGGCGGAATTTTATACGAAATCGGCAGGGCGGCGGTACGTTTGGAAAAATAACCCG
     ACCATCCCGAACCTTTCTGATTTTAAGGACAAATAAAAGAAATCAGGGAGGTTTTTTATT
 20  TCAGGCTGTGTTTTGACAATCCGTTGATTTCACTTATTTGTCAGGAAAAGGCAATTATCT
     TTGCTTAGGTAAACAATTATCCAATTGAATATATTGAAGATAATATGTTTATCAATACTA
     TAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTGGCTCAAAGAGAACGATTCT
     CTAAGGTGCTGAAACACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCG
     TCGCCTTGTCCTGATTTTTGTTAATCCACTATAAAGACCGTTGGGCATCTGTCGCCGTCA
 25  TTCCCGCGCAGGCGGAAATCCGAACACGTCCGCACGGAAACCCATATCCCGTCATTCCCA
     CGAAAGTGGGAATCTAGAACGCAGGGTTGGAGAAACCGTTTTATCCGATAAGTTCCTGAA
     CCGACAGACCTAGATTCCCGCCTGCGCGGGAATGACGGGGTTTTAAGTTGCTGTTTCGGG
     TTGCTGTTTTTGTGGAAATGACGAGGCTTTGGGTTGTGAGGATTTACCCCTTCCGCCGT
     CATTCCCACAAAAGTGGGAATCCAGAAATGAAAAGCAACAGGAATTTATCGGAAATGACC
 30  GAAACTGACCGAAACTGAACGGACTGGATTCCCGCCTGCGCGGGAATGACGGCATTTCGG
     TCGCGGCAAAAAGCATAAAGAAAGGGCATATGCCGTAAAACATATGCCCTTATTTTGACG
     CATCAATAGCGCAGGCTGTTGCCGGCCGTACCCATAATCCTCGGGGTAATGAAAATCAGC
     AGTTCGCGGCGGTCGGTTTTTTTCCCGCGTGTTTAAAGAGGTTGCCGATAACGGGGATG
     TCGCCCAACAGGGGGACTTTGGTCAGCGTATTGCCGTTGTCTTCTTCATAAATACCGCCG
 35  ACAATCAATGTGCCGCCGTTTTCAACCATAGCCTGCGTATTCAGGTTTTTGGTCGAAATA
     CACAGGATCGTCTGATTACCGGAGGCACATTGCGCAGGCGAGTCCTTGTTGATTTTGACG
     GTCATAATGATTTGGCCGTCGGGCGTGATGTTCGGCGTAACGGTCAGCCCCAAGACGGCT
     TTTTTGAGTTCCGTGTTCGTGCTGCTGCCGCCGTTCGCGATTGAGGTTACGGTGAAAGGA
     ATTTCGTAACCGGATTCGATTTTGGCCTCTTTGCGGTTTTGGGTCAGCACGCGCGGATTG
 40  GCAAGCGTTTTGGTTTTTGAAAGCGATTCGGATGCGGACAATTCCAAATTCAAGGCACCG
     GAGGAAATCGCGCGCACCAGCGAAATGCTGTTTGCGGCAGCGGTAATCGGCAGGTTGATT
     TTGGTTTCGGCCCCCCATTTATCGTCGCCGCCGAAGCCGGAGTTTACCCCCCAGCCGAAT
     GCGCTTGTATCATTTTTCAGCTTTTTCTTGCCTGTCGCGCCGAATTTAACGCCCAAATCG
     CGCGAGAAGCCGTCTGCCGCTTCGACGATACGCGCCTCAATCATCACTTGTTGCGCGGGT
 45  ACGTCCAATTCGTCAATCAGTTTGCGGAATTTTTCGATGACGCTGCGGGTGTCGGTAACA
     ATCAGGGTGTTGGTGGCGGGATCGATCAGCACGCTGCCCCTGCCCGCTGATAAGCGTGTTG
     CGGTTTCCGGTCGTGTCGGCATTGTCCAAACGCAGGATGCTGCGGAATTCTTCCACATTT
     TTGTATTTCAACTGGAAGTTTTGGGAATACAGCGCACCCAAATCGGCAATGTCTTTTTCT
     GCCTGTAAGAGGGCTTTGTCTTTGGCAAGCAGCTCGTCGCGGGGCGCGATGTTGACGATA
 50  TTCCCTTGCTGGCGCATATCGAGGTTGCGCGCCTGCATAACCAAATCCAAAGCCTGATCC
     CAAGGCACATCCTTGAGGGAGAGGGTCATTTTGCCGTTGACGGAGTCGCTGGCAACAATG
     TTCATTCCGGATTCTTTTGCCAAAATTGCAGGATGGTGCGGATTTCGACATCTTGGAAGT
     CAAGGGAGATTTCCGGCCTGTGAAGGTTTTGGGCGCATTGTTCACGCCGCCTGACTCGAG
     GTTTTGTTTTTTCGGCAGGACTTGGAAGGTAAAGTATCCGGGCGCGGCGGATTTGTTGAC
 55  GAGTTCCCAGTTGCCGGCTGTTGTGATAATCAGCTGGGTGTCGTTATTGAGGCGTTTCAG
     CGTAACCTTTTGAACCGGTGTTTTAAAGTCTGCCACATCCAAACTGCGTTGGAGCGTGGT
     CGGCAGGGTATGGTTTTTTCAGCGTAACGATGATGTGGTCGTGCTGTTGGCTGATGTCGGG
```

```
     CTGCCCGGCAAAGCCCAATGCAGCCAATTCGATAATGCCGGCATTTTTGCCGTCTTTGCG
     GAAATCGATATTGGTTTGTTTTGCTGGTGCTGCCGCCTGTTGTTTTGCTGGTGCTGCCGC
     CTGTTGTTTTGCTGGTGCTGCCGCCTGTTGTTTTGCTGATGCCGCCGCCTGTTGTTTTGC
     CGGGCTGAACGGTGCGGATACGGATACTACGGACTCGGTAAACGGTGCGGCAGCCTGTTG
 5   TTTTGCCGGGGTAAAGGGTTCGGATACGGATACTGCGGACTTGGTAGACGGTGCGGCAGC
     CTGTTGTTTTGCCGGTGCGGCAGCGCGGCTTTTACGGCGGGGCGTGCGGGGGCGGACAC
     GGTATCGTCCGATTCGTTAATGAATATCCAAACTTTGTTCCCGCGTACTTCGGTATTGTA
     TTGGCCCGGTTTGTTCAGATTCAGAACCAGACGCGCACGGCTGCTGTTTTGTGCGGCACT
     GATTTTGCTCAACAGAGGATCGGCATATTCGAGTACCTGTTGATCCATGGAAATGCCGGT
10   TTGTTCAAAGTCCAAGGCGATGCGGCCGGTGAGGAGGTTACGAAGCCGGTCGGGTTGAC
     AATCTCTTTGTCAAAGCTGACTTTGACGATTTTCTGTTTGTTGGGCAGGGAGGAAACTTT
     GATGTCTGTAATGTTTCCTGCCGATGCTGTCTGAAAGGCGGCGGTTGCGACAAAGAGACC
     GGAAATGATTTTTGTCAGTTTGGTATTCATAATGGAGTAATCCTCTTCTTAATTTTGTTC
     TGCGGCAGGTGCTGCCGCTTGTTCGGTGTTTTTGTCGGAAGAATTCAACAGCAGTTCTGC
15   TTTACGGGAAACCCAGTTGCCCGTGCTGTCTTCTATTAGCTCGTTCAGGACGATGCTGTC
     GTCGGTAATGCTTTCGATTCTACCGTAGTTTTGTCCCAAATAGTTGCCGACACCGACAGT
     GTAGACATAACCTTCAGCCTCGATGAAGCCGGAGACTTTCTGTCCGGACTTCAAAATGCC
     GACATAACGCATATTTTCCAAACTGAATTTTTCCAGCGTTTCTTTAATACGCTTGGTGTC
     GGGGGCATTTTCCCCTTTTTTGTCGGTTTCCATGCGGCGGAAGTCGAATGCGTTCGGCCC
20   TGTAAGCTGCGGCGGGCTGTATACCGGCGCAACCGGCAGGGTAGGTGCTTGGAAAGGTAT
     GATTTCTGCTTTGGCTTCGCGTCGCGTTTGTGCCATCCATTCGTTTAGGTCCTCAGAACC
     TTGGGAACACGCGGAGAGAGCCAGAAAGCTGATGAGTAAGGCATAGTGTTTCATGGTTTC
     CCTAACGTAAGTTATTTTTGCTCGGCATTTTGTGCCGCTTCTGCGGCAAGCTCTTCTACG
     GATTTTGCTTGGTAGGTGGTGGCAATGGCGCTGAGGTTCAGGATGCTGCTCTTGCCGTCA
25   GGATTGCCGCCGTTTTCCGGAGATTGGGCGATTTTCAGCGACTCAAGGGTAATGATTCGG
     GAGAGGCTGCCGACATCGCGGGTAAATTGGCTGATCTGTTCGTAATTTCCGGTAATGGAA
     ATGGAATAGGGTAATCTTTTGATGGGGCCGTCATCTACGGGAGGTTGGGGCATAACGCTG
     TCCAAGCGCAGACCGTTGCTCGAACCTGCCTGATGAAGCTCTTGAACCAGATTGGGAATT
     TCTGCATCTGTCGGCAGCTGTTTCAACATGATATCGAAGGCAGAGCGGATTGAGGCAAGT
30   TCGTCCCTCAGGTTGTTCAGGCTGGCCGCGTCGATACTTTTCTGTTTGTAGGTGTTTTTC
     AGTTCGGTTTCTTTTGCTTCGTATTCCTCAAGGGATTCCATCTGGCTTTTGAACAATCCG
     GCATAACCGAGCCCCAGCACGGCGGCAACGGCCAGCAGGGCGATAAAAAGCCTGGCAGGA
     AGGTTGAGCAGGTGAAGGTTGTTGAGATCCAAGTTGGTTTTAGATGATTTAGAAGCCATT
     CAGTTTGCCTCCTGTGCGTTTCCCGAAGCCGGATTCTCTTTGGATTCGGCCGCCTTTACG
35   ATGGGTTGTAATGTTGCCTGAAGGGTAAATTCTTGATGCGAATTGTTTTTCTTGATGCTT
     AACAATTCGGGTTGCTTGAATATACCGGTATTGGGCATCGCCCTCATCATGGCGGCAACG
     CGGTTGTCGCTGGATGTCCTGCCGCTGAGCCGATAAGAGTCGGCGGTAACGGCATCCAGC
     GAGGTCAGGTAGGTGCTTCCGGGGACGGCCTCATTCAGGCTGTCGAGGATTTTTGCGGCT
     TGGAGGCGTTTGAGCTGGAGCTCCTCGATTTTGTTTTTCTTAATCAGGAAGGCATCTTTT
40   TCCTGTTTGAGCTTTTGTATTTCCGACAGCTCGGTATCCAAGTGTGCGATGGAGGTTTCC
     AGCAGCGTGTTTCTTTCCGACTGGTTATTGATCATATTGTCGATAAACAGGTAGGTTGCC
     GCAACGGCGGCAACGCCCGTCAGCACGGCACCGTACATCAGCGTTTTAAACTGCTGCTGT
     TTGCGCTTGTTCATCTCTTCCCTGTAGGGGAGGAGGTTGATTTTGATTAAATTGTTCATA
     ATTATAATCCCCGTACCGCCAAACCGAACGCCCTGGTCAGTGTCGGCGCATCAAGTTCGA
45   ATTGTTGTTTGTCTGTTTTGAGGTTGTCCGCAAAATAACGCGCGGGATGGACGCATTGTA
     CATCTGCATTGGTTTGTGAGGCGACGGTTTGGGCGATGCCTTCCTGGCGCGCCGCCTTCCC
     CGGTCAGCAGGATATGCTTGATGTCGGTCATATCGTCTGCGGTCTGCGTGGTGTAATAAA
     ACTGCAAGACCCTTTGTATTTCTTGGGTAATCTGCTGGTTGAAATAGTTTGCCACGCTTT
     CTTGGTAATCGGAAGGTTTTTGCGGGGAGTTGATGATTTCTTCCGCTTTTTCTTCTGTTA
50   CCTGATAGGTGCGCTGGATGAGTTGGTTGAGCTGTTCTTCGCTGACGGAGGTTTCCTGTT
     TGTATAGGATTTTTCCGTCTTGGATGACCAAGGCGTAGGTCTGTGCGGCATATACGCCGA
     AAATGGCGACTTTTTCGGCTGCAAGCTCGGGGGCGAAATGGTTTATCCATAGCGCGTAGG
     CGTTGTATTGTCCGAAAATGTCCACATCAAGCGCGGATAATTTCATACCGGCGGCGTTGA
     ATGCGTCAATCAGGGGTTCGATTTCATCCTTTCTCGATGCGACGGCCAACACAGCTTCGC
55   CGGCGGCCGATTGGGACAAGACCTGATAGTCGTAATTGGCTTCTTCGAGCGATATCGAGC
     TGACTTCGGAGATGGAGGACTCCACGAACCCCTGCAGGTCTAATTCTGCATCTTTGTCTG
     TGTAGGTCAATTGTTCGATGGTTGCCAAATTTTGCGGGACGGACGCGATGATGTTTTTGC
```

```
ACGAAGTACCCAGTTTGGCATAGGCTTGTTGCAAATATGTAACAAGTTGATCGTAATTTT
GGACTTTATTGCCTTGAATGATATTCTTTGGTAATTTGGCAATGACGTATTTTTCCAATT
GAATTTGGTTTAAACTACGTCCTGACAATTGGACCATTTTGATGGAATGCTGGTCGATAT
CGATGCCGATTGCCGCGCGGTTATTGAGTCCCGAAGATTTTTTAGGGAGCTTGGCATCTG
TTTTTTTAGGGTTTTTCAAGCTTTTAAACAAGCGCATGATGAAAGTTCCTGCTTTATTTG
TACAGTGAGTAACCGTTTCGGTATCCGTAATGGATTCCTTGTTCTTTCACATTGAAACC
GTGCTTTGTAGAAATCGGTTGCTATTTTACTTTATTTAATACCAATAATGGTAAATTATT
ATTCAGCTATGATTAAAAAGATTTTAACGACTTGTTTTGGTTTGGTTTTTGGGTTTTGTG
TATTTGGAGTGGGTTTGGTTGCCATTGCTATTTTGGTAACGTATCCGAAACTGCCGTCTT
TGGATTCTTTGCAGCATTACCAGCCTAAAATGCCGTTGACTATTTATTCGGCGGATGGGG
AAGTCATCGGTATGTATGGGGAGCAGCGGCGCGAATTTACAAAAATCGGCGATTTCCCAG
AGGTGTTGCGGAATGCGGTTATCGCCGCCGAGGATAAACGCTTTTACCGGCATTGGGGGG
TGGATGTTTGGGGTGTTGCCCGCGCTGCCGTCGGCAATGTCGTGTCCGGCAGCGTGCAGT
CGGGTGCGAGTACGATTACGCAGCAGGTGGCGAAAAATTTTTATTTGAGCAGTGAAAAAA
CGTTCACACGCAAATTCAATGAGGTGTTGCTTGCCTATAAAATCGAGCAGTCTTTAAGCA
AAGACAAAATCCTCGAGTTGTATTTCAATCAGATTTACCTCGGTCAGCGCGCCTATGGTT
TTGCATCTGCCGCGCAAATCTATTTCAATAAGAATGTCCGAGATTTGACTTTGGCGGAAG
CCGCCATGCTTGCGGGACTGCCCAAGGCTCCGTCTGCCTATAATCCGATTGTTAATCCAG
AACGTGCCAAGTTGCGCCAGAAGTATATTTTGAACAATATGCTCGAGGAGAAGATGATTA
CCGTGCAACAGCGCGATCAGGCGTTGAATGAGGAACTGCATTACGAGCGGTTTGTTCGGA
AAATCGATCAGAGTGCGTTATATGTGGCGGAAATGGTGCGTCAGGAACTGTATGAGAAAT
ACGGTGAAGATGCCTATACGCAGGGTTTTAAGGTTTATACCACGGTCCGCGCCGATCATC
AGAAGGTGGCAACCGAGGCATTGCGCAAGGCTCTACGGAATTTCGATCGCGGCAGCAGCT
ACCGCGGTGCGGAAAACTATATCGATTTGAGTAAGAGTGAAGATGTCGAGGAGACTGTCA
GCCAGTATCTGTCGGGACTCTATACCGTCGATAAAATGGTTCCCGCCGTTGTGTTGGATG
TGACTAAAAAGAAAAATGTCGTCATACAGCTGCCCGGCGGCAGGCGGGTTACGCTTGACA
GGCGCGCCTTGGGTTTTGCGGCCCGCGCGGTCAATAATGAAAAAATGGGGGAGGACCGTA
TCCGCAGGGGCGCGGTCATCCGTGTCAAAAACAACGGCGGGCGTTGGGCGGTGGTTCAAG
AGCCGTTGCTGCAGGGGGCTTTGGTTTCGCTGGATGCAAAAACCGGAGCTGTGCGCGCGC
TGGTCGGCGGTTATGATTTTCACAGCAAAACATTCAATCGTGCCGTTCAGGCAATGCGGC
AGCCGGGTTCGACCTTTAAGCCGTTTGTCTATTCGGCGGCATTATCTAAGGGGATGACCG
CGTCCACAGTGGTTAACGATGCGCCGATTTCCCTGCCGGGGAAAGGGCCGAACGGTTCGG
TTTGGACACCTAAAAATTCAGACGGCAGATATTCCGGCTACATTACTTTGAGACAGGCTC
TGACGGCTTCCAAGAATATGGTTTCCATCCGTATTTTGATGTCTATCGGTGTCGGTTACG
CGCAACAGTATATCCGGCGTTTCGGCTTCAGGTCGTCCGAGCTGCCGGCAAGCCTGTCTA
TGGCTTTAGGTACGGGCGAGACAACGCCGTTGAAAGTGGCGGAGGCATATAGCGTATTTG
CGAACGGCGGATATAGGGTTTCTTCGCACGTAATCGATAAGATTTATGACAGAGACGGCA
GGTTGCGCGCCCAAATGCAACCTTTGGTGGCTGGGCAAAATGCGCCTCAGGCAATCGATC
CGCGCAATGCCTATATTATGTATAAGATTATGCAGGATGTGGTCCGTGTTGGTACGGCAA
GGGGGGGCAGCTGCGTTGGGAAGAACGGATATTGCCGGTAAAACGGGTACGACCAATGACA
ATAAGGATGCGTGGTTTGTCGGTTTTAACCCTGATGTGGTTACTGCCGTATATATCGGCT
TCGACAAACCTAAGAGTATGGGGCGTGTCGGGCTACGGCGGTACGATTGCGGTGCCGGTTT
GGGTGGACTATATGCGTTTTGCGTTGAAAGGAAAGCAGGGCAAGGGGATGAAAATGCCTG
AAGGTGTGGTCAGCAGCAATGGCGAATACTATATGAAGGAACGTATGGTAACCGATCCGG
GCTTGACGCTGGACAACAGCGGTATTGCGCCGCAACCTTCCCGACGGGCAAAAGAAGATG
ACGGGGGCGCGGCAGAAGGCGGACGGCAGGCGGCGGATGACGAAGTCCGCCAAGATATGC
AGGAAACGCCGGTGCTTCCGAGTAATACTGGTTCCAAACAGCAGCAGTTGGATTCTCTGT
TTTAAAGACTCCGCAAAATGCCGTCTGAAAGACTTTTCAGACGGCATTTTAGATTTGGCA
GTGGCAATTTTTTAAATGTTTGCGGTCGGTCAAGTGGGGGGAATACGGTTTCCGTATAAT
TGGGGTCAGTTTTCCTCTGGAGAGGAAGCGGCGGCATCTGCTGCGTCCAACCAGCTTCCG
ACAGTTCGGTTGGCCTCGTCAATACCTTGTTTTTTCAGGCTGGAAAACAGCTGTACGCTG
ATGTTTTGCCTGTCGGAATAAGGTTTGAGCAGTTTTTTGACTTGGGACAGGGTTTTTATC
TGTTCGTTTTTGGATAATTTGTCGGCTTTTGACAGCAGGATGTGAACCGGTCTGCCGGTC
GTGTGGAAAAAATCCAGCATACGGATGTCGAGTTCTTTTAAAGGATGGCGGGCATCCATA
ATCAAAACCAGCCCGATAAGCTGTTTGCGCTGTTGCAGATAGTCGCCGAGCAGATTGACC
CAATGTGCGCGTACTGCTTCGGGGACTTGGGCATAACCGTAGCCGGGCAAATCGACCATA
AAATTGCCGTTCTGCAGCTCGAAGAAGTTGATATGCTGCGTCCGTCCGGGTGTTTTTGAA
```

```
ACGTAGGCAAGACGGACATGGTTGGTCAGGGTATTGATGGCACTGGATTTTCCGGCATTG
CTCCTGCCGACAAAGGCAATTTCGAGAGGGGTGTCGGGCAGGTCTTTAAGGTGGTTGATC
GTCGTGAAGAATTTGGCGTTTTGAAAAAGGTTCATGGGCATATCCTTGTTTTCCGCCGCC
GTTTGTCCGACAGCAAAAATATGCGGTTGGTTTTATGTGAAACACAGTGGTAATTTAATG
TAAATTTAGTATAGAATAACACGTTTACAGAATCATCGGTTTTAATCGGGTCAAAAATCC
CGTATTTGAATATAAAAAGAGCATTGTTGCGTTATCCAATGCTGTAATCAGGAGCACTCC
ATGAAACGATTGACTTTATTGGCCTTTGTTTTGGCTGCCGGTGCGGTTTCCGCCTCTCCC
AAAGCAGACGTGGAAAAAGGCAAACAGGTTGCCGCAACGGTTTGTGCGGCTTGCCATGCA
GCAGACGGTAACAGCGGCATTGCGATGTATCCGCGTTTGGCGGCACAGCATACTGCTTAC
ATCTATCATCAAACTATCGGCATCCGCGACGGTAAACGCACCCACGGTTCGGCAGCTGTG
ATGAAACCGGTGGTAATGAATTTGAGCGATCAGGATATTTTGAACGTATCCGCATTCTAT
GCCAAACAGCAGCCCAAATCCGGTGAAGCCAATCCTAAGGAAAATCCCGAATTGGGTGCG
AAAATCTATCGCGGCGGTTTGAGCGATAAAAAAGTGCCGGCGTGTATGTCCTGCCACGGT
CCGAGCGGTGCGGGTATGCCGGGAGGCGGAAGCGAAATTCAGGCTTATCCGCGTTTGGGC
GGTCAGCATCAGGCATATATTGTTGAACAGATGAATGCCTACAAGTCCGGTCAGCGTAAA
AATACCATCATGGAAGATATTGCAAACCGTATGTCTGAAGAAGATTTGAAAGCGGTCGCC
AACTTTATCCAAGGTTTGCGTTAATTCCGCAATAGTCTGTTTTAGAGGCCGTCTGAAAAG
TTTTCAGACGGCTTCAGGCAATTCTGCGATAAGTTTTTTCAATCGCAACCGTTGGAATCG
ATGCAGGCTGTCTTCATTGTCTTGAAATAAAAAGCATCAAGACAGTAGAATCGGGACGTT
GTTTTCTGTTTGCCCAATTCTGCTTTCCCATATTCCTGATGGCGGAATAAACACACAATG
AGTAAATCCCGTAGATCTCCCCCACTTCTTTCCCGTCCGTGGTTCGCTTTTTTCAGCTCC
ATGCGCTTTGCAGTCGCTTTGCTCAGTCTGCTGGGTATTGCATCGGTTATCGGTACGGTG
TTGCAGCAAAACCAGCCGCAGACGGATTATTTGGTCAAATTCGGATCGTTTTGGGCGCAG
ATTTTTGGTTTTCTGGGACTGTATGACGTCTATGCTTCGGCATGGTTTGTCGTTATCATG
ATGTTTTTGGTGGTTTCTACCAGTTTGTGCCTGATTCGCAATGTGCCGCCGTTCTGGCGC
GAAATGAAGTCTTTTCGGGAAAAGGTTAAAGAAAAATCTCTGGCGGCGATGCGCCATTCT
TCGCTGTTGGATGTAAAAAATTGCGCCCGAGGTTGCCAAACGTTATCTGGAAGTACAAGGT
TTTCAGGGAAAAACCATTAACCGTGAAGACGGGTCGGTTCTGATTGCCGCCAAAAAAGGC
ACAATGAACAAATGGGGCTATATCTTTGCCCATGTTGCTTTGATTGTCATTTGCCTGGGC
GGGTTGATAGACAGTAACCTGCTGTTGAAACTGGGTATGCTGACCGGTCGGATTGTTCCG
GACAATCAGGCGGTTTATGCCAAGGATTTCAAGCCCGAAAGTATTTTGGGTGCGTCCAAT
CTCTCATTTAGGGGCAACGTCAATATTTCCGAGGGGCAGAGTGCGGATGTGGTTTTCCTG
AATGCCGACAACGGGATATTGGTTCAGGACTTGCCTTTTGAAGTCAAACTGAAAAAATTC
CATATCGATTTTTACAATACGGGTATGCCGCGTGATTTCGCCAGCGATATTGAAGTGACG
GACAAGGCAACCGGTGAGAAACTCGAGCGCACCATCCGCGTGAACCATCCTTTGACCTTG
CACGGCATCACGATTTATCAGGCGAGTTTTGCCGACGGCGGTTCGGATTTGACATTCAAG
GCGTGGAATTTGGGTGATGCTTCGCGCGAGCCTGTCGTGTTGAAGGCAACATCCATACAC
CAGTTTCCGTTGGAAATTGGCAAACACAAATATCGTCTTGAGTTCGATCAGTTCACTTCT
ATGAATGTGGAGGACATGAGCGAGGGCGCGGAACGGGAAAAAAGCCTGAAATCCACGCTG
AACGATGTCCGCGCCGTTACTCAGGAAGGTAAAAAATACACCAATATCGGCCCTTCCATT
GTTTACCGTATCCGTGATGCGGCAGGGCAGGCGGTCGAATATAAAAACTATATGCTGCCG
GTTTTGCAGGAACAGGATTATTTTTGGATTACCGGCACGCGCAGCGGCTTGCAGCAGCAA
TACCGCTGGCTGCGTATCCCCTTGGACAAGCAGTTGAAAGCGGACACCTTTATGGCATTG
CGTGAGTTTTTGAAAGATGGGGAAGGGCGCAAACGTCTGGTTGCCGACGCAACCAAAGGC
GCACCTGCCGAAATCCGCGAACAATTCATGCTGGCTGCGGAAAACACGCTGAACATCTTT
GCACAAAAAGGCTATTTGGGATTGGACGAATTTATTACGTCCAATATCCCGAAAGAGCAG
CAGGATAAGATGCAGGGCTATTTCTACGAAATGCTTTACGGCGTGATGAACGCTGCTTTG
GATGAAACCATACGCCGGTACGGCTTGCCCGAATGGCAGCAGGATGAAGCGCGGAATCGT
TTCCTGCTGCACAGTATGGATGCGTACACGGGTTTGACCGAATATCCCGCGCCTATGCTG
CTGCAACTTGATGGGTTTTCCGAGGTGCGTTCGTCGGGTTTGCAGATGACCCGTTCCCCG
GGTGCGCTTTTGGTCTATCTCGGCTCGGTGCTGTTGGTATTGGGTACGGTATTGATGTTT
TATGTGCGCGAAAAACGGGCGTGGGTATTGTTTTCAGACGGCAAAATCCGTTTTGCCATG
TCTTCGGCCCGCAGCGAACGGGATTTGCAGAAGGAATTTCCAAAACACGTCGAGAGTCTG
CAACGGCTCGGCAAGGACTTGAATCATGACTGAACACTATAAAACCCTTCCGGAACACGA
GCTGCTGATTCAGAAGTCTTTGATCAGCAATCTGAATCTTTGGGATTGGGTATTTGCCGT
GCTGGTTTTTGCGGCTACGGTTTTCGTACAGACCCGTTCCGGTATGCATATGGACATTTA
CGAAACGGTCATGTTGTGGGCAAGTGCCGGTATTGCCGTGTTTTTGGGTTGGTTTTTCAA
```

```
ACCGATGCGCTGGTTTGTTCCTTTAAGCGTATTGCTTGCCTATGCCGCCGTCGGTTTGTA
CGGAGGCGACATCAAATCGGCAGAGATTTTCCTGTTGCGGTATTTCCTCAGCAGCCAGTC
GGCGATCATGTGGCAGTGCGCCTTTGTCTTTTTCGCCCTGTTCGCCTATATTTCGGGCGC
GGTTTTGGCAAGCGTAAAAAATGTGCCGACCAACACGCTGTTGGGTATGGGAACCGTGTT
TGCATGGGTGTCTGCCGTAGCAGGCTTTACCGGTCTGCTGGTACGTTGGCACGAAAGCTA
TCTGCTCCGTCCCGATGCGGGGCATATTCCGGTTTCCAACCTGTATGAAGTGTTCATCCT
GTTTTTGGTGATTACCGCGCTGATGTATCTTTATTATGAAGGTAAGTTCGCCATACAGAA
ATTGGGCGGCTTCGTGTTCGGCTTATGGCGGTCGTGGTTGGATTTGTCTTGTGGTACAG
CGTGTCCCGCGAGGCGCATACCATCCAGCCGCTGATTCCCGCGCTCCAGTCCTGGTGGAT
GAAAATCCACGTTCCGGCAAACTTTATCGGTTACGGCGCGTTTTGCATTTCCGCGATGCT
CGGTATTGCCGAACTGGTTTCCCTGCGTGCGGAAGGAAAAGGCGGAAAACTGTGGCTGCC
GCCGTCGGCATTGATCGACGAGGTGATGTATAAGGCGATTGCCGTCGGCTTTCTGTTCTT
TACCATTGCCACCATTTTGGGTGCGCTGTGGGCGGCAGATGCTTGGGGACGCTATTGGAG
TTGGGATCCGAAAGAGACGTGGGCGTTCATCGTCTGGCTCAATTACGCCGTTTGGCTGCA
CTTGCGGCTGGTTGCCGGTTGGCGCGGCAAAGTGCTGGCGTGGTGGGCGATTATCGGTTT
GTTCGTAACCGCATTTGCCTTTATCGGCGTGAATATGTTTTTGAGCGGGCTGCATTCTTA
CGGAACGCTTTGATACGGTGCGACGATGCCGTCTGAACGGTCTTCAGACGGCATGTTCCG
TTTTTGGGATACGGCAGTCGTGCCGAAATCCGCTAAAATACGTTTTTCAGTTTTTAACGG
CATCAGACCATGTTGGTATTAGGAATCGAGTCTTCTTGCGACGAAACAGGTGTTGCGCTT
TACGATACGGAACGTGGATTGCGGGCGCACTGCCTGCACACTCAAATGGCAATGCACGCC
GAATACGGCGGGGTTGTGCCGGAATTGGCAAGCCGCGACCATATCCGCCGCCTTGTTCCG
TTGACGGAAGGCTGTCTGGCGCAGGCAGGCGCATCGTATGGCGACATTGACGCGGTTGCC
TTTACGCAGGGGCCCGGTTTGGGCGGCGCGCTGCTGGCGGGTTCGAGCTACGCCAACGCG
CTGGCTTTAGCGTTGGACAAGCCTGTTATTCCCGTCCATCATTTGGAAGGACATCTGCTG
TCGCCGCTGTTGGCGGAGGAAAAACCCGACTTTCCTTTTGTCGCGCTGTTGGTTTCGGGC
GGGCATACGCAGATTATGGCGGTCAGGGGCATAGGCGACTACGCGCTTTTGGGCGAGAGC
GTCGATGATGCGGCGGGCGAGGCATTCGACAAAACGGCGAAACTGCTGGGCTTGCTGTAT
CCGGGCGGTGCGAAACTGTCGGAACTTGCGGAATCGGGCAGGTTCGAAGCGTTTGTTTTT
CCGCGCCCGATGATTCATTCCGACGATTTGCAGATGAGTTTTTCAGGTTTGAAAACCGCC
GTATTGACCGCCGTCGAGAAAGTGCGCGCGGAAAAACGGGGCGGATGACATTCCTGAGCAG
ACACGCAACGACATCTGCCGTGCGTTTCAAGATGCGGTAGTCGATGTGTTGGCGGCGAAA
GTGAAAAAAGCCCTGTTGCAGACAGGGTTCAGAACCGTAGTGGTCGCCGGCGGGGTCGGT
GCAAACCGCAAGCTCCGTGAAACTTTCGGCAACATGACGGTGCAAATCCCGACCCCCAAA
GGCAAGCCGAAACATCCGTCCGAAAAAGTCAGCGTGTTTTTCCCGCCGACGGCATACTGC
ACGGACAACGGTGCCATGATTGCCTTTGCCGGTGCGATGCACCTGGGCAAGGGCAGGGAG
GTCGGTGCGTTCAATGTCCGTCCGCGCTGGCCGCTGTCGGAAATCGTCAGATGACAAAAT
GCCGTCTGAAATTGTTCAGACGGCATTTTTATTTTCGTTACGGCATTTTGTAGCGGTTGT
ACATAAACAGATACTGCGTCGGAAAACGGCGTATCCAATATTCGGCATTGCGGTTGAACA
CGGCGGCATCATGGGCTTTGTCGCCGTTCAATTCCCCTTGGACGGGGCGGATGTGCAAAT
CGAAACCTTGTCCGCCAGGCAGGCGTTCGCAGCAGAAAAACAGGGTTTTCACGCCTTTGA
CGTGTGCCAATTTTGCCGCCAGCGTCATGGTATAGGCAGGTTTGCCGAAGAAATCCACCC
ATACGCCTTCCCCGCCTTCTTGAGGGGAGGGGACGTGGTCGGGCAGGACGATGGTTGCTT
CGCCCGAACGCAGGGCTTTGATGATTTGTTTGACCCCTTGTATGCTGGTAGGCGCGGTTT
TTCCTTTGCCGCGAACCCTGCCCGCCTGCATGATTTTGTCTATCGCTTTGATTTTCGGCG
GTTTGTACATGGCGGTCAGCGGGAACGGAAGCTGCTGGCTGATGTAGCGTCCGCCCAAAT
CGTAGCTGCCGATGTGCGGCGTGATGAATAGCAGCCCTTCGTGTTTGTCCAAAGCCTGCT
GCACATGTTCCCAGCCGTGTACCGCTTTGAACATTGTTTCTATGTCTTCCGGTTTTCTGA
AAAACGCGGGGGCAAGTTCCAAACCGCCTTTTGCCGTTTCCGCAAAAACGGCTTTGACCG
TTTTGGGGTCGGGGTTCAAACCCGCCTGCCGCATATTGGCGACGATGCGCGCGCGGTCTT
CCTTTAAAAGGTAAAACGCCAGATGTCCGAGCCGGTTTCCCAGCGTGTGCAGACAGGAAA
GCGGCAGCAGGGAGAGGCATTTGAGCAGGGCGGTCAACAGGATGTGCATGGCGGTTCGCA
AAGGGGGAAACAGCCTGAATTGTAAACGAAACATGCCGTCTGAAAAAGGGAAGTATTGCG
GCAATATGCCTTTTCTGCTACGATGCGTGCTGCATTAAGAGTTGGGAATTCCATGCCAAC
CTGCTTTTCAAAAGGAAAAGTAAGGTGGACGGTTGAAAAGCCGATGTGGCTCACCAGAGC
AATCCAAACCCGCTTGATGCGGGAATTTTTTTGCCTGTAAGAAACGTACGGGCAGAGATT
CCAAAGTGCTATTCAAATGGGAATATTTCTCAACTGAATGGTATGAATAGGGAAATTTTG
CTATATTTCCCGCTGTCGACATTATGTTCATACAACATGCCGTCTGAAGAAGATGGTTTG
```

-292-

```
TTTTTCAAGGAAAATCTCAATGAGCGAATATCTGTTTACTTCCGAATCGGTATCCGAAGG
CCATCCGGATAAAGTTGCCGACCAAGTATCCGATGCGATTTTGGATGCCATCTTGGCGCA
AGACCCAAAAGCACGTGTCGCCGCAGAAACCTTGGTCAACACAGGCTTGTGCGTATTGGC
AGGCGAAATTACCACCACCGCCCAAGTAGACTACATCAAAGTCGCACGCGAAACCATCAA
ACGCATCGGCTACAACTCCTCCGAGCTGGGCTTTGATGCCAACGGCTGCGCAGTCGGCGT
GTACTACGACCAGCAATCCCCCGACATCGCCCAAGGCGTGAACGAAGGCGAAGGCATCGA
CTTGAACCAGGGCGCGGGCGACCAAGGTTTGATGTTCGGCTATGCCTGTGACGAAACCCC
TACCCTGATGCCGTTTGCCATCTATTACAGCCACCGCCTGATGCAGCGTCAAAGCGAATT
GCGCAAAGACGGCCGCCTGCCTTGGCTGCGTCCTGATGCCAAAGCCCAACTGACCGTGGT
TTACGACAGCGAAACCGGCAAAGTAAAACGCATCGACACCGTCGTCCTGTCTACCCAGCA
CGATCCGTCCATCGCTTACGAAGAGCTGAAAAACGCCGTAATCGAACACATCATCAAACC
GGTTCTGCCGTCTGAACTGCTGACCGACGAAACCAAATACCTGATCAACCCGACCGGCCG
CTTCGTTATCGGCGGCCCGCAAGGCGACTGCGGTTTGACCGGCCGTAAAATCATCGTCGA
TACCTACGGCGGCGCGGCTCCGCACGGCGGCGGCGCATTCTCCGGCAAAGACCCGTCCAA
AGTGGACCGTTCCGCCGCTTACGCCTGCCGCTATGTCGCAAAAAACATCGTCGCCGCAGG
TTTGGCAACCCAATGCCAAATCCAAGTTTCCTACGCCATCGGCGTTGCCGAACCGACTTC
GATTTCCATCGATACTTTCGGCACCGGCAAAATCAGCGAAGAAAAACTGATTGCCTTAGT
TCGCGAACATTTCGACCTGCGCCCCAAAGGCATCGTCCAAATGCTCGATCTCTTGCGCCC
GATTTACAGTAAATCCGCCGCTTACGGACATTTCGGCCGCGAAGAACCTGAGTTCACTTG
GGAGCGCACCGACAAAGCTGCTGCATTGAGGGCGGCAGCGGGGCTGTAATTCCGGTTTGA
AAATCAAAAATGCCGTCTGAACAGTTCAGACGGCATTTTTATATAGTGGATTAACAAAAA
TCAGGACAAGGCGACGAAGCCGCAGACAGTACAGATAGTACGGAACCGATTCACTTGGTG
CTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGTGAGGCAACGCCGTACTGGTTT
AAATTTGGGGCTGTCCTAGATAACTAGGGAAATTCAAATTAAGTTAGAGTTGCCCCTATG
AGAAAAGTCGTCTAAGCCGGTATAAACAAAATAAACTCATTGAACTGTTTGTCGCAGGT
GTAACTGCAAGAACGGCAGCAGAGTTAGTAGGCGTTAATAAAAATACCGCAGCCTATTAT
TTTCATCGTTTACGATTACTTATTTATCAAAACAGTCCGCATTTGGAAATGTTTGATGGC
GAAGTAGAAGCAGATGAAAGTTATTTTGGCGGACAACGCAAAGGCAAACGCGGTCGCGGT
GCTGCCGGTAAAGTCGCCGTATTCGGTCTTTTGAAGCGAAATGGTAAGGTTTATACGGTT
ACAGTACCGAATACTCAAACCGCTACTTTATTTCCTATTATCCGTGAACAAGTGAAACCT
GACAGTATTGTTTATACGGATTGTTATCGTAGCTATGATGTATTAGATGTGCGCGAATTT
AGCCATTTTAGCTTCGCTGAAACTTCGTTTTCGTATCAATCACAGCACACATTTTGCCGA
ACGACAAAACCATATTAATGGAATTGAGAACTTTTGGAATCAGGCAAAACGTCATTTACG
CAAGTTTAACGGCATTCCCAAAGCGCATTTGAGCTGTATTTAAAGGAGTGCGAATGGCG
TTTTAACAACAGTGAGATAAAAGTTCTTGTTCCATTTTAAAACAATTAGTAAAATCGAGT
TTGTCCTAGTTATCTAGGACAGCCCCTTAAATTTAATCCACTATATTTTCCTGTTTCAGG
CTCGGCGTTCTTTGCACATCAGTTTCGCATCCAGCCAGCCATCGCCGCCGGAGATGATGT
TGTTGGCAACGAAGTTGTCCAAGTCTGGCAGCAGGGAAACGGCGCGGCCGCTGTTGATGA
TGACGACCACCGCCATCGGTTTGTCGCCCAGCCAATAACCTGCAAGGGCGCGGACATTGT
TGAGCGTGCCGGTTTTTAAGCGCAACAGCCCGCCGCTTTGTTTGAAGCGGTTGCGTAAAG
TTCCGTCTGTGCCGGCGATGGGTAGCGTGTCGATGAAATCTTGTGCAAACGGGCTGAAAT
AAGCCGTTTCCAACATTTGCGCCATCATTCTCGCCGTTACCCTTTCTTTTCTGGACAGGC
CCGAACCGTTTTCCAAAACCAAATCCGCAACATCGATGCCCGATACGGCAAGTTCGCGCC
GGACGGCAGACGCCGCCTGTTCGGAAACGGCGGGCAGTTTGCCGTCGCCGCCGAGTTTGA
GGAAGACGGAACGCGCAATTAGATTGTCCGAACGCTTGTTCATGTCCGTCAAAATTTCTT
TCATCGGTTTGGCGTGTGCAACGGCAAGTGTCTGCGCGCCTTCCGGCGTGTCGGCTATGC
CGATACCGTCTGAAATCCGTCCGCCGCCGAGCAGCCAGTGGTTGGTAAAACTTTGCCGGA
TCAGTTCGTCAAGCGCGAACATCCGGACACCGACAGGCTTGCCCAAACAGCTCTCGGGAA
TATTGCCGCGCAATTTCAGCGTATTGTCCGAAAAAGATGCACGCATCAGTTTTTTGATCG
AAGGGCAGGCAGCTTGGGAGGCGGTAATTTTCAAGTTGTTTTGGGCGAAAATATGCGGCA
AAGGCGGATCGGTGAGGATGTCGGTACTGCCGGCGGCATTGCGTTCGGCGCGCACCATAA
CCATACCGGCAGACAGCATAGTTGGATTGGGGGGCGTCATAAACGGCGAACCGCTGTCGG
CTTCGAAATCGTCGGGGCTGCCGACTTCGCCCCACAGGCTGTGGTCGAGCATCAGGTGTC
CCGTGATATTGAGTATGCCTTGTTCGCGCAACTGTTTTTGAGCATCAAGCAGGTTTTCCT
GATTGAAAACGGGGTCGCCGCTGCCCGCCCAATATAGGTTTCCGTCAAGCGTGCCGTCGT
TTACCGTACCGTTGCTyyTAAACyCGgTCGCCCAGCGGtAATtGCTGCCGAAGGTTTTGA
AGGCGGCAAACGCGGTAACGAGTTTCATTGTGGAGGCGGGGTTGACGGGGACATCCGAGC
```

-293-

```
GGTGGTCAATGATGACTTTTCCGCTGTCAAGCTCTTGGACATATACGGCGATTTCGTTTT
GCGGAATGCGGCCGGTATCGAGCGC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 25>:

5   **gnm_25**

```
GGCGGCGTTGAGGCCGACGGCGACGGTTTTGCCGTTGTCTTTGCGGCGCAGGGTCAGTGT
GCCGTTGATTTCGCCTACACCAAAGGATAAGAGGTGGCGGCGGGCAAAGCGTCCCTGCAT
TCCGATGCCGCCAAAGCCGGTTTCGGGGGCTGCGCCGGTGAGGAGTTGGACGACGGACGC
GGTTACGCCGACCGTGCCTTCGTCGCGCGCGCCCTGCATAAAGGCTTCGATGCCGCCGCG
10  TTCGGGCAGCTCTTCGCCGTAAAGTGCTTTCAGACCTTTGATAACCATCAGGTACGCGCC
CGCGACGGTCGgGCAGGAATGTCCGCACAGGCGCACGGCATCGGCGTAGCGGTAAGTGAG
GATGCCGTTTTCGGCCGCGCCGAGGAATTCGGCCAATGCGTCTTGGACGGTAATGGTCGG
GGCTTGGTTGAAGAATGATGGGAAATGTTCTTGTGTCATATGGTTTGTCCTTTCGGGGCG
GCGGCCGTTCAGACGGCATCCGTCATTTTTTGTGTTTTAAAACGAGATAGAGGAAAACGA
15  GTCCGCCGGCAAATTCTACTACTACGCTCAACACTGCCTGCATACCGAGCAGGTGTTCGA
ACACGGTCTGTCCGCCGACCAAGAGGATGCCGCCGATACAAACCGTCATCGGCAGGCGGA
CGGAATGTTTGACCGACGGGGAAAAGTGGTTGGCAAGCGAGGCGGCGAGAAGCCCGAAAA
AGCTTACGGGGCCGACCACGGCGGTCGCCGTCGCCACCAATGCGGCAATCCAAAGCAGTA
TCCATAAGGTGTTGCGCGTGTAGCTGATGCCCAAATTGACGGCTTGGTCACGCCCCAAAA
20  GGTAAACGTCCAAGCGGTAGCGTTCGCGCCAAACGACCGCCGCGCTGACGAGCAGAATCA
GCGCGCCTATGCCCAAAAGCTCGCTGTGGACGGTATTGAATCCGGCAAACATATTCGCCT
GCGCGGCGGTAAATTCTTCGGGATCGATCATGCGCGAAAGCAGCGACGACAGGCTGCGGA
ACAAAATCCCGAAAATCACGCCGATTAAAATCATGCGCGACAAATCGCGTCCGCCCTGTT
TGATGAGCGTGTAGAACAGCAGCAGCGAGCCGCCCATCATGACGACCAGTTCAAAGCCGA
25  ATTTGCCCGTCAACGGCAGGGAAGCATAGCCCACGCCGCCGAACGTAAACACCAGCAAGG
TCTGCAAAAACACATACAGCGAATCGAAACCCAAAATTGAAGGGGTCAGAATCGGATTAT
TGGTCAGCGTTTGGAAGAGTTGCGTGGACACGCCGACCGCATAGGCGACCATCAGCAGCG
CGGCAAGTTTGGTCAGCCGCAGTTGCAAAACAAAATCCCAATCGCCTTTGACGTTGAGCG
TCATAAACAGGACGCAGGAAACCAGCAACAGCGCAAAGGCGACCCACAACGGGCGGCTGC
30  TTCCTGCCATAAAACCGATATTTTTTTCAGACGGCATAGGCGGGTTTCCTCAACAAAAGC
CACAAAAACAAAGCCGTACCCAATACACCAAAAACCGTAGAGACCGGAATTTCAAACGGA
AACACAATCACGCGTCCGATAATGTCGCACAGCAACACCAAAGATGCGCCCAGCAAGGCC
ACCGCAGGCAGGCTTTGGCGCAACCTGTCGCCCATCAGGCGGCTGATGATGTTCGGCACG
ACCAGCCCGATAAACGGAATATTGCCGACCGTAACGATAACCAGCGACGTAATCAAAGCC
35  ACAATAATCAAACCCGACCACAACACCGCCGTCCGGTTCAAACCCAAATTCACGCTTACC
GTTTCGCCCAGCCCCAAAATCGTCAGCCGGTCGGCAATCAGATAGGCAAACACCGCCAAA
CCGCCCGTAATCCAAAGCAGCTCGTACCGCCCCAGCAGCACGCTCGAAAAATCGCCCTGC
TGCCACACGCCGAGCATTTGCAGCATTTCGTTTTCATACGCGATAAAGGTGGCTACCGCC
TCAATCACACCGCCGAAAATAATCCCGACCAAAGGCACCATCAGTTGCGCGGTCGGCGGC
40  AGGCGGCGGATCAGCAGCATAAAGACCAACATCCCGATCAGCGCGGCAACGGCGGCAACC
GACATTTTCGCCGGCAGCGGCGCGGCCGGCAGCAGCAGGGTCATCAGCAGCAAACCTAAA
GCCGCGCTTTGGCTTGCGCCCACCATCGACGGTTCGACAAAACGGTTGCGCATCAAAATC
TGCATAATCATGCCGGCCACCGCCATCGACGCGCCCGTCAGCACAATCGCAAACGTGCGC
GGCAGGCGGCTGATGAACATGACCTGCTGGCTGTCGGACAGTGAAAACACATCAGACCAG
45  CGGAAATCGGCAACGCCCACCGACAGGCTGACGGCAAACAACACCGCCAGCAGCAGCAGG
TTGGTCAGGTTGAGGGAAAAAGGTTTGGCAGTCATAAACAGAAGGGAAAAGCGTTAAGGC
GTAGAAGATTCAAACAAGGCAGTCCGAACCGTCGGAGCGGAAAGCCTTGTTTGAAGCCTC
CGTATCGGGCAATGCCGTCTGAAACACAGGAGGCGGTTTGCATCCGTGTTTCAGACGGCA
TCGAATGCCGCCGTTTCATTATTTTGCCGCGTTAAAAGCGTCGGCAACCTGTTTGCTTGC
50  ATTCAGCAGCTCTTGCGCGCCACCGGCTGCCAAATAAGTTTCAGGAACGAGGTACACGAC
CTGTCCTTTTTTCCAAGCGGTTGTTTCGGCAACCAGCGGATTATCCAACACGTCTTTCGC
CGCCTGACCCTCTTCGCCGATGGCCGCGCTTCGGTCAAGGACAAACAGCCAGTCGGGATT
TTTCTCTTTCAGGTATTCAAAGCTGATAGGCTGACCGTGGCTGCCTTCTTTAATTGATTC
```

```
       ATCGACAGCGGGAACGCCGATGTCTTTGTGCAGCCAGCCGCCCAAGCGTGAAGACGGGCC
       GAAAGCCGACATCTTGCCGCCGTTGACCAAAATCACCAAACCTTTGCCCTTACCTTGTGC
       GGCAGTTTTCGCGGCTTCAAAAGACGCGTCGATTTCCGCCTTCAGCTTGTCGGCTTCCGC
       CTGTTTGCCGAAGATTTGCGCCAGCGCGTCGATGCGCTCTTTGGCACTTTCTTTGAGGTT
 5     GGCGGTATCGGCGGTCATTTCGATGGTCGGCGCGATTTCGTTCAATTGTCAAACGCCTT
       GGCGGCGCGGCTGCCGATGATGATGAGCTGCGGTTTGTAAGCGTTGAGCGTTTCGTAATC
       CGGCTCGAACAAAGTGCCGGCAGGTTTTGTCGTTTTGAAATATTCCTCTAAATACGGCAG
       GCGGTTTTTATCGACGGACAAACCGGTTTTCACGCCCAGTTTGCTCAAGGTGTCGAGCAT
       ACCCAAATCGTAAACGGCGATGCGTTCGGGGTTTTGCGGTATTTGAACGTCGCCGCGCGC
 10    GGTTTTGACGGTAACGGACGCGCCTTCGGTTTGTGCGGCGGAAACCGCCTGTTCTTTGGC
       TTGTGGGGCAGAGTCGGAATTTTGCGGCGAACACGCGCCCAAAGCGAGGGCGGTGCATAC
       GGCTAAAGCAGTCAAACGTAACATAGGTGTCTCCAAAATGGGGATATTGGGGCAAAGCCG
       CCGGTCGGACAAACCGGAACGGCTTTAGAAAGGATAAATGATAATCTATAGTGGATTAAC
       AAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACTGATTCACT
 15    TGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACT
       GGTTTTTGTTAATCCGCTATATTCCGCCATCTCTAAGATTTACAGCGATACACGGGTAAT
       TTAAGGAATGCCCGAACCGTCATTCCCATCACTTTTCGTCATTCCCATCACTTTTCGTCA
       TTCCCACCACTTTTCGTCATTCCCGCAACCTTTCGTCATTCCCGCGAAAGCGGGAATCTA
       GAATCTCGGACTTTCAGATAATCTTTGAATATTGCTGTTGTTCTAAGGTCTAGATTCCCG
 20    CCTGCGCGGGAATGACGGCTGCAGATGCCCGACGGTCTTTATAGTGGATTAACAAAAATC
       AGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCT
       TCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTT
       GTTAATCCACTATATATCAAATTATCAGAACAGATGCCGTCTGAAAGGCTTTCAGACGGC
       ATTTTTTCGGGATGTGCGTTTTAGAACTTGTAGTTCACGCCCAAGCGTACATCACGTCCC
 25    ACGCCCGGCAGGGTATTGGTCCATCGTTGGCTGTGCGGATAGTAGAACGTGTTGAACACG
       TTGTTAACCGAAAGATTAACATTGAGCGTGTCTTTGCCCAGCGGTTTCCAGTTGGCGAAG
       ACATCGTTCACACCGAAACCTTTGCGTACAACGTTTTCCAATTTGCCGTTGCGGTCTTTT
       TGACCTGCCACCAATATCGAACCCACGGCTTTTTGAACATAACGGCCGCGCCAGCCGATT
       TCCAGATTCGGGTTTTGGAAGCGGTAGGCAAGGGAAGCCGTCCAAGTGCGGCCGACTTGT
 30    GCGCCAAATTCAGGATTCGCGCTCAACAGCTTGTCTTTGTGCGTATCGTAAAAGCGCGGT
       TTGCTGTGGCTTACGCCGACTTTGGCAGTCAGGCCGCCGGTGCGGTAGGACGCGCCCAAT
       TCGTAACCGTGGTTTTTGATGTAACCGGCATTGACGGCTTCACGGACGGCGGACAGAGTCG
       TGGCGGTTTTGCGGATTGGCAAGCGCGTCTTTGATGGTCTGCCAGAAGTAGCTGCCGTTT
       GCGGCAAACGTGCCGTCGTTGTAGTTGAAGCCGATTTCGGTATTGCGCGCGCGTTCGGCT
 35    TTCGTGCCGTCGGCAATCGAGATGATGCCGCGTTTGCCGTGGGTTTGCAGCGCGTCATAC
       AGGCGCGGGCTGCGGCTGGCGTAGTTGTGGCTCGCGCTGAAGCTCCAGTGTTCGTGCGGC
       TGCCAAATCACGCCGAAACTCGGGTTAAGGTTGTTGCTTGAAACGGTTTTGCCGTCGTGG
       GTTTTCACCTTGAAGCGGTCGTAACGCAGCCCGCCGGTCAGGGTAAAGCCGTCAATCTCG
       TGAATGGCTTCGATATACGCGCCGGTATCGGTTTTGGTCGGGTTGGTCAGACGGTAGGCT
 40    TTGGCAATTTTTTCATTTTCACGGTTCTTATTTTTCTCTTCATCAGTTGCTTTTTCTTTA
       TCTTCAATTTTAAATTGTGAATTCAAAAACGCTTGCGGTTTGATTTCCTGATGGCGGTAG
       TTGATACCGTATTTCAGCAGGGTTTGTTCGGCAAGGCGGCTGTCGAAGTTGAAGTTCATA
       CCCCGAGTGGTGATTTGGGTATGGTTGGGGCCTTTTACATTGCCTGCGTAACCGGTGCCG
       CTGTCATCGGCGGAATAGCGTTCTTTTTCCAACACATAGGCGTTGGCATCCAGTTTTTCG
 45    ACAAAGCCCAGGTTTTTACCCGTGTACGCCAAATTGGTGTTGGATTGTGTGGTTTCGCGG
       TAAGCAGGGGCTTGGCGTTCCATACTTATTCGCTCTTTATCGCCGCCGACGGTAAATTCT
       TCACGGACGGTACGGATGCCCCGGTGCTGGTCTTTCATATGGCTCAATACGATGCGGTGG
       TCGCCGTCGCCGAAGCTTGTTCCGATTTTGGCGAGGTAGCTGCGTTTGTCCAGCGCGCTG
       TACGGTACGGTTTTGCCGCCGTTGAAATTATTACGGAAGCCTTTACCTGCTTCGTAATCT
 50    TTTTCATTGTTGCGGTTGTAAGAGAACAAGCCGTCGAAGTTGCCCTCTTTCCCGAATACG
       CTTGCGCCGTAGCTTACGCCTTCGTTGCTGGCAAAGCCGCTGTTGAGGCGCACGCCCCAG
       TTTTTATCCAAGCCTTTGAGCAGGTCTTGGGCATCGACGGTTTTGGTGATGATCGCGCCG
       TTGGTCGCGCCGATACCGGCAGAGGCGGAACCCGCGCCTTTTTGTACGGAAACGACTTTA
       ACCAAAGCGGGATCGACAATAAATCTGCCTTGGTGGTAAAGGATTTGGCTGTCGGAATAG
 55    GCGTTGTCCACCTTGATGTCGACAGAGTTTTGACCCATGCCGCGCAGCGTCAGGAATTGG
       GACGTGCCGTTGCCGCCGCCGAAATCGATGGAGGGCTCTTCTTTTAAGAGTTCGCGCATA
       TCGGTTGCGGTGCTTTCGTCTTTTTGTTGCAGCGTAACGATGTTGGTACGGATTTTGCTG
```

```
     CCTTGGCGGTCGCCTTTTACGGTAACGGTATCCAGTACGACCTTGGCATTATTTTCTGCC
     GCATGGGCAAAACCTGCCGCCAGGGTAAGCGAGAGCAGGCTGAGACGGAACAATGGGGTA
     TTCATTCAATCGTCCTCTTGAGTATGAAGGGAAGTAAATCCAAACCGTTAAGATTTGGCA
     GGATAAGAAAAATAATTAATAATTATTTTTATTTATATTAACAGGGGGGGGGGGATTTTT
  5  GCAAAGCTGATTATCGTTTTTATTTGCGAAGTGTTGTTTTTGTTGACAGGTTTTGTCGG
     AAATGTAAAAAAACGGCGGGAATATAGTGGATTAACAAATGCGGGAATGACGAAGCCTGC
     GCGGGAATGACGAAGCCTGTGCGGGAATGACGGCGGAGCGGTTTCTGTTTTTTCCGATAA
     ATTCCTAAAACTTAAAATTTCATCATTCCCGCAAGGACAGAAAACCAAAAACAGAAACCT
     AAAATTCGTCATTCCCACGAAAGTGGGAATCTAGAATCCCGGACTTTCAGATAATCTTTG
  10 AATATTGCTGTTGTTCTAAGGTCTAGATTCCCGCCTGCGCGGGAATGACGATATTTCTGT
     TTTTGATTTTTTGTTTTGGGGAATGACGGGATTTGAGATTGCGGGCATTTATCGGGTAA
     AACGGAAATTATGCGTTACGAAAATTTATCCGAAATCACGGCAACTTTTCCACCGTCATT
     CCCACGAAAGTGGGAATCCAGGTCTGTCGGCACGGAAACTTATCGAGAAAACGGTTTCT
     TTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACGGATAGTA
  15 CGGAACCGACTCACTCGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTCGAGCTAAGTCA
     AGGCAACGCTGTACTGGTTTTTGTTAATCCACTATAGATTTTACGTCCTGGATTCCCGCC
     TGCGCGGGAATGACGAATTTCAATTTTCTGTTTTTGATTTTTTGTTTTTACAGGAATGAC
     GGTCTTTTCATATCGAAAAAAGTTGCCGTACCGCACCGATAATTTCCGCCTGCGCGGAAT
     GAAGATTCAAGCGTTGCCCGAAATTCAAAAAAACTATAGTGGATTAACAAAAACCAGTAC
  20 GGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTCAAGCACCAAGTGA
     ATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAA
     TCCACTATAAAACCAAACGGATCGGATTCCCGTTTTTATGGGATAACGGAATGTTCAGCC
     GGACACCACCACGATGCTTTCGATCCGTTTATTTTCCGATACAAAACCTCGAAAAAATCA
     CGCCGAGCAGGTCGTCCGCCGTAAACTCGCCCGTGATTTCGCCGCATGCGACCTGCGCCA
  25 AGCGCAAGTGTTCGGCAAACAGCTCGATTTGATGGTTGCCGCACAATGCCGCCAGCGACA
     ATTCTTCCTGCGCTGCTTTGAGTGCGTTGACGTGCCGCGTCCGCGCCAAAAACAACCCTT
     CGCTTTCGCCCTGCCAACCGGCCTCGCGCAACAACGTCCGTTTCAGCGCGTCCAAGCCGT
     CGCCGGTTTTCGCCGACAACGCGATGACGGTTTCCGCGCCCGTACCGAACCCGCCTGCCG
     CGTGTGCGTGCAAATCGGATTTGCTGTGGATTTCGATGCGTTTCAACTCCGGCGGCAACG
  30 CGTCCAAAATCGCCCGTGTCTTTTCATTCAAACCCTCGCGCGGATCGACCAACACCAGCG
     CGACATCGGCTTCGGATACGGCTTTGCGGCTGCGTTCGATGCCGATACGCTCGACCACGT
     CGTCCGTCTCGCGCAAACCTGCCGTATCGACAATATGCACCGGCACGCCGTCAATCAGGA
     TACGTTCCCTGACCGCGTCGCGCGTCGTTCCGGCAATATCGGTAACAATCGCCACTTCGT
     CGCCCGCCAACGCGTTCAGCAGGCTGGACTTGCCCACATTCGGCGCGCCGACCAATACGA
  35 CATTCAGACCTTCGCGCAAAATCGCGCCCTGCTGCGCGTTGGCAAGCACATCATCCACGG
     CGCGGCGCAAGCCGTCCAGTTTGCCGCGTGCGTCTGCCGCTTCGAGAAAATCAATGTCTT
     CCTCGGGAAAATCTAACGTCGCTTCGACCAGCATCCGCAAGGTAATCAAGTCTTCGACCA
     GACCGTGTATCCGCCGCGAAAAATCGCCCTTGAGCGAGCGCAAAGCCAGACGCGCCGCCG
     AACGGCTGGATGCGTCAATCAAATCCGCCACGCCTTCCGCCTGTGCCAAGTCCAGTTTGT
  40 CGTTCAAAAACGCACGCTTCGTAAACTCGCCCGGTTCGGCAAGGCGCGCGCCCAATTCCA
     AACAGCGGTTCAGCAGCATATCCATCACCACCGGCCCGCCGTGTCCCTGAAGCTCGATGA
     CATCTTCACCCGTAAAACTTGCCGGTGCGGCAAAAAACAGCAAAAGCCCGCTGTCGATTG
     CCTGTCCGTCCGTGTCCGTAAAATCAGCATAGGTTGCGGTACGCGGCTTGGGCGTTTTCC
     CGCACAAAGCCTGCGCCATCGGCAGCAGGTTTTTCCCCGATATGCGTATCACGCCCACGC
  45 CGCCGCGCCCTGGTGCGGTAGCGACTGCCGCAATCGTTGGAACGTTATCCGACATAAAAC
     CCCCGAAAATTCAAAACAGCCGCGATTATAGCAAATGCCGTCTGAAGTCCGACGGTTTGG
     CTTTCAGACGGTATAAAACCGCAAAAATGCTTGATAAATCCGTCCGCCTGACCTAATATA
     TAACCATATGAAAAAACGAAACACATACGCCCTCCTGCTCGGTATAGGCTCGCTGCTGGG
     TCTGTTCCATCCCGCAAAAACCGCCATCCGCCCCAATCCCGCCGACGATCTCAAAAACAT
  50 CGGCGGCGATTTTCAACGCGCCATAGAGAAAGCGCGAAATGACCGAAAACGCACAGGAC
     AAGGCGCGGCAGGCTGTCGAAACCGTCGTCAAATCCCCGGAGCTTGTCGAGCAAATCCTG
     TCCGACGAGTACGTGCAAATAATGATAGCCCGGTGTTTCCATTCGGGACCGTTGCCGCCG
     CCGTCCGACTTGGCGCAATACAACGACATTATCAGCAACGGGCAGACCGCATTATGGCA
     ATGGCGGAAAAAGAACAAGCCGTCCGGCACGAAACCATACGGCAAGACCAAACCTTCAAC
  55 AGGCGCGGGCAACTGTACGGCTTCATCAGCGCCATCCTGATACTGCTTTTTGCCGTCTTC
     CTCGTATGGAGCGGCTACCCCGCAACCGCCGCCTCCCTTGCCGGCGGCACAGTGTTTGCC
     TTGGCGGGTGCTTTCGTGATTGGAAGAAGCCGAGACCAAGGCAAAAATTAATGACAAATC
```

-296-

```
CTAGGGCGTGCTTCATATCCGCCCGAACGCCGAACCGCACATATAGGCACATCCCGCGCG
CCGCCCGGAAGCGGAAGCCGCGCCCTCCCAAACAAACCCGAATCCCGTCAGATAAGGAAA
AATAATGAAAACAACCGACAAACGGACAACCGAAACACACCGCAAAGCCCCGAAAACCGG
CCGCATCCGCTTCTCGCCTGCTTACTTAGCCATATGCCTGTCGTTCGGCATTCTTCCCCA
AGCCTGGGCGGGACACACTTATTTCGGCATCAACTACCAATACTATCGCGACTTTGCCGA
AAATAAAGGCAAGTTTGCAGTCGGGGCGAAAGATATTGAGGTTTACAACAAAAAAGGGGA
GTTGGTCGGCAAATCAATGACAAAAGCCCCGATGATTGATTTTTCTGTGGTGTCGCGTAA
CGGCGTGGCGGCATTGGTGGGCGATCAATATATTGTGAGCGTGGCACATAACGGCGGCTA
TAACAACGTTGATTTTGGTGCGGAAGGAAGAAATCCCGATCAACATCGTTTTACTTATAA
AATTGTGAAACGGAATAATTATAAAGCAGGGACTAAAGGCCATCCTTATGGCGGCGATTA
TCATATGCCGCGTTTGCATAAATTTGTCACAGATGCAGAACCTGTTGAAATGACCAGTTA
TATGGATGGGCGGAAATATATCGATCAAAATAATTACCCTGACCGTGTTCGTATTGGGGC
AGGCAGGCAATATTGGCGATCTGATGAAGATGAGCCCAATAACCGCGAAAGTTCATATCA
TATTGCAAGTGCGTATTCTTGGCTCGTTGGTGGCAATACCTTTGCACAAAATGGATCAGG
TGGTGGCACAGTCAACTTAGGTAGTGAAAAAAATTAAACATAGCCCATATGGTTTTTTACC
AACAGGAGGCTCATTTGGCGACAGTGGCTCACCAATGTTTATCTATGATGCCCAAAAGCA
AAAGTGGTTAATTAATGGGGTATTGCAAACGGGCAACCCCTATATAGGAAAAAGCAATGG
CTTCCAGCTGGTTCGTAAAGATTGGTTCTATGATGAAATCTTTGCTGGAGATACCCATTC
AGTATTCTACGAACCACGTCAAAATGGGAAATACTCTTTTAACGACGATAATAATGGCAC
AGGAAAAATCAATGCCAAACATGAACACAATTCTCTGCCTAATAGATTAAAAACACGAAC
CGTTCAATTGTTTAATGTTTCTTTATCCGAGACAGCAAGAGAACCTGTTTATCATGCTGC
AGGTGGTGTCAACAGTTATCGACCCAGACTGAATAATGGAGAAAATATTTCCTTTATTGA
CGAAGGAAAAGGCGAATTGATACTTACCAGCAACATCAATCAAGGTGCTGGAGGATTATA
TTTCCAAGGAGATTTTACGGTCTCGCCTGAAAATAACGAAACTTGGCAAGGCGCGGGCGT
TCATATCAGTGAAGACAGTACCGTTACTTGGAAAGTAAACGGCGTGGCAAACGACCGCCT
GTCCAAAATCGGCAAAGGCACGCTGCACGTTCAAGCCAAAGGGGAAAACCAAGGCTCGAT
CAGCGTGGGCGACGGTACAGTCATTTTGGATCAGCAGGCAGACGATAAAGGCAAAAAACA
AGCCTTTAGTGAAATCGGCTTGGTCAGCGGCAGGGGTACGGTGCAACTGAATGCCGATAA
TCAGTTCAACCCCGACAAACTCTATTTCGGCTTTCGCGGCGGACGTTTGGATTTAAACGG
GCATTCGCTTTCGTTCCACCGTATTCAAAATACCGATGAAGGGGCGATGATTGTCAACCA
CAATCAAGACAAAGAATCCACCGTTACCATTACAGGCAATAAAGATATTGCTACAACCGG
CAATAACAACAGCTTGGATAGCAAAAAAGAAATTGCCTACAACGGTTGGTTTGGCGAGAA
AGATACGACCAAAACGAACGGGCGGCTCAACCTTGTTTACCAGCCCGCCGCAGAAGACCG
CACCCTGCTGCTTTCCGGCGGAACAAATTTAAACGGCAACATCACGCAAACAAACGGCAA
ACTGTTTTTCAGCGGCAGACCAACACCGCACGCCTACAATCATTTAAACGACCATTGGTC
GCAAAAAGAGGGCATTCCTCGCGGGGAAATCGTGTGGGACAACGACTGGATCAACCGCAC
ATTTAAAGCGGAAAACTTCCAAATTAAAGGCGGACAGGCGGTGGTTTCCCGCAATGTTGC
CAAAGTGAAAGGCGATTGGCATTTGAGCAATCACGCCCAAGCAGTTTTTGGTGTCGCACC
GCATCAAAGCCACACAATCTGTACACGTTCGGACTGGACGGGTCTGACAAATTGTGTCGA
AAAAACCATTACCGACGATAAAGTGATTGCTTCATTGACTAAGACCGACATCAGCGGCAA
TGTCGATCTTGCCGATCACGCTCATTTAAATCTCACAGGGCTTGCCACACTCAACGGCAA
TCTTAGTGCAAATGGCGATACACGTTATACAGTCAGCCACAACGCCACCCAAAACGGCAA
CCTTAGCCTCGTGGGCAATGCCCAAGCAACATTTAATCAAGCCACATTAAACGGCAACAC
ATCGGCTTCGGGCAATGCTTCATTTAATCTAAGCGACCACGCCGTACAAAACGGCAGTCT
GACGCTTTCCGGCAACGCTAAGGCAAACGTAAGCCATTCCGCACTCAACGGTAATGTCTC
CCTAGCCGATAAGGCAGTATTCCATTTTGAAAGCAGCCGCTTTACCGGACAAATCAGCGG
CGGCAAGGATACGGCATTACACTTAAAAGACAGCGAATGGACGCTGCCGTCAGGCACGGA
ATTAGGCAATTTAAACCTTGACAACGCCACCATTACACTCAATTCCGCCTATCGCCACGA
TGCGGCAGGGGCGCAAACCGGCAGTGCGACAGATGCGCCGCGCCGCCGTTCGCGCCGTTC
GCGCCGTTCCCTATTATCCGTTACACCGCCAACTTCGGTAGAATCCCGTTTCAACACGCT
GACGGTAAACGGCAAATTGAACGGTCAGGGAACATTCCGCTTTATGTCGGAACTCTTCGG
CTACCGCAGCGACAAATTGAAGCTGGCGGAAAGTTCCGAAGGCACTTACACCTTGGCGGT
CAACAATACCGGCAACGAACCTGCAAGCCTCGAACAATTGACGGTAGTGGAAGGAAAAGA
CAACAAACCGCTGTCCGAAAACCTTAATTTCACCCTGCAAAACGAACACGTCGATGCCGG
CGCGTGGCGTTACCAACTCATCCGCAAAGACGGCGAGTTCCGCCTGCATAATCCGGTCAA
AGAACAAGAGCTTTCCGACAAACTCGGCAAGGCAGAAGCCAAAAAACAGGCGGAAAAAGA
CAACGCGCAAAGCCTTGACGCGCTGATTGCGGCCGGGCGCGATGCCGTCGAAAAGACAGA
```

```
AAGCGTTGCCGAACCGGCCCGGCAGGCAGGCGGGGAAAATGTCGGCATTATGCAGGCGGA
GGAAGAGAAAAAACGGGTGCAGGCGGATAAAGACACCGCCTTGGCGAAACAGCGCGAAGC
GGAAACCCGGCCGGCTACCACCGCCTTCCCCCGCGCCCGCCGCGCCCGCCGGGATTTGCC
GCAACTGCAACCCCAACCGCAGCCCCAACCGCAGCGCGACCTGATCAGCCGTTATGCCAA
TAGCGGTTTGAGTGAATTTTCCGCCACGCTCAACAGCGTTTTCGCCGTACAGGACGAATT
AGACCGCGTATTTGCCGAAGACCGCCGCAACGCCGTTTGGACAAGCGGCATCCGGGACAC
CAAACACTACCGTTCGCAAGATTTCCGCGCCTACCGCCAACAAACCGACCTGCGCCAAAT
CGGTATGCAGAAAAACCTCGGCAGCGGGCGCGTCGGCATCCTGTTTTCGCACAACCGGAC
CGAAAACACCTTCGACGACGGCATCGGCAACTCGGCACGGCTTGCCCACGGCGCCGTTTT
CGGGCAATACGGCATCGACAGGTTCTACATCGGCATCAGCGCGGGCGCGGGTTTTAGCAG
CGGCAGCCTTTCAGACGGCATCGGAGGCAAAATCCGCCGCCGCGTGCTGCATTACGGCAT
TCAGGCACGATACCGCGCCGGTTTCGGCGGATTCGGCATCGAACCGCACATCGGCGCAAC
GCGCTATTTCGTCCAAAAAGCGGATTACCGCTACGAAAACGTCAATATCGCCACCCCCGG
CCTTGCATTCAACCGCTACCGCGCGGGCATTAAGGCAGATTATTCATTCAAACCGGCGCA
ACACATTTCCATCACGCCTTATTTGAGCCTGTCCTATACCGATGCCGCTTCGGGCAAAGT
CCGAACACGCGTCAATACCGCCGTATTGGCTCAGGATTTCGGCAAAACCCGCAGTGCGGA
ATGGGGCGTAAACGCCGAAATCAAAGGTTTCACGCTGTCCCTCCACGCTGCCGCCGCCAA
AGGCCCGCAACTGGAAGCGCAACACAGCGCGGGCATCAAATTAGGCTACCGCTGGTAACC
GCCGGATATGCCGAAAGGGGTCTGACGATGCCACCGTGCGCTGTCAAACCCTTTTTCTGC
CGCCGCCTTGTGCCTGCTCCATTGTCTGATAACCGTCAAATTGATTTTTAGCCCATGTTT
GGTGGGTCGGGGAAATCTATATCTTCGTCCGTGCCGAAATAGTCTGAGACCTTTGCAAAA
TTCCTTTCCCTCCCGACAGCCGAAACCCAAACACAGGTTTTCGTCTATTTTCGCCCCAAA
TACCTCCTAATTCTACCCAAATACCCCCTTAATCCTCCACGGACACCCGATAATCAGGCA
TCCGGGCTGCTTTTTAGGCGGCAGCGGGCGCACTTAGCCTGTTGGCCGCTTTCAAAAGGT
TCAAACACATCGCCTTCAGATGGCTTTGCGCACTCACTTTAATCAGTCCGAAATAGGCTG
CCCGAGCGTAGCGGAATTTACGGTGCAGCGTACCGAAGCTCTGTTCGACCACATATAGTG
GATTAAATTTAAACCAGTACGGCGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCG
GCTTCGTCGCCTTGTCCTGATTTAAATTTAATCCACTATAACGGGTCTTCGACAAATACC
GGTTGCGTTTGGTTTGCGTTTCCGTCAGCGGACGGTTGCGGCAGGCTTTGCGCATAATGC
CGTCCTGCAACTGATGTTCTTCCAGATGTTGCCGGTTTTCCGCACTGTCGTAGCCTTTGT
CGGCATAGACGGTCGACCTTTGGGCAGTCCTTCCAACAAAGGCGGCAGGTGTTTGCACTC
ATGGGCATTGGCGGGGGTAATGTGCAGTTTCTCGATATAGCCTTCCGCATCGGTACGGGT
ATGTTGTTTGTAACCGAGTTTGTAGAGGCCGTTTTTCTTTATCCAACGGGCATCGCTGTC
CTTACTCGGTGTGGTTTGGCCGTTGATTTGTCCTTCCTCATCGACTTCTATAGCCTGGCG
CTGTTTGCTGCCGACGGTCTGAATAATGGTGGCGTCAACGACGGCGGCGGATGCTTTCTC
TACTTTTAAGCCTTTTTCGGTCAGTTGGCGGTTAATCAGTTCCAACAGTTCGGACAGGGT
GTCGTCTTGCGCCAGCCGGTTGCGGTAGCGGCATAAGGTGCTGTAATCGGGGATGCTCAG
TTCGTCAAAACGGCAAAACAGGTTGAAATCGATGCGGGTAATGAGGCTGTGTTCGAGTTC
GGGATCGGAGAGGCTGTGCCATTGTCCGAGCAGGACGGCTTTGAACATGGACAGCAGGGG
ATAGGCGGGACGGCCGCGGTGGTCTCTAAGGTAACGGGTTTTTTGACGGTTCAGGTACTG
CTCGATCGGCTGCCAATCAATCACCTGGTCCAACTTCAATAGCGGGAAACGGTCGATGTG
TCTGGCAATCATGGCTTGGGCGGTTTGCTGGAAGAAGGTGCTCATGGAAAATCCCCTAAA
TGTCTTGGTGGGAATTTAAGGGGTTTTGGGGAATTTTGCAAAGGTCTCAGTCTATGCCCG
ATATACAATTTTGATACACAAACTTGGAAATATCGGTATCGTCGCCGGAGCGATAGAATG
CGGACAGTTTTTCATTGAATTGCGGCATCTGCATTTCGGAGATTTCCAAGATGCCGCAGC
CCCCCGCCATCATCAGACCGTTGGCAAATAAGGTTGCCGTTCGTTTGTTGCCGTCCCAAA
AAACCTGCTGCCGCATACAATAAAGCATAAAACGGACGGCTGCCTCCGTCGTCGAACCGC
TTTGCAGTCCGATATTTTGTAACACGCGGGCCACTTCAATTTCCTTCACTGGATTCGGGG
CATGACGGGAACCGTCCAATAGCGTTACGCCGACCGAACCGGTACGGAAATCACCGGGTG
CCAAAGAATCGTCCTTGGCAACAATGTTGTTGATTTTTTAAGGAGTGAAATATCGACCG
GTTCGCCGTTTGAAATATGCGAAATCACATATTGATAGGCACGTTTCAGGTTCAAGATGG
TTTGGATGTCTTCCAGTGACGCGGAGGCTACATTTTTGCCATGGATAATTTGTTCGGTCT
GCAACAAGGTCGTCTGACAATTCTCAAAACGACTGAGGTTGTGAATTTGGGCAACCAATA
CTTTCTTTGCCAAAAAATATTTTCTTTCAAACTCAACTTGTATTTGTCGGGAAACACGA
TAATTCCTTAAATAATTAAAGCAGTACGTTAAATCATCATCTTATCATCACTTTCGGGGT
TTATGTTGCGTGCGTCCGTTTTCTAATACGGTTTCCCATCCCGCGAAACGAGGCGGAGGC
CTGTGCAAAAAACCTGTTCACGAAATTTTCCGCATTAACGATACGCTGAAAATGCGCTAA
```

```
AAATGACTGTGTTTGAATATCGGTTGATTTCATCCGTTTGTGTAACCTCGCGCCGGTTTT
GTCATGATTTTGCATTATAGTGAATTAAATTTAAACCAGTACAGCGTTGCCTCGCCTTAC
CGTACTATCTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATTCACTAT
ATTTTTGTCATGCGGATATTTCACGGGATGACAAAACGGGCGCAAAAAAGCCCGATTGGA
AAATCCGAATCGGGCTTTTTTGTGATGTTCTGTTCGATTTGCGTACTAACTGCCGGCCGG
AGCGTCCGCGCCCGGTTTGGCAGGTCGGATTCTCGAATCCGACGGCTATTTGAGATGGCA
GGCTTTTGTCGGATACAAGTATCCGACCTACGGCTTGCTTTTCGTCATTCCCGCGAAAGC
GGGAATCTAGAATCTCGGACTTTCAGATAATCTTTGAATATTGCTGTTGTTCTAAGGTCT
AGATTCCCGCCTGCGCGGGAATGACGGTTCAGTTGCTACGGTTATTGTCAGGTTTCGGTT
ATGTTGGAATTTCGGGAAACTTATGAATTGAGACCTTTGCAAAAATAGTCTGTTAACGAA
ATTTGACGCATAAAAATGCGCCAAAAAATTTTCAATTGCCTAAAACCTTCCTAATATTGA
GCAAAAGTAGGAAAAATCAGAAAAGTTTTGCATTTTGAAAATGAGATTGAGCATAAAAT
TTTAGTAACCTATGTTATTGCAAAGGTCTCGAATTGTCATTCCCACGCAGGTGGGAATCT
AGTCTGTTCGGTTTCAGTTATTTCCGATAAATTCCTGCTGCTTTTTATTTCTAGATTCCC
ACTTTCGTGGGAATGACGAAAAGTTGCGGGAATGACGGTTCGGGCATTCCTTAAATCACC
CGTGTATCGCTGTAAATCTTAGAGATGGCGGAATATAGCGGATTAACAAAAACCAGTACA
GCGTTGTCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAA
TCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAAT
CCACTATACTATAGGAACATTTAGAAAAAATATACCAAAAATTAAATTTTATTTAAATAA
AGATAGCATATAACACCTTTCAATCAATGTGCCTCTTCCCAATTCTCCCCTACGCCAACC
TCAGCCACCAGCGGTACATCCAATAATCCGCCGTCCACTTTCGCCATAATCTGCGGCAGT
TTTTCTTTGACAAAATCCAGTTCGGTTTCAACGACTTCCAGCACCAGTTCGTCATGCACC
TGCATAATCAGTTTGCTTTGTAAGAGTTCGTCCCACGGGGAGGCTTCGCACTCTGAAAGC
CAGCGGGACACGTCTATCATGGCGCGTTTGATGAGGTCGGAGGCGGTGCCCTGCATGGGG
GCGTTGATGGCAGCGCGTTCGGCTCCGGCGCGGGCGTTGGCGTTTTTGTTGCGGATGTCG
GGCAGGTAGAGCCTTCTGCCGAACAGGGTTTCGACGTAGCCTTGGGCGGCGGCTTGTTCT
TTGGTGCGCTGCATGTATTCGGCGACGCCGGGGTAGCGGGCGAAGTAGCGGTCGATAAAG
TTTTTGGCGGAAAGGTTGTCGATGCCCAATGATTTTGCCAAACCGTATTGCCCCATACCG
TAAATTAAGCCGAAGTTGATGCTTTTGGCATAGCGGCGTTGCTCGGACGAGACGTTTTCG
GGCGCAGTGCCGAACACTTCGGCGGCGGTGCGGCGGTGTACGTCTTCGCCGTTTTGGAAC
GCGGCAATCAGGGTTTTGTCGCCGGAGAGGTGCGCCATAATGCGCAGCTCGATTTGGGAA
TAGTCGGCGGAAACGATGACGCTGCCTTGCGGTGCGGTAAAGGCGCGGCGGGACTTTACGC
CCTTCTTCGGTACGGATGGGGATATTTTGCAGGTTGGGGTTGTTGCTGGCGGAGGCGGCCG
GTAATGGCGACGGCTTGGGCGTAGGTGGTATGCACGCGGCCGTCCTTGGGGGAAATCATT
TCGGGTAGTTTGTCGGTGTAGGTGGATTTGAGCTTCGCCAGGCTGCGGTTTTGCAGGATG
ATTTTAGGCAGGGGGTAGTCGGGCGCGAGCTGTTCGAGCACGGCTTCGTTGGTGGAAATG
CCGCCTTTGGCGGTTTTTTTTCAGGCCTTTGGTGGGGATGCCCATTTTGTCGAACAGGATT
TCTTGCAGCTGTTTGGGCGAATTGAGGTTGAACGGCTGGCCTGCGGCGGCATAGGCTTCC
TGTTCGAGCTTCATCAGCTCGGCGCCGAGTTCCGCGCTTTGGCGGGCGAGTTCGGCGCGG
TCGATTTGCACGCCGTTGCGTTCCATTTCAAACAATACCTGCGCGACGGGCAGCTCCATT
TTTTCATACATTTCAAGCTGTTTTTCGTCCATTTGCGCGCGCAGGTGCGCTTCGAGGCGC
AGGGCGAAATCGGCGTCTTGGGCGGCGTATTCGGTCGCCTGCCCGATGGCGACATCGGCA
AAACCGATTTGCTTCGCGCCTTTGCCGCACAGCGATTCGTAGGTAATGGTTTCCAAGCCG
AGCCAGCGTTCGGACAATTCGTCCAAGCCGTGTCCGAGATGGCTCTCGATGATGTAGGAA
GCGAGCATGGCGTCGCCGGCAATGCCGTTCAGGGCGATGCCGTAGTTGGCGAAAACGTGT
TGGTCGTATTTGAGGTTTTGCCCGATTTTTTTTAGGGCGGGGTTTCCCAAATGCGGTTTC
AGACGGCCTAATACGTCTTGTAAATCAAGCTGTTCAGGCGCGGCGGTCAGGCTGTGTCCT
ACGGGGATGTAAACCGCTTCGCCTGCTTGGAAAGCGATGCTGATGCCGACCAGCGAGGCG
TTCATCGCGTCTAATGACGTGGTTCCGTATCGATGCCGATTGTGTCCGCCCGCGACAGT
TTGTCCAACAAAGCGGCAAACTGCGCTTCGGTGGTAACGGCTTGATAATCCAGTTTTTCG
GGGGCGGTGGCTTTTTCGGCTTGTTTTTCAAACGGCATTTCCGCATTCAAAGCCGCCTGC
TCGCCGATGCTGTCGCTGCCGAACAAATCATCGGTCGAGCCGGTATTCATGTTTGATTCC
GCTTCTTTCAGCCAGGTGCGGAAGCCCCAGCGTTTGAAATCGACAACCAGCTGCGCCCAT
TTCGGCGTAGTACGGCGCAGGCTTTCGATGCCGTCTGAAAGCTCGGCGTGCAAGTCCACA
TCGGTTTTAATCGTGACCAAATCATACGACAGCGGCAGTTGGGGCAGCGCGGCTTGCAGG
TTTTCGCCCACTTTGCCCTTGATTTCCGAAGCGTGTTCCATCACACCAGCCAGCGAACCG
TAGGCTTCCAGCCATTTCACCGCCGTTTTCGGGCCGCATTTTTCCACGCCCGGCACGTTG
```

```
TCCACCTTGTCGCCCATCAGCGCGAGATAATCGCGGATTTGGTCGGGGCGCACGCCGAAT
TTTGCCTTCACGCCTTCAATGTCCAGCGTTTCGCTGCTCATCGTGTTCACCAGCGTAACG
CGCTCATCCACCAACTGCGCCATGTCCTTATCGCCGGTCGAAACAATGACTCGCAAACCA
TGTTCCGCCCCCTGTTTCGCCAGCGTGCCGATCACATCGTCCGCCTCCACCTGCCCAATC
ACCAATACCGGCCAGCCTGTCAGGCGCACTAAATCCGGCAGTGCTTCCGCCTGCGGGCGC
AAATCGTCGGGCATCGGCGGGCGCGTCGCCTTGTATTCTTCAAACATTTGATGGCGGAAA
TTTTTGCCTTTCGCATCAAAAACCACCGCGCAATAATCGTGCGGATATTCCGACCGCAAA
CGGCGCAACATATTCAATACACCATACAGCGCACCCGTCGGCGCGCCGTCGGGGGCGGTC
AGGTTTTGCCCCATCGCGTGATACGCACGGTAGAGGTAGGACGATCCGTCAACGAGGAGG
AGTGTAGGTCTGTTGGACATAAAAAACCCGCTTAAAACCGATAAGGGACAGAAAAAAATA
GGGAAGGACGATGCCGGCTTAAAACCCGCCCCCGGACAACCCCGGATTATAACGGAAAG
GCAAATGCCGTCTGAAACCCTTGTTCAGACGGCATTTTTGGCGGATTAGGCGTTCAGCAG
CCCTTCATCCAGCGTCAGCTCTTCATTTTTGTTCACCGCCACTTTGCGCGCCAACACGTT
TTGCGCGATTTGCTGCGCTTCGGCGAGCGAGTGCATTTGATAAGTGCCGCATTGGTATTC
GTTCAACTCGGGGATTTTGCTTTGGTCTTTGACATTCAAAACATCCTGCATCGAAGCCAG
CCACGCATCGGCGACCTGCTGTTCGGAAGGCGTGCCGATAAGACTCATATAAAAACCGGT
GCGGCAGCCCATCGGGGAAATGTCGATGATTTCCACGCCGTTGCCGTTCAAGTGGTCGCG
CATAAAACCTGCGAACAAATGCTCCAGCGTGTGTATGCCTTTTCCAGGCAGGATTTCTTT
GTTGGGAACGCAAAAGCGCAGGTCAAACACGGTAATGGTGTCGCCTTTGGGCGTAGTCAT
GGTTTTCGCCACGCGTACGGCGGGGGCATGCATACGGGTGTGATCGACTTTGAAACTGTC
TAGTAGGGGCATTTGGGTATCCTTTTGTGAGGGTTATGTAGATTTTCGGGATAGGATTTT
GTCCAGCAATTCATCATCCAAGACGCGGTTTTCGACTTTCACCCATTCGCCGCCTGCTTC
AGGGAAGCCGTTGCGGCAATATCCTGCCTGTTCGACAAAATCATAGACGGCATGAATGTA
GTCGTTGATACACAATGCGGCTATGGTGCAGGCATCATCCCATAAAATCAAGACATGATT
GGGGATATGTTTGTCGGATACATCTTCGACATTATAGATGTGCAAGGCATCTAAAATCCC
GTCTTGCGAAGCGGCATAGAAGTAGCCTGTGTCGCCGTCGTCTTCAAAGACGACACCATA
AGGGATATGTTTGGAAAATGATTCTAAAACTTTAGGCGTGCCGACAGTAAAGTCTTTGAT
TTCAGAAGTCAGATATAGCGGTAATTGTGCCATTGGGTAACGCTCTCTTTAGTGAATTTT
ATATTAATTTTGATATTCCATAGTTCACTAAAAATCCACCAACCACTAGCCATAAATAAG
TTAGTATTCCTAAAACAAACGGTTTTAATCCTGCCTTTTTGATTGCGCTTGCTTGCGTCG
TTAAGCCAAGCGCAGCCATTGATGAAATTAATAAGAAAGAATCGATTTCAACGAATAATT
TCACGAGTTCTTTTGGTAATAAATCAAAGAATTAAAAATGGCAACACCAATAAAAAGTA
CAGCAAACCAAGGAATTGTAATTTTGTGTGATGTATTTTCTGATACTCCATTACTACGTG
TTAATAACCAAGAAAGCATTAATAAAAAGGGGGCGAGCATCATCACTCGGATCATTTTGG
AAATGACGGCAGTATTCGCCACGATAGGATCAATATTTTCCCCAATCGCATACACTTGAG
CCACTTCGTGTACACTAGAACCAACCAACATAAATACCGAATTGATGGGCGTTAATTAAATGTT
GTGACCACGTGTAGAACAAGGGGTAAGTAAAAATAGCAAGCGTCCCGAAAATGACCACTA
CGGCAATCGCCACTGAAACTTTATGGGATTCTGCTTTAGTAACAGGCTCTGCCGCCATCA
CTGCTGCCGCACCGCAAATGCTGCAACCTGCCCCAGTGAGATAAACCAATTGTTTATCCA
TTTTTAGATAACGAATGCCTAAAAGTGCGGTAAAAAGAAGGTTGAAATTAGCATGATTG
CATCAGTGACAACCGCATTTAATCCTACATCGGCAATATCGCCAAAAGTGAGGCGAAAAC
CATACAACACAATGCCAGTGCGAAGAAGCGCGCCTTTGGCAAACAAAACGCCTTTTTCCA
CTTGTGTCGAAAATTGCGGATAAATGGTATTGCCGATTGCCATTCCCAGCAAGATAGCAA
TAATTAAAGCACTGATATGATAATGATGGGAAAAATCAGTGTTTCCTAAATAGTTAGCAA
GTATAGCGATAATCGCGATAAATATCAGTCCGAAATAAAAGGGACGTGTGTTCATTTTTT
CTTTCCGTGATAACACCCAAATCACAATTCCGCAATTTCCACCGCTTCGCCCGAAGCCGC
GCTCAGGGCTTCGTTTAAAACGTCATAAAAATCGCGTCCGTCGCGCGTTGCCAGCCATTT
GCCGTTTTGCTCGGCGAAATGGTAGCCGCCGCTTTTTGCGGCAATCCACAATTCCTGATT
GGGCGTGTGGCGGTTGACGATGATTTGGGCGCCGTCTCCGGCTTCGATGGTCAGGACGTT
TCCGGCAAACCGGCAGTCGAAATCCCAGCCGTTTTCGTCGATTTGGTCTTCGATGTGTTC
AAATAATGCTTCGCTCGCGCGGATAAACTCGCTTTCGGTCATCATAGCTTTTTGCGTGTT
TTTTGTTTAAGATGCCGAATCTTGCCACATTCGCGCTTATGAAGGAAGTTTACCGATGAA
ATACGGCGTATTTTTTGCGGCGGCAACCGCCCTCCTGCTCTCGGCCTGCGGTTACAAAGG
CGACCTCTACCTGCCCAAAGAAGGCGACAAGGCGCGTTTCGGCGTAATCCAAACCGGTTT
GCAACTTCAAAGCAAACCGCAATCCGCTCCACAAACCCAAAAATGAAAACGAAAACATGA
CCCTATTTTGCGAACAAGTCCCCTACCCCCGCCTTGCTGAAGCATTCGGCACACCGCTTT
ATGTGTACAGCCAATCCGCGCTGACCGAAGCATTTGAACACTACCAAACCGCGTTTGCCG
```

-300-

```
CTTTGAACCCGCTCGTCTGTTACGCCGTCAAGGCAAACGGCAATCTGAGCATTATCAAAC
ACTTCGCCTCGCTGGGCAGCGGTTTTGACATTGTGTCCGGCGGCGAATTGGCACGCGTTT
TGGCGGCAGGCGGCGACGCGGCAAAAACCATATTTTCAGGCGTAGGCAAAAGCGAGGCGG
AAATCGAGTTCGCGCTGAATGCAGGCGTGAAATGCTTCAATATGGAAAGCATCCCCGAAA
TCGACCGTATTCAGAAAGTTGCCGCACGTTTGGGTAAAACCGCGCCCGTCTCCCTGCGCA
TCAACCCCGATGTCGATGCAAAAACCCATCCCTACATCTCCACAGGTCTGAAAGCCAACA
AATTCGGCATCGCCTACGCCGACGCGCTCGAAGCCTACCACTATGCCGCACAACAGCCCA
ATTTGAAAATCATCGGCATCGACTGCCACATCGGTTCGCAACTGACCGACTTAAGCCCGC
TGGTCGAAGCCTGCGAGCGCATTTTGATTTTGGTTGACGCGCTTGCCGCCGAAGGCATTG
TTTTGGAACATTTAGACTTAGGCGGCGGCGTCGGCATTGTTTACCAAGACGAAAATGTGC
CTGATTTGGGCGCGTATGCCCAAGCCGTTCAAAAACTGATCGGCACACGCCGTCTGAAAC
TCATTCTTGAGCCCGGCCGCAGCCTGGTCGGCAACGCAGGTTCGCTGCTGACACGCGTCG
AGTTTGTCAAATACGGCGAAGAGAAAAACTTTGTGATGGTCGATGCGGCGATGAACGATT
TGATGCGCCCGGCGCTTTATGATGCCTATCATCACATCGAGGCGGTCGAAACCAAAGACA
TCGCGACGCTGACCGCCAACATCGTCGGTCCGATTTGCGAAACCGGCGACTTCCTCGGCA
AAGACCGCACCATCGCCTGCGAAGAAGGGGATTTGCTGCTTATCCGCAGCGCGGGCGCAT
ACGGGGCCAGTATGGCGAGCAATTACAACGCGCGCAACCGTGCGGCAGAGGTGTTGGTGG
ACGGCAACGAATACCGACTCATCCGCCGGCGCGAAACCTTGGAACAGCAAATGGCAAACG
AACTCGCCTGCCTGCAAGCCGAACATCAAAATGCCGTCTGAAGCGGTTCAGACGGCATTT
TTAACGCTCTAAAGGCTTACTCGTTCGGCAGCCTTAACAGGGAAAGCAGCAGCCCTCCCC
AGATTATCACGATTGAGACAATCATCATCACAATGGCGGAAGTACTCATTTTTCTTCTCC
TTGTTCATGTTCGTGTTCGTCTTTGACGTTGAAATCCTGACCGTGTTTCCAAGGCAGCAA
CGACAGCAGCAGCCCGAACACGACCAACGCCGCCGACATCCCCCAGCCGAAAATACTGAG
GAAACCATCCGGATAACCTTCGTAATTTTTCTCCATCAGGCCGCTGGTATCTTTAAACAG
CATATAGCCGAGCATCACGACGGTAACCACGACGCAGACCGTCCACAAGCCGCCGATGCG
GATGGAGGACAAAGCGTTCAGGTGCTTGCGTAATTCCGGCAGCCTGCCGCTGATGATGAT
GGCGGCAACATAAACAAAGCCGGCGGCAACAATGCCGTAGGTGTTGACGAATTTGTCCAT
CACGTCCAAAACCGGCAGCCCCGTCGCCGTACCGAACAGCAGCGTGGAAACAATGCCCAT
CGGAATGCAGACCAGCAGCGTGGCGTTGACGCGCCCGATGTTCAGCTTGTCCTGAATCGC
CGCCACAATCACTTCAAGGATGGAAATCATCGACGTAACGCCGGCGAACACCAGCGAACC
GAAAACAATATGCCGATCAGCCAGCCCATCGGTGCCTGGTTGATAATGGTCGGAAAGGC
GATAAACGCCAAACCGATGCCGCCTGAGGCAACCTCGTTGACCGCCTTACCGCCCGCnTG
CGCCATAAAGCCCAATGCGGCAAACACGCCGATGCCCGCGAGCAGTTCAAAGCTGCTGTT
GGCAAAACCGACCACCAGCCCGTTCCGCCCAAGTCGGTTTTTTTCTTCAAATAAGAAGA
ATAGGTAACCATAATGCCGAAGCAGATGGAAAGCGAAAGAAAATCTGCCCGTATGCCGC
CACCCAGACCTTGGAATCGGCGAGTTTCGACCAGTCGGGCGTAAACAATGCGTCCAAGCC
CTTTGCCGCACCCGGCAGGGTTAGTGAAATGCCGACCATAATCAAAAACATCACCAAAAG
CAGCGGCATAAAGAACGACGAGGCGCGCGCCACGCCCTTTTGCACGCCCAACGCCATAAT
GGCGGCGGTAAAAAACCCACACGCCCGCCAAAGGACCGGCGACTTTGCCGACAAAATCCAA
ACCCAAGGCTTCCGGGCCCGCCATTTGCAGGAAGTCCTTAAAGAAAAAAACCCTGCGGATC
CGCACCCCAGGCGGCGTTGACCGAATAATAGGTATAGCTTGCCGCCCAACCGATAATTAC
CGCGTAATAGATGCAGATGACGATATTGGTCATCACGTTCCACCAGCCGACCGGCTCAAA
CCATCGTCCGAGGCGGCGGAAAGCCAAGGGCGCAGAACCACGGTAACGGTGGCCGATGGC
ATAATCGAGCAGCAGCAGCGGGATGCCCGCCGTCAGAAGCGCGACCAGATAGGGCAGGAT
GAACGCGCCGCCGCCGTTTTCAAAAGCAATATAGGGGAAACGCCAAATATTGCCCAAGCC
GACGGCGGACCCGATGGCGGCAATCATAAACGCGCGGCGCGTGCCGAATGTGGCGCGTTC
TTTCGTCTTGGAATCAGACACGTTGATACCTCTTGAATTATTTATTAAAAACAAGCCATT
ATAGGCGAAATATATAGAAATAGCGTCTGACAGGGATAATGTCTTCTGAAAAAACAAACC
GGCTTGTGGCCGATTGTTTACAATCTATGTGCTTATCGTAAAAAAATTTAACGCTGATGG
CAAGCGGTGAAGGCTTGAAAACGAAAATTTTAGGGGCTGTACTAGATTAGCCCTAAATC
CCACACCAATCCCGCAGGATTTTAAGCTGTTGAGACGGTGTGCCGAAGTTAAATCGAAAT
TCGCATTCTTTCAAGAACAGCGGGAAAGATTTACGATCGATTCCATTGTATTTTCGCAAG
ACACGTTTTGCCTGATTCCAAAAATTCTCAATGCCGTTAATGTGGTTCTGACGGTCTGCA
AATcCTTGGAAwGGkTGATGCGGtaTaAATGAAACCGCTCActcCAAcTTGTCGCArCTG
CTCAGACTATCGGTATAAACAATACTGTCCGGCATGATTTTCTTCTTGATGACAGGGAGT
AACGTTTCAGACTTGGCATTATCCACCACAACGGTATAGACCCGTCCGTTGCGTTTCAGA
ATGCCGAAGACAACACTT
```

-301-

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 26>:

gnm_26

```
      TGCTGCACAACTGGGCGTAAACGAAGCCGACGTGAAAAACGAATCTTCCTTCCAAGACGA
 5    CTTGGGCGCGGATTCTTTGGACACCGTGGAGCTGGTTATGGCTTTGGAAGAAGCATTCGG
      CTGCGAAATCCCCGACGAAGATGCCGAAAAAATCACCACCGTCCAACTGGCTATCGACTA
      CATCAATGCCCACAACGGCTAACCGGTCGTCGCCCGACACAACAGCCTCTGCTGCACCGC
      GCAATAGAGGCTTTTCCCTTATATGGCAAACTGTTTGAACCCCTGCCGCAAATTACAGAC
      GGCATCTGCACGACAGCCGCATATGCCCCCATTCCGACAACCAACAGCGAGGTTATCATG
10    AGTCAGAGAAGAGTAGTCATTACAGGCTTAGGTCAGGTTTCCCCTGTCGGCAACACTGTC
      GCAGAGGCTTGGGACACCCTGCTCACCGGCAAAAGCGGCATCGGCGCGATTACCCGCTTT
      GACACATCCGACATCAACAGCCGTGTCGCCGGCGAGGTGCGCGGTTTCGACATCGGACAA
      TACATCAGCGCGAAAGAAGCGCGCCGGATGGACGTATTCATCCACTACGGCATTGCCGCC
      GCATTGCAGGCAATCGCCGATTCGGGTTTGGACGATGTGGAAAACCTCGACAAAGACCGC
15    ATCGGCGTGAACATCGGTTCCGGCATCGGCGGACTGCCCGGCATCGAGGTCACCGGCAAA
      GCCGTAATCGAAGGCGGCGCGCGCAAAATCAACCCTTTCTTTATCCCCGGTTCTCTGATT
      AATCTGATTTCCGGACACGTTACCATCCTCAAAGGCTACCGCGGCCCGAGCTACGGGATG
      GTTTCCGCCTGCACCACCGGCGCGCACGCCATCGGCGATTCCCTCCGTATGATTAAATAC
      GGCGACGCGGACATAATGGTTGCCGGCGGCGCGGAAGGCGCAATCAGCACTTTGGGCGTG
20    GGCGGTTTTGCCGCGATGAAAGCCCTCTCCACCCGCAACGACGACCCCGCCACCGCTTCC
      CGTCCGTGGGACAAAGGCCGCGACGGCTTCGTTATCGGCGAAGGCGCGGGCATATTGGTG
      TTGGAAGAATTGGAACACGCCAAAAAACGCGGCGCGAAAATCTACGCCGAAATCGTCGGC
      TTCGGCATGAGTTCCGATGCTTACCATATCACCGCGCCGAACGAAGAAGGCCCCGCCCTT
      GCCGTTACCCGCGCGCTGAAAGATGCCGGCATCAATCCCGAAGACGTGGATTACGTCAAC
25    GCGCACGGCACGTCCACCCCCTTGGGCGATGCCAACGAAACCAAAGCCCTCAAACGCGCG
      TTCGGCGAACACGCCTACAAAACCGTCGTCAGCTCGACCAAATCCATGACCGGCCACCTG
      CTCGGCGCGGCGGGCGGCGTGGAGGCCGTGTACAGCATTTTGGCGATACACGACGGCAAA
      ATCCCGCCGACCATCAACATTTTTGAACAAGACGTTGAAGCCGGCTGCGATTTGGACTAC
      TGCGCCAACGAAGCGCGCGACGCGGAAATCGACGTTGCCATTTCCAACTCCTTCGGCTTC
30    GGCGGCACCAACGGCACGCTGGTCTTCAAACGCTTCAAAGGCTGATTCCGCAAAGCCGCC
      GCCGACATCGAAATGCCGTCTGAAACCGTTTCAGACGGCATTTTTATAGTGATTAACAAA
      AATCAGGACAAGGCGGCGAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGT
      GCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGGGGCAACGCCGTACCGGTT
      TTTGTTAATCCACTATAATACGCAGGCAAACCCAAGCCTTGCTGGGTTACAGGATGAAAC
35    CCTGCCGTAGCAGACCGCATTTCCAATCCATATTCAAGGTGTCCGCCTTATGAAAATCGT
      TTTTATCACAACAGTCGCATCCAGCATTTACGGTTTCCGCGCCCCCGTCATTAAAAAATT
      AATCGGCAAAAACCATCAGGTGTATGCCTTTGTATCGGAGTTTTCCGACAATGAATTGGA
      TATTATCAGGGAAATGGGGGTTACACCCGTTACCTACCGTTCAAACCGCAGCGGGCTGAA
      CCCGTTTTCGGATATAAAATCCACCTTCCTCATCTTTAAAGAACTCAAAAAAATATCGCC
40    GGATTTGGTTTTCCCTTATTTCGCAAAACCCGTGATTTTCGGCACTTTTGCCGCAAAACT
      GGCAGGCGTGCCCAGAATCGTCGGGATGCTGGAAGGTTTGGGATTCGCATTTACCCCGCA
      GCCGGAAGGCATACCGTTAAAAACAAAAATCATAAAGGGGATTTTGATTGCCTTATACCG
      CATTGCCCTGCCGATGTTGGAAAGCCTGATTGTATTAAACCCCGACGACAAAGACGAACT
      GACGGACAAATACGGCATCAAAATAAAAAACATCCATATTTTGGGCGGAATCGGTCTGGA
45    TTTGCGGCAATATCCTTATTCCGAGGCGGATATTCCCGATGAAAAAGAACCCGTAAAATT
      CCTCTTTATCGGCAGATTTCTGAAAGAAAAGGGGATTGATGATTTTATTCGGGCGGCGGA
      ACAGGTTAAGGACAAATACCCCGATACGGTTTTTACCGCTTTGGGCGCAATCGACAAATC
      ACGCGGGGGGGGGGGCGATTTGGAACGGCTTGCCGCCCGCGATATTATCCGTTTCCCCGG
      TTTTGTGAACAATGTTTCCGAAGTGATAAAAGAACATCATATATTCGTATTGCCGTCTTA
50    TTATAGGGAAGGCGTTCCCCGAAGCACTCAGGAGGCAATGGCCGTCGGCAGGGCAGTGAT
      TACGACGGATGTCCCCGGATGCAGGGAAACGGTCGCCGACAAGGTCAACGGCTTCCTGAT
      CGAGCCTTGGAATCCCCGCATCTTGGCCGAAAAAATGATTTATTTTATCGAAAACAGGGA
      AGCCGTCCGCCTGATGGGGAATGCAAGTTATGCGATTGCCAAAGATAAATTCGATGCCGA
      AAAAGTCGATTTGAAATTGCTCGATATTTTGAAGGCGTAAACAAGGCTGCCCGCTTTTGA
```

```
GTTTCGGTCATTTCTGATAAACCCCCGTCATTCCCGCCACACCCCCGTCATTCCCTCGAA
AGCGGGAATTCAGGTTCGTTTAGTTTCGGTCATTTCCGATAAATTCTTGCAACTTTGCGT
TTCTAGATTCCCACTTTCGTGGGAATGACGGCGGAGGGTTGCTGTTTTCCTGACAAATTC
CCGCCATCTAAAATCTCGTTATCCATACAAGAACCGAAATCTTGCCATTCTCACAAAAA
CAGAAATTCAAAAACAGAAATCCCAAACCCTCGTCATTCCCGCGAAAGCGGGAATCCAGG
TTCGTTGAGTTTCGGTCATTTCCGATAAATTCTTGCAACTTTGCGTTTCTAGATTCCCAC
TTTCGTGGGAATGACGGTAAAGATTGAGACCTTTGCAATAACATAGGTTACTAAAATTTT
ATGCTCAATCTCATTTTCAAAATGCAAAACTTTTCTGATTTCTCCTACTTTTTGCTCAAT
ATTAGGAAGGTTTTAGGCAATTGAAAATTTTTGGCGCATTTTTATGCGTCAAATTTCGT
TAACAGATTATTTTTGCAAAGGTCTCAGATTGCTGTTTTCCCGACAAATTCCCGCCATCT
AAAATCTCGTTATCCATACAAGAACCGAAATCTTGCCATTCTCACAAAAACAGAAATTC
AAAAACAGAAATCCCAAACCCTCGTCATTCCCGCCAAACCCCGTCATTCCCGCGAAAGC
GGGAATCCAGGTTCGTTGAGTTTCGGTCATTTCCGATAAACTCTTGCAGCTTTGCGTTTC
TAGATTCCCTCTTTCGCGGGAATGACGGGATGCAGGTTTCCGCGCGGACGGATTCGGCAT
TCCCGCTTTCGCAGAAATGCCGGCTTTTGGTTTGTTGTCTTTATAAGATTATTCGGCAAT
TATTCTGCGGTTTTGCGTTTGTGTGCTGCCGGAATCTCAAAGGATTCTCTGTATTTGGCA
ATGGTGCGGCGAGAAACCTCCATGCCGCGGAAAGCCAGCAGGTTGGCGAGCGCCTCGTCA
GAATACGGCGTGGGCGTGGACGAGGCAAAACCGGCGGCGGGAAAGGGATTGAGCGAAGCA
ATGAGGTCGAGTGCGGCTTCGAGTGTGCCGCTGTCGGTTTGGGGCAGGTGTTTTTTTATT
CGTGCGAGGGTTTGGCTGCGGTTGCCGTCAATGCTGTCGAGGGCGTTTCGGACGATATGC
AGGGCGGCGGGTTTGGCAGCACATTCGCCCAATCTTTCTATCTGCAGTATCAGCGATTCG
TTCAAATCGGCGGCGGCCACGCCTGCCGGGTCGAATTTTTTCAATGCGGTCAGCGCGTGT
TGCAGCATTGCTTCATCCAACATCCACTCTAAGGGCGTATGGTCGAGGATGTCTTCGATG
CTGTCGGTCAGATAACCCTGCTCGTCAAGGAAATCGATAAGGATGTGGACACAGGCGGCT
TCTTGGTCGGAAAGCGGGTGTTCGCATACTTGCGCGTGCAGGTATTGCTTGAAATCCTGC
TCGCCGGCGATGTTGGACAGCATATCTTCGCCTTCGTCTCCGCCGATTTGACGGGCAGGC
GCAGTGTAATGGCTGAACTCGGCATCGGAAAATTCATCCGTGTCTTTGCGTTCGAGCAGG
GGGTTGTCCGACAGCCAGTTTTCGACCTCGCGTTCAAGTTCGATACCCGACATCTGCAAT
ACGCGCAAAGATTGTTGCAGCCGCTGGTTGAGCTGCTGGGTCTGTTTGAGCTTTATTCCG
AGTAAGGTCATGATAATGTGGGGAAAATTGTTATTTTCAGCCTGTCGGCGCAAAAAATGC
CGCAAAGCGTCATTGCATTATAAATGGTTTTAATGAGCGGGTTCGGATTCCGTTCGATAA
CAAAAAACAAACGAAATCAAGAACCGATTGCTTATAATAATATTAAATCGATTTCATAG
TTTTAATAGCGAAAATCTTGGCGTATAGTCGCATCCATAGTTTTTACAAAAGGGAAATAA
AATGTCGATTCAAGAAATTTATTGCAATCAAGAAACCGGTTACGAATACGCTTTCCGCCA
AATCGTACTGTAAGCCGTTTACCCCCATTTGACCAACCTGAGAAAAGGAACAAGAGCGAT
GACTACCTCCAAATGCCCTGTAACCCATCTGACCATGAACAACGGCGCGCCTGTTGCCGA
CAATCAAAACAGCCTGACCGCCGGTCCTCGCGGCCCTCTGCTGGCGCAGGATTTGTGGCT
GAATGAAAAACTCGCCGACTTCGTGCGCGAAGTCATCCCCGAACGCCGTATGCACGCCAA
AGGTTCGGGCGCGTTCGGTACGTTTACCGTAACGCACGACATCACCAAATACACCCGCGC
CAAAATCTTCAGCGAAGTCGGCAAAAAAACCGAGATGTTCGCCCGTTTCACCACCGTGGC
AGGCGAACGCGGCGCAGCCGATGCAGAACGCGACATCCGCGGTTTTGCCTTGAAATTTTA
TACCGAAGAAGGCAACTGGATGTGGTCGGCAACAACACGCCCGTGTTCTTCCTGCGCGA
CCCGCGTAAGTTCCCCGACCTGAACAAAGCCGTCAAACGCGACCCGCGCACCAATATGCG
CTCTGCCACAAACAACTGGGACTTCTGGACGCTGCTGCCCGAAGCACTGCACCAAGTTAC
CATCGTGATGAGCGACCGCGGCATCCCCGCCGGCTACCGCCATATGCACGGCTTCGGTTC
GCATACCTACAGCTTCTGGAACGAAGCAGGCGAGCGTTTTTGGGTGAAATTCCATTTCCG
CACCCAACAAGGCATTAAAAACCTGACCAACGAAGAAGCCGCCAAAATCATCGCCGACGA
CCGCGAAAGCCATCAGCGCGACTTATACGAAGCCATCGAACGCGGCGAGTTTCCGAAATG
GACGATGTACATCCAAGTCATGCCTGAAGCAGACGCGGAAAAAGTACCTTATCATCCGTT
TGACTTGACCAAAGTTTGGCCGAAAAAAGACTATCCGCTGATTGAAGTGGGCGAATTCGA
GTTGAACCGCAATCCCGAAAACTTCTTCGCCGATGTGGAACAATCCGCCTTCGCACCGAG
CAACCTCGTTCCCGGTGTCGGCGCCAGCCCAGATAAAATGCTGCAAGCGCGTTTGTTCAA
TTACGCCGACGCACAACGCTACCGTTTGGGCGTAAACTTCCGCCAAATTCCCGTCAATCG
TCCGCGTTGCCCTGTTCACAGCAACCAGCGCGACGGGCAAGGCCGCGCCGACGGCAACTA
CGGCAGCCTGCCGCACTACGAACCCAACAGCTTCGGCCAATGGCAGCAACAACCCGACTT
CGCCGAACCGCCTTTGAAAATCAACGGCGACGCGGCACACTGGGACTACCGCCAAGACGA
TGACGACTATTTCAGCCAACCGCGCGCCCTGTTCAACCTGATGAACGACGCGCAGAAACA
```

```
GGCATTGTTCGGCAACACCGCCGCCGCAATGGGCGACGCGCCCGACTTCATCAAATACCG
CCATATCCGCAACTGCTACCGTTGCGACCCGGCATACGGCGAAGGCGTGGCCAAAGCCCT
TGGACTGACTGTCGAAGATGCCCAAGCCGCCCGCGCGACCGATCCCGCACTGGGTCAGGC
TGGTTTGCTGTAAGGGGGCATTATGTGGATGGAAATTGAAGAAATCCTGTCCCGCGCCGT
CCGCTATCGGAAATAACCGGGCATAAAAATGCCGTCTGAAACATTGTCCGACCGTTTCAG
ACGGCATTCCCCCATCCCGCCCCGCCGTTTCAGCGGGCGTTTTTTATTAAACGCAAAATA
TCCCGTCATTCCCACGAAAGTGGGAATCAAGGACTCGGGGTTGGAGAAACCGTTTTATCC
GATAAGTTTCCGCACCGACAACTCTGGATTCCCGCCTGCGCGGGAATGACGGGATTTCTG
TTTTTGATTTTTGTTTTTGCGGGAATGACGGGATGCGGGTTTTCGTGCGGCATTTTTGC
ATTTTTTTGCTTTTGCTATAATCCGCCCTTTTTGAGGACGGGTGCGGTATGGGTTTTTAT
GCTTTGCTCTTGATTGCTCTGGGGATGTCGATGGATGCGTTTGCCGTCGCATTGGCAAAG
GGTGCGGCGGTCAGAATGCCTCCGCGCAAAATTGCGGCAACGGCTTTGGTGTTCGGCACG
GTTGAAGCGCTCACGCCGCTGGCAGGCTGGGTAGGCGGTTTTTATGCCAAGCCGTTTATC
AGCGAATGGGACCATTGGGTGGCTTTCGTCCTGCTGGGCGGGCTGGGTCTGAAAATGATG
CGCGAAGGGCTGTCCGGCGAGGCGGAAGATGTGCGCGAAAGCAAACGGGAAAGCCTATGG
ATGACGGTTTTGACTGCTTTTGGAACCAGTATTGATTCCATGATAGTCGGGGTGGGCTTG
GCGTTTATGGAGGTAAACATCGCCTTTGCCGCCGCAATCATCGGTATGGCGACGACGGTG
ATGGTGGCGGTCGGGCTGACGGCGGGAAGGGCTTTGGGCGTATTGTTCGGCAGGTGTGCG
GAATTTGCCGGAGGTTTGGTGTTGATTGCCATCGGCACATGGACGCTCTTGTCGCATTTG
GGTTTGATTCAATGATGTCGGAAAATATAGTGGATTAACAAAAACCAGTACGTCGTTGCC
TCGCCTTGGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCC
GTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATA
AAATGCCGTCTGAAGCGTTGTTTGACCGTTTCAGACGGCATTTTTATCAAATTCAAAAAT
ATTCCGTCATTCCCGCGAAAGCGGGAATCTAGAACGTAAAATCTAAAGAAACCGTTTTAT
CCGATAAGTTTCCGCACCGACAGACCTGGATTCCCGCCTGCGCGGGAATGATGGGATTTC
TGTTTTTGATTTTTTTGTTTTTGGGGAATGACGGGATTTGAGATTGCGGGCATTTATCGG
GTAAAACGGAAATTAAACGTTGCGAAAATTTATCCGGAATCACAGCAACTTTTCCGCGTC
ATTCCCACGAAAGTGGGAATCTAGAACGTAAAATCTAAAGAAACCGTTTTTCCCGATAAG
TTTCTGCACCGACCGGTCTGGATTCCCGCCTGCGCGGGAATGACGGTGCGGATGTTTTTC
TATCGAATCCGCCATATTTTTTACTTCAACCCTGCCGTCAGACCGCGTTGTCGAAACCGC
TGTGGCGCAAGAGTGCGTCTATGCTCGGTTCGCGGCCGCGGAAGGCTTTGAAGGATTCTG
CCGCGCTGCGCGATCCGCCGACGGCGAGGATTTCCTGCCAAAAGCGTTTGCCTGTGGCGG
CGACATCGTCGCTTTCTTCAAAGGCGGCGTATGCGTCCGCGCTCAATACTTCCGCCCACG
CGTAGCTGTAATAGCCTGCGGAATAGCCGCCTGCGAAGATGTGGCCGAAGCTCAAGGCGA
AGCGGTTGTATTCGGGCGGCTGGATGACGGCGACTTTTTTGCGCACGCTGTCTAAAACCT
GTTGCCAGTTTTTCAGACGGCCTTCGTCGTCTTCGCTGTAAATCATCATATCAAAGAGGG
CGAACTCCATTTGCCGGACGAGGAACATGCCGCGTTGGAAGTTTTTGGCGGCGAGCATTT
TGTCGAAGAGTTCTTTCGGCAGGGGAACGCCGGTTTCTTCGTGGGCTGACATTTGTGCCA
AGACATTGTATTCCCAAACGAAATTTTCCATAAACTGGCTGGGCAGTTCGACCGCGTCCC
ATTCTACGCCGTTGATGCCGGATACGCCCAGTTCGTCCACTTGGGTAAGCAGGTGGTGCA
GCCCGTGTCCGGTTTCGTGGAAGAGGATGAGGATTTCGTCGTGGCTCAGGCGGGCTTCCC
TGCCGCCGACGGGTGGGGCGAAGTTGCAGACGAGGTAGGCGGTGGGCAGTTGCAGCGTGC
CGTCTGAAAAACGGCGGCGGCCTTTGTAGTCGTTCATCCACGCGCCGCCGCGTTTGCCTT
CGCGTGCGTACAAATCCATATAAACGCCGCCTATGGTTTCGCCGTTTTGTTGCAATTCAA
AATAGCGCACGTCTTTGTGCCAGACGGGGACGGTTTTTTCGGTAAATCCGATGCCGTAGA
GTTTTTTGATTTGGGCGAACAGTCCGTTTAATACTTTGCCGACGGGGAAGTATTTTTTGA
CTTCGGTTTCGTCGAACGCGTATTTGGCTTCGCGCAGTTTTTCGCTGGCGTAGCCCCAAGT
CCCACGGTTGCAAATCGGCGAGGTTCAGGCTTTCGCGGGCGAAGGCTTTGACTTCGGCGA
GGTCTTTTTCGGCGTAGGGTTGGCGCGGCGGGCGAGGTCGTGCAGGAAGTTTAAAAACTT
GTTCGGGCGTGTCCGCCATTTTGGTTGCCAGCGACAATTCGGCGTAGTTTTTGAAGCCGA
GCAGTTTGGCGGTTTGCAGGGCGTTTGCGAGCGTGCGGTCGATGTTGGCGGTGTTGTCGA
ATTTGCCGTCGTCTGAAAGTTCGCTGGCGCGGGTAACGTAGGCGCGGTAGATTTGTTCGC
GCAGTTCGCGGTTGTCGGCGTATTGGATGACGGCGAGGTAGTGTGGAATCTGCAAGCCGA
TTTTGTAGCCTGTTTTGCTTTCGCTTTGCGCGGCGGCGGCAAACATGGCGAGCGCGTCTT
CGGGAATGCCGGCAAGCGGTGCGGCATCGTCAAAGTAAATGCCGAACGCGTCGGTCGCGT
CTAGGACGTTTTGGGAGAATTTGGCGGAAAGTTGCGCGCCTTCGGTTTGCAGTTTTGCCA
GTTCTGCCTGCTGTTCGGGCGGCAGTTCCGCGCCGCTGAGGACGAAATCGCGCAGATCGT
```

-304-

```
GGTTGAGTTTGGTTTTTTGTGCGGGGGAGAGGGTGTCGAATTCGGGGGAATTTTTGATGG
TTTTGAAGCGGTTGTACAGCTCGATGTCTTGTCCGATTTCGGTGAAGAAGACGGTGATTT
CGGGCATCAGTTCGTTATAGACGGCGCGCAGTTCGGGCGTGTCGGCGACGGAGTTGAGGT
GCGACACCACGCCCCAAATCCTGCCGACGCGTTCGGTGATGCCGGTCAGGGGTTCGACAG
TGTTTGCCCAGCCGGTGTGCGTTGGGCTTTGATGGCGGCGATTTGTTCGCGCGCTTCGG
CGATGGCGGTTTGCAGGGCGGGTTTGATGTCTTCGGTTTTTGATTTGATCAAAACGGGGTT
CTTCGCCCAAATGGAGCAGTGCGTTGTCAGTCATAAGATGGGTTTCCTTTGCGTGTTGTG
TTTCAGACAGCATATCGGCAATATGCCGTCTGAAGCCGGAAATGGGGTCGGTCGGGGAAA
GTTAAAGTGTTTCGGAGCCGGCGGGGTGATTTAACAGGCGGTATTGTACGCGCAAAAATT
CGTCCATAACCGCCTGTTGGATTTCCAGCCGCTTTGAAACGGGGGAAGCGAAGCGGACGA
TGATGCGGTATGCCTTGTCATCGTACGGCACGCGGGTAACGCGCGGTCTGGCGGCGGGCG
TGATAAACAGTTTTTCCGCCTGCACGTTTTCCAAATsCCGTTGGATGGCGGGGATGTAGG
GCGCGCACAAGGGCTCGAGTACGGCTTTCAGACGGCATACGGCTTCATCCGAATCCAAAT
GGATGGGAACGGGGATTTCGACCGTATGGATGACATAGTCGCCCAAAATATTGTCGCGGC
GCACGGGGTGGCTCAACAACAGGCTGTTGGGGAAAGAAACGGTGGTTCCCGCAAGCTGTC
CGACCAAGGGGTTCGGACCGACCTGCATCATCAGCGTGTTCAACAGGTTGATGTCGACCA
CGCGCCCGCGCAGGCCGTTGATTTCGATATAGTCGCCGACCGAGTATTGCTGGGTGGCAG
ACCTTAAAATACTGCCCGACAGACACATAATCAGTTCCTTCGTCGCCACGACGACCGCCG
CCGCCACCGCAAACATCGACAAAGCCAGCGTTTGGATTTGCGCCGACCAGATAAATGCCA
GCGAAAACAGCACCAAAAGCAGCGTTATATTGCGGCTGGCAACCAAAAACCGCCGCTTGC
TTTCGATGCCGAAATCCGGATGCCGTTTGAAGTGGATATTCAACAGAAGGGCGCGCGCCA
GCAGCAAAGCCGCAACCGCCGCCACGGATTCGACCGCCTCCGCACGTATCGGGACGGCAC
CGAGCCAAGTGTCCAACATATTCCATATTTCCATTTCCGCGCCCCTGTCCGAAAAGTATA
GGGTGTAGATTTTAGTGGCAAAAAAACGCTTTGCCACTTTACGGGACAATCCCCGACCT
GATGCCGGAGGCAAACGTACCGTTTCATCTTTTCCCGGCGGCACACTGATGCGGATAACG
CTGAATTAGGCGGCAAAATCGGCTATAATACACAATTATATATGTCGTCCCGCCCGCTTT
TTCTACAAGGTGCGGACTTGTTTTGGCGGCATCGCAAAATCTTTTCAAAATCCGGCAAAA
AATATGACTGAACAAAAACACGAAGAATACGGCGCCGACAGCATTCAGGTGCTCGAAGGC
TTGGAAGCGGTACGCAAACGCCCCGGCATGTACATCGGCGACACGCAGGACGGCAGCGGT
CTGCACCACATGGTGTTCGAAGTATTGGACAACGCCATTGACGAAGCACTCGCCGGACAT
TGCGACAAAATCACGGTAACGATACACGCCGACCATTCCGTCAGCGTCGCCGACAACGGG
CGCGGTATGCCCACCGGCATCCACCCGAAAGAAGGACGCTCCGCCGCCGAAGTCATCATG
ACCGTATTGCACGCGGGCGGTAAATTCGACAACAACAGCTACAAAATCTCCGGCGGCCTG
CACGGCGTGGGCGTGTCCGTCGTCAACGCGCTGTCCGACTGGGTAACGCTGACCATCTAC
CGCGACGGCAAAGAACACTTCGTCCGCTTCGTGCGCGGCGAAACCGAAGAGCCGCTGAAA
ATTGTCGGCGATTCCGATAAAAAGGCACGACCGTGCGCTTCCTCGCCAGTACGGAAACC
TTCGGCAACGTCGAATACAGCTTCGACATCCTTGCCAAACGCATCCGCGAACTTTCCTTC
CTGAACAACGGCGTGGACATCGAATTGACCGACGAGCGCGACGGCAAACACGAAAGCTTC
GCCCTTTCCGGCGGCGTGGCGGGTTTCGTGCAATACATGAACCGCAAAAAAACGCCGTTG
CACGAAAAAATCTTCTACGCGTTCGGCGAAAAAGACGGCATGAGCGTCGAATGCGCGATG
CAATGGAATGACAGCTATCAAGAAAGCGTGCAGTGTTTCACCAACAACATCCCGCAACGT
GATGGCGGTACTCACCTGACCGCACTGCGCCAAGTGATGACCCGCACCATCAACAACTAT
ATCGAAGCCAACGAAGTCGCCAAAAAAGCCAAAGTGGAAACCGCAGGCGACGATATGCGC
GAGGGTTTGACCTGCGTGTTGTCCGTCAAACTGCCCGACCCCAAATTCTCGTCCCAAACC
AAAGACAAACTGGTTTCCGGCGAAATCGGCCCCGTTGTCAACGAAGTCATCAGCCAAGCC
CTGACCGACTTCCTCGAAGAAAATCCGAACGAAGCCAAAATCATCACCGGCAAAATCGTC
GATGCCGCCCGCGCGCGCGAAGCCGCCCGCAAAGCACGCGAAATCACCCGCCGCAAAGGC
GTGATGGACGGCTTGGGACTGCCCGGCAAACTCGCCGACTGCCAAGAAAAAGACCCTGCC
CTGTCCGAACTCTACCTCGTCGAGGGCGACTCCGCAGGCGGTTCCGCCATGCAAGGCCGC
GACCGCAAATTCCAAGCGATTTTGCCGCTCAAAGGTAAAATTTTGAACGTCGAAAAAGCA
CGTTTTGAAAAAATGCTGGCCAGCCAAGAAGTCGCCACGCTGATTACCGCTTTGGGCGCG
GGCATCGGCAAAGAAGAATTCAATGCCGAAAAACTGCGTTACCACCGCATCATCATCATG
ACCGATGCCGACGTGGACGGCGCGCACATCCGCACCCTGCTCCTGACCTTCTTCTACCGC
CAAATGCCCGAGCTGGTCGAGCGCGGCTACATCTATATCGCCCAGCCGCCCTTTGTATAAA
GCGAAATACGGCAAACAGGAACGTTACCTCAAGGACGAGTTGGAAAAAGACCAATGGCTG
CTCGGTCTTGCCTTGGAAAAAGCCAAAATCATTTCAGACGGCCGCACCATCGAAGGCGCA
GAACTTGCCGACACCGCCAAACAATTCCTGTTGGCAAAAAACCGTCATCGAACAGGAAAGC
```

```
      CGCTTCGTAGACGAACTCGTCCTGCGCGCCATGCTACACGCGTCGCCCATTGATTTGACG
      TCGTCTGAAAACGCCGATAAAGCCGTTGCCGAACTTTCCGGTCTGCTTGACGAAAAAGAA
      GTCGCCCTCGAACGCATCGAAGGTCATGAAGGACACCGGTTCATCAAAATCACGCGCAAG
      CTGCACGGCAACGTCATGGTCAGCTACATCGAACCCAAGTTCCTCAACAGCAAAGCCTAC
   5  CAAACCCTCACCCAAACCGCCGCCGCGCTCAAAGGCATGGTCGGCGAGGGTGCCAAGCTT
      TACAAAGGCGAAAACGGGTACGACGCGGACAGCTTTGAAACCGCTTTGGACATCTTGATG
      AGCGTTGCCCAAAAAGGTATGTCCATCCAACGATACAAAGGCTTGGGCGAGATGAACCCC
      GAGCAGCTGTGGGAAACCACGATGGATCCCGCCGTGCGCCGCCTGTTGAAAGTGCGCATC
      GAAGATGCCATTGCCGCCGACGAAGTGTTCGTTACGCTGATGGGCGACGAGGTCGAGCCG
  10  CGCCGTGCCTTTATCGAAACAACGCGCTGATTGCCCAAAATATCGACGCATAAGTGCCG
      TTTTAAAAAAGGAGACGGGCATCGTGCCGCGTCTCCTTTTTGGTTGGTCAAACGGAACCT
      GTGCCGTCTGAAAAACCGTCGGAGCAAAATATGATCAGCATTTTCGATATTTTCAAAATC
      GGTATCGGGCCTTCCAGTTCGCATACGGTCGGCCCGATGAAGGCAGCCGCCGCCTTTGCG
      GCAGGTTTGGATGCACAGGCTGTTCGCATCGTCATCGACATTTACGGCTCGCTCGCACTG
  15  ACCGGATACGGACACGGTACATTTGACGCGCTGATGCTCGGTTTGGAAGGCAGCCTGCCG
      CACGACATCCCGCTTGCCGGCATTCCCGAACGCCTCGAACGCATCCGCACGCAGCACATC
      CTCCGGCTCAACGGGCAAGAAATCCGCTTCATCCCCGACCGCGACCTGAACATACTCGGC
      AATCAAGTGCTGCCCAAACACCCCAACAGCCTGCGTTTTACCGCCTATGCTTCAGACGGC
      ACGGTATTGAATGAACAGGTTTATTATTCGGTCGGCGGCGGCTTTGTCGTTACCGAAGAA
  20  GATTTTGACCGGCAGGCGGAAACGGAAAAAGCCGTTCCCTATCCCTATACCAGTTGCGCC
      GAACTGCTTGCCCGATGCCGTCTGAACCGGCTCGACATCTCCGAAGTCGTGTTGGCAAAC
      GAAGCCGCGCTTGCCGGATGCGGCGAAGCCGAAATCCGCCGCCGCGCCGCTGCCGTTGCC
      GAGGTTATGGAAGGCTGCATCAAACGCGGCTTGGGTGCGGACGGCGAACTGCCCAGCGGA
      TTGAACGTCCGCCGCCGCGCCCCGCAGCTTGCCGCCAAGCTCAAAGTCCTGCGCGAAACC
  25  GAAATCGTCAACACCCAGCTCTGGCCGATGGTGTACGCCATGGCGGTCAACGAAGAAAAC
      GCCGCCGGCGGACGCGTCGTTACCGCACCGACCAACGGCGCGGCAGGCATCATTCCCGCC
      GTATTGCACTATTTCCGCAAGTTCAATCCGCACGCCACACAGGAACGCGTCGAAAACTTC
      CTGCTCACCGCAGGCGCAATCGGCATCCTCTACAAGACCAACGCCTCCATTTCCGGTGCG
      GATGTCGGCTGTCAGGGCGAAGTCGGCGTAGCGTGTTCGATGGCGGCGGGCGCATACGCC
  30  GAAGTCATCGGCGGCACGCCCAAACAAGTGGAAAACGCCGCCGAAATGGCGATGGAACAC
      CATTTGGGGCTGACTTGCGACCCCGTCGGCGGACTGGTGCAAATCCCCTGCATCGAGCGC
      AACGGCATCGCCGCCGAAAAAGCCCTCAAACTCGGCACGCTCGCGCTTTTGGAAGACGGC
      ACGGACAAAAAAGTCTCGCTCGACGAAGTCATCCGAACCATGCTGCAAACCGGCCGGGAT
      ATGAAGGCGACCTACAAAGAAACCTCGCTTGCCGGACTCGCCGCCACGCTCCGGAAAAAA
  35  GCCGTCCCCGTATCCGTGCGCGTGGTCGAGTGCTGAGGATGGACAGAAACGAAAATGCCG
      TCTGAAAACAGTTTTTTAGACGGCATTTCATTTATTTCTTGCGGCTTTACCGTTTCAGTG
      CCAGCGTCAACACGCCCGCCGTAACCAGCCCCAAGCCTATCCATTCCTGCGTGTTCGGGC
      GTTCGTCTAAGAAAACCACCGCCATCAGGAATGCAAACCGGCGTTGTTTGCAGCATCCGG
      CAAGAATTTTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTA
  40  CAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGA
      GCTAAGGCGAGGCAACGCTGTACTGGTTTTTGTTAATCCACTATAAAAGGTCTTTTCTAA
      AATATGCAGAAATTCGAATATCGAATTTGCCTTATGATTACGGTTTTCTGTCTTATCTGC
      CTTAAAACGCCGGTATTCCGTTTGAACCAATTATATTTGCCGAAACGCTCAAAAATCTC
      CCTTACCTGCCCGACAGACATCAAGCCTTCGTTGTTGTAGCTGAGAAAATATATTGAAAG
  45  TCCGCATCCCTAATCAAAGCCTCAAATACCGGAATCACATGCGATTTTGAGCAAGTCCGC
      GCTAAAACACATCGTACAGCGCAAAACCGGATGGGAATGGCAAAATCCGGAAACAAACAT
      TTTTCAAAGCATACAAACAAAAAAATACCAACCGGAGGTTGGTATTCCTTAACTTTTGGC
      GCGGCGGACGGGGCTCGAACCCGCGACCCCCGGCGTGACAGGCCGGTACTCTAACCAACT
      GAGCTACCACCGCGCATCCATTGTTTGCAACAATGAAAGAAACTTGGTGGGTGATGACG
  50  GAGTCGAACCGCCGACATTCTGCTTGTAAGGCAGACGCTCTACCAACTGAGCTAATCACC
      CGTGTATAAAAAATACCGACAGAGTCAGTATTTTGAAACTTGGCGCGGCGGACGGGGCTC
      GAACCCGCGACCCCCGGCGTGACAGGCCGGTACTCTAACCAACTGAGCTACCACCGCGCA
      TCCATTGTTTGCAACAATGAAAGAAAACTTGGTGGGTGATGACGGAGTCGAACCGCCGAC
      ATTCTGCTTGTAAGGCAGACACTCTACCAACTGAGCTAATCACCCTTGCGATTTGCGAAA
  55  GCGTTATTAAACCAAATAACCGGAAATGGCGCAAGCCTTATTTCGGCATTTCATTTATAT
      TCCCTGCAAACTCCAGTTTTCAAAAGAGATAATTTCTTCTTTTTTGCCTGCGACCACCAA
      CACGTCACCGCCTTCCAATGTAAACGAGGCATCCGGGTTTTTCAATCCGGCCGGTGCGGCG
```

```
GCGGACGAACAAGAGTTTGATGCCGTAAGCCGCCATCGGAAGCGTGCCGACTGTTTTGCC
GACGGCGTATGCTTCTGCAGCCAAAGGAAAGGCGTGACGGACGGTTCGCCGTTTTCGCC
GAATCCTGCCTCATCATCACTACCGACAAACAGTCCCTCCAACGCGGCATAACGGCTGTG
GCGGATATTTGCCATCGTCTGATAGACGTGCCGATACGACGCGCCGTTGCCTAACATTGC
ATAGCCTGCCAGCACGAGTCCGGTTTCTTTGGTGTCCGACACGGCTTCTTCCGCACCTAT
ATCGGTAAACGTTTTCACATAATCGTCGTTGGTGGCGCGCACATATACGGGCATATTGGG
ATACATGGACAGCACATTGTCTAAAACGTGTTGCGTTTCGTGCATATTGTTGAGCGTAAC
CACCACCATTTTCGCCCGTCCCAGACCGGCGGCTTCCAATACTTCCCTGCGTTTCGCATC
GCCGAACGACACCGGTTCGCCCGCACTTCTGGCAACCTGCACCCGCGCAATGTCCAAGTC
GAGCGCGAAATACGGAATATCCTCTTGGGCAAGGACGCGGTCCGACCGTCTGCCCGCCCCT
GCCGAAGCCGACAATCAGCACATGGTCGGACTTGCTCATGGTTTCTACCAGCATACTGTG
CAGATCGAGCGACTTCATGTCCCAGCTTGACTTGACCAAACGCCCGACCAGCGCATCGCT
GCCGCCCAAGAGGAAGGGCGCGATAATCATCGACAGCAGAACCGCCGCCGTCGCCGCCTG
TTCCCATTCTGGCGAAACCATATCAAGCTGCCCGGCAATGGCCAGCATCACGAAGCCGAA
CTCGCCGCCCTGCGCGAGATACAAAGCCGTTTTGAGGCTGTCGCCGACCGAATGTTTCAT
TTTGAAGGCAATGGCAAACACAACCAGTGCCTTCAACACCAGCAGCATTGCCAACAGCAT
CAATACCTGCCGCCAGCCGCCGATCAATGCCTGAATGTCCAGCTTCATGCCGACCGTGAT
AAAGAAAAAGCCGAGCAAAATATCGCGGAACGGGCGGATGTCGTCTTCGACTTGGAAACG
GTATTCCGTTTCCGAAAGCAGCATGCCGGCAACGAATGCGCCCAACGCCATAGACAAACC
TTCCAGCTCAGTCAGATAAGCCACACCCAAGGTTACCAGCAGCACATTGATCATAAAGAG
TTCGGACGATTTGCGTTTTGCCACCATCCTGAACCATCGCGACATAATTTTGCTGCCGAC
GAAAAACAGCAGCCCCAGCGTCAGCAGCATTTTTGCAAACGCCAAACCCAAGGCCGCCCA
AATATTTCCGTCCCCTCCGCCCGCCAGCGCGGGAATCAGAATCATCAGCGGCACGACGGC
GATGTCCTGCATCAGCAGCACGCCCATCGCCATCTGACCGTGCGGCTGCCCCAATTCCGT
CTTTTCCGACAAAATCCGGCTCACAATCGCCGTGGACGACATCGCCAACGCGCCCGACAC
GGCAAACGCCCAATTGAACGGCACGCCCGTCAGCATCAGTATGCCCATTACCGACAGCAT
CGTAATGCCGACCTGCAAACCGCCCAGACCGAACACCAGCCGCCTCATCGCCCTCAACTT
GGGCAGCGAGAACTCCAAACCGATGCTGAACATCAGGAACACAATCCCGATTTCGCCCAA
ATAATCCGTCGCATGGCTTTTCGGAATCAGGCTGAGCATACCGGGCCCGCCAAAAAGCC
CACCAGCAGGTAGCCCAGCATGGAGGGAATGTTGAACTTGCGGCACAGGATCACCGTAAT
GACCGACACCAGCAAAACAATCACAATAGGGGCAAGCGAAAATTCGTTCATAGACCGTCC
GAACAGGAAAATACAGAAAAATGCCGTCTGAAACGGCATACGCCGCCGCATTATAACAAA
ACACCGCGCACCATCCGAAACGGGGCGCGGCATACAATTCTGCTAAAATACGCCCTTTCGA
TTTTGAGCCGCCACACCGACATGACCGACCGCCACAGCCGCCGCCATAGACCGCCTGCTTCCCCA
AACCCAATGCCGCGAATGCGGCTACGACGGCTGCCTGCCCTACGCACAGGCAGTCGCAAC
AGGCGAAGCCGTACAACCTCTGCGCCCCGGGCGGGAGAAACCGTCATTCGGGACATTTCCGC
CCTGCTCGGCAAACCCTTTGTCGCACCTGCCAAAAACCCAAGCCAAAGCACTCGCCCGGAT
AGACGAAACCGCCTGTATCGGCTGCACCGCCTGCATCCGCGCCTGCCCTGCCGATGCCAT
TATGGGCGCGGGCAAACTTATGCACACCGTCATCGCCGACGAATGCACCGGCTGCGGACT
CTGCGTCGCCCCCTGCCCCGTCGACTGCATCCATATGCAGCCCGTTGCCGACACCGTCCT
GCCCCGCGCGCGCCGCTTCAGCCTGTCCGCCGACAGCCGTTTTGCCGCCGCCGAACACGC
GCGCACGCGCTACCTCAAACGCAACGAACGCAAACAGCGCGAAGCCGACGAACGCAAGGC
CATGCTTGCCGAACGCGAAGCCGCCGTCCGCAACGCGCGTCCGCAAACGCCCGACACACC
GAAAAAACCGACGTTTAACCCTGCCGACCTCATCGCCAAAGCCATGGCAAAAGCGCAAAC
CCAACAAGACCGCCTCGCCGCCGCCGACAACCGCAAAGACTATCAGGCGAAACAGATAGC
CGAAGCCCGCGAACGCGCCGAGTTGCGCCGCGCCCAACGCGATATGAAATACGGCAGCGA
CAGCGAAAAAGCCGCCGCCCTCGAATATCTCAAACAATACAAAGCCAAACAGGAAGCCGC
ACAGAATACCGCCTCCTGACCCTTCCCTGATATGCCGTCTGAAGCCGCTTCAGACGGCAT
TTTATCAAGCTCTCCGTCCGCCGCACCCGTGCCGTCCGCATCTTACCGCCCACCCTTCCG
GCCGCGCCGTTTTCAATAAAATATTAATTACACGCCACTACAAATTTGCTATAATCCGCC
CCGAAAATCTACCCAACCCTCAACAAAGGAACAAACCATGGGCATCAAGTCGCCATCAA
CGGCTACGGACGCATCGGCCGCCAGGTTTTGCGCGCCATCTACGATTATCAGATTCAAGA
CCAACTCCAAmTCGTCGCCGTCAACGCCAGCGGCAGCCTTGAAACCAACGCCCATCTGAC
CAAATTCGACACCGTGCACGGACGCTTTGAAGCCGACGTATCCCACGACGGCGGCAACCT
CATCGTCAACGGCGACAAAATCCCCTTCTTCTCGACCCGCAACCCTGCCGAACTGCCGTG
GAAAGAACTCGGTGTCGATTTGGTCATGGAATGCACCGGCGCGTTCACCAGCAAAGAAAA
AGCCAAAATCCACCTCGAAAGCGGCGCGAAAAAAGTCCTCATTTCCGCACCGGGCGGCGA
```

```
     CGATGTCGATGCAACCGTCGTGTACGGCGTGAACGACAGCGTCCTGACCGCCGACATGAC
     CGTCGTTTCCAACGCTTCCTGCACCACCAACTGCCTCTCGCCGGTTGCCAAAGTGTTGAG
     CGAAAGCGTCGGCATCGTCAAAGGCGCGATGACCACCATCCACGCGCTGACCAACGACCA
     AACCGTTACCGACGTGCGCCACAAAGACCTGCGCCGCGCCCGCAGCGGCGTGGAAAACAT
  5  GATTCCGACCAAAACCGGCGCGGCAAAAGCCGTCGGTTTGGTACTGCCCGAATTGAAAGG
     CAGGCTCGACGGGCTTGCCATCCGCGTGCCGACCGTCAACGTATCATTGGTAGATTTGAG
     CTTCCAAGCCGCGCGCGACACCACAGTCGAAGAAATCAACGCACTGATGAAAGCCGCCTC
     GGAAGCAGGCCCGCTCAAAGGCGTTTTGGGCTACAACACCCTGCCCTTGGTTTCCATGGA
     CTTCAACCACACTACCGAAGCCAGCCACTTCGACGCAACACTGACCAAAGTCGTTGACGG
 10  CAACATGGTCAAAGTGTTCGCTTGGTATGACAACGAATGGGGCTTCAGCTGCCAAATGCT
     GAACACCGCACGCCGTATGTTCGGACTTGAAGTGCGCCCGCTCAAATAAGCAACAAACCG
     TCAAACAAAATGCCATCTGAAACCCGATGTTTTCAAGTTTCAGACGGCATTTTTCATTTT
     CACCGTGATTTTATCCGGCTGTCGTCATTTCTAATTTTATAGTGGATTAACAAAAACCAG
     TACGGCGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCC
 15  TGATTTTTGTTAATCCACTATAATCCACCATATTTGAACCTGACCGGAGCATAAGCCGCC
     ATCAAAGCCCCTTGCACGCCACTTCGCGCCGCCCGATTTCCTCTTTCAACGGCACGGCGT
     TCAACATCCGCAGACGTTCGGCAAAATCCGCAAACGGCAGCAGCTCCGAACCGAAACGGC
     GCATATGTTCCGTATCCTGCTGGCAGTCTATCAGTTCCACGCCCAAATCCGCCAAAAACG
     GCACGGCGCAGGCAAACGCGATTTTCGACGCATCCGGTTGTAATGCGAACATCGATTCGC
 20  CATAAAACACCCTGCCGATCTGAACGCCGTAAAAGCCGCCCGCCAACCTCGTTTCACCGC
     TTTCATCGGGATAATGGCACTCGAAAGAATGCGCGTACCCCATTTCGTGCAGCTTCAAAT
     ATGCCGTCTGAAACTCGGGCGCAATCCAAGTTCCGTCCTGATTCGGGCGCGCCGCTGCCG
     CACAATGCGCGACCACTTCCGCAAAACAGCCGTTGACCGCAACCCGATAGCTGCCGTTGC
     GCAGCGTTTTCGCCAGCGAGCGCGGAATATGCAGCCTGTCGGGAAACACCACCGCACGGG
 25  GCCCGACCGCATACCAAAAAAACCACCCGTCCCGGGAAAACCACGGAAACACGCCGTTCC
     GATACGCCTCAAGCAGCCGCCCCGCATCCAAATCGCCGCTCACGCCGACCAGCCCGTCGC
     ACCGGGCCAAAGCATAGGCAGGATCGGGAAAGGCATAATTGTCAGGGGCAAGCAGCGGAA
     TACGCATGACAGTTCTCCAAAAACACAGGCGGCATCCAAAATCATGAATGCCGTCTGAAC
     AACAAACCGTCCGGATTTAACGTTTGCCCTTGGCCTGACAGTCGCTGCACACGCCGTACA
 30  TATAAAGCGCGTGATCGACGATGCGGTAGCCGTTTTCTTCCGCGATTTTGTCTTGCAGGG
     CTTCGATTTCGGGATTGTGGAATTCCGTTACCTCGCCGCACTTCACGCAGACGATGTGGT
     CATGGTGGTCGCCTTTGTCCAACTCATAAACCGCCTTGCCCGTTTCAAAATGATGGCGTT
     GCAAAATGCCCGCCTGCTCAAACTGGGTCAGCACACGGTAAATCGTCGCCACACCGATTT
     CCACACCCTCTTCCAACAAAATGCGGTACACATCTTCCGCACTCAAATGCTCTTCCGCAT
 35  GCGTCTCGAACAAATCCAAAATCTTCAAACGCGGGCCGGTAACCTTCAGACCGCTGTCTT
     TCAGTTGTGCAATATTGTTGAATTTTTCCATAATATTCAATACCCCTGTAAAACAATAGA
     CGTTATAATACGCAATTTCGGCCTGTTTGCCCACTATCGCACCATAGCAGTTTGCAATAG
     TAAAACCGCACCGGCGGCCGATGCGCGGACAGGCGGATACCGCTTAATCGTATGATTAT
     CGTTCGCTTTTATAAAATATTCAAGCAGTGTTACACTACCCATCCCGATTTGCACAGAAA
 40  GGCATTTCCGTGAACAAAACCCTCATCCTCGCCCTTTCCGCCCTCCTCGGCCTTGCCGCG
     TGCAGTGCCGAACGCGTTTCACTGTTCCCCTCGTACAAACTCAAAATCATACAGGGCAAC
     GAACTCGAACCGCGCGCCGTTGCCGCCCTCCGCCCCGGCATGACCAAAGACCAAGTCCTG
     CTCCTGCTCGGCAGCCCCATACTGCGCGACGCATTCCATACCGACCGCTGGGACTATACC
     TTCAACACCTCCCGCAACGGCATCATCAAAGAACGCAGCAATCTGACCGTCTATTTTGAA
 45  AACGGCGTACTCGTCCGCACCGAAGGCGACGTCCTGCAAACGCTGCCGAAGCCCTCAAA
     GACCGCCAAAACACAGACAAACCATAAGGAACACACATGACACCGCTCAAAATCGCCATC
     GCCGGCGCAAACGGCCGTATGGGACGCGTATTGGTTGAAGCCGTCAACAACCATCCCGAC
     ACCGTCCTTTCCGGTGCGCTTGAACACTCAGGCTCAGAAGCCCTCGGGCTGGACGCAGGC
     TACGCCGTCGGACTCAAAACCGGCATCGCCATTTCAGACGACGTTGACGCCGTTCTCGCA
 50  CAAAGCGACGTACTCATCGACTTCACCCGCCCCGAGCCCACCCTCAAACACCTGCAAAAA
     TGCGTTGAAAAACAAGTCAACATCATCATCGGCACAACAGGCTTCGACGATACGGGCAAA
     GCCGCTATCCACACTGCCGCCGAAAAAACAGGCATCGTTTTCGCCGCCAACTTCAGCGTC
     GGCGTCAACCTCACCTTCCACATCCTCGACACCGTCGCACGCGTATTAAACGAAGGCTAC
     GACATCGAAATCATTGAAGGCCACCACCGCCACAAAGTCGATGCCCCCAGCGGCACCGCG
 55  TTACGCATGGGCGAAGTCATCGCCGGCGCGCTCGGCAGAGACCTCAAACAATGCGCCGTT
     TACGGCCGCGAAGGCCACACCGGTCCGCGCGATCCGTCGACCATCGGCTTTGCCACCGTC
     CGCGCAGGCGACATCGTCGGCGACCACACCGCCCTCTTCGCCACCGACGGCGAGCGCGTG
```

GAAATCACCCACAAGGCCAGCAGCCGCATGACCTTTGCCGCCGGTGCCGTCCGCGCCGCA
GTTTGGGTCAACGGCAAAACGGGTTTGTACGATATGCAGGACGTACTCGGGCTGAACAAC
CGTTAACCCCCATACAAAATGCCGTCTGAAAAGATATTGTTCAGACGGCATTTTGCCGAC
AGGCTCCGTATCGGCATATCAATGTTTCAACACACAGGACGACACATAAAGCGTCGCCCT
ATGTGTTGCCCTGATTCGGAAGGGGTTACGCCCCTCCCAAATAAAATCTGATTCTACCGC
CCCGAAGGACAGATGTCCGAGTGGCGGGGTTTCAACCGAAAAGGAAATACGATAAAGTTG
CCTGCTCAGCATAACAAGCTACGGCTCGTTTAATTGAAACTCTCCTGATCTAAAAATTCT
AACTCTATTTCCCGGCAAACTATATCTATACTAAAACCGGTCGGAAGATCATACCTACTG
CCTATCACTTCCAGCGCACCTCCATAATCCAAGATTTCATCATCCTGCTTTAATTCTCCA
AGTTCCAATACATTTTTGATATTTTTATCTTGGTTCTTCGTGGCGTATCCATAGATAAAT
TTCAGATAGCTGAACTGCTTGAATTTAATTTTTACCCAGTCTGTATAATTTGGTGTAGGA
ATCTCTTGAGGAAAGTCCGGATAATCCACATTCTGGACGATGATATGGAATTCATCGTTT
TTCAAAGTATAGTTTAATAGAGTGCCCTCATATATATACAGAAATTGATAATCTTTTTTT
GGAATGGTATAAGTTGTCATATTATTTTACCTTTTCAAAAACAATGAGTTTAAGATTTTT
TGAGTCCAAGTTGGTTCTACTACTCTTATGAAATTTCAGTTGTTTAAACTCTTCCTTTAT
TTTAAGGAATTTTTCAACTAGCCGAGAACAAACTGGAGCAAAATGGACGATTGAGTTTAG
GAATCAACCTGATTCAGTACATGGGCAAAGATTAGAATTAAAATTTAGATAAAGGTTACG
TTATGAATGTGAAGATAAAATATAATCTTTTAGAATATTGTGAATATTTAGGTGGTATTT
TTGGTGTTTATAAAAATTATTTAAATATGGATATCAAAGATCCAAATTTAAAAATTAGAT
TTTTTGATTTTTTGGAAGAACTTTTATCAGATGGTGTTATTGAATTATGCGATTATCGTG
AAAATCCTCCAAAAATATTAACTGGTTCGCCAAAAACACAGGTAGATGAATTAAGAAGAA
TTTGGCCGGATATGGAAGAGATGTTGCTATATTTTCCAGATAATCCTTGGTTTTATGTAG
AACATTTTTGGTGGGGAGCAACTTGCCCTATTGAACTGACACAATTGCCTAAAATAGAAA
TTTACGAAGAACAAATGAAACAAGGTAAGTAAGCGTATTAGTATAAGCTATAATCATAAA
TCATATATAACAAAATTAATCAGTTAACTGACCATTATATTTTAACCTTAATCCCATTCG
GGCCAGTTCTGTTTCATTTGGAATTCCTCTTAAATACTTATTGTTTGATGTGCCATTAAT
CACAATTTCTCCCCCTTTTTTTGTAATACGTGCTGCTTCGGGAAAATAATCCATTAACCG
CTCAACATCCCGCCTCTTCCAAAACCGCGCGCGCGGCCAAATCCGCCGTATCTTTTTTCA
ACAGCAGGTGCAACGCCCTGAAATCCTGTTGCAGCGCGGCAACCTTATCGGGGTGTTCGT
ACCAGTCCGCCAACGCCGCCGCCAGTTTTTCCGGTTTTGCTTCAGATTGCAATAATTCCG
GCACAGCCTCCTTACCCAACAGGATATTCGGCAGGCCGACATGCGGCACTTTGATTTTGC
GTTTCACATAAGCATAGGTCAGCGGCGAAATCTTGTAGCTGATGACCATCGGACGCTTAC
ACAACGCCACCTCCAAAGTTGCCGTACCGCTCGTTACCAGCACCGCATCCGCCGCCCTGC
ACACTGTTTCAGACTGTCTGTCGATTACCGTCAGCGGCAATCCGGCAAACTCCGGCCGCT
GCAAAACTTCCGCCAAACGCCGCTTCGTCGCCTCCGTTGCGGCAGGCAGCAGGAAGCGTG
CGGCGGGATAGCGTTCCAACAACAATAATGCCGTCTGAAAAAACACCGGCGCCATATAGT
CGATTTCGCTGACGCGGCTGCCGGGCAGCAGGGCGAATACGGGGATGCCGGCATCCACGC
CCAAAGTTTGCCGCGCCGTTTCACGGTCGTCTTCCAAGGGCATAAGCTGCGCCATCGGAT
GACCGACAAACTCCGCACGTCCGCCCGCATCGAGATAAAGCTGCGGCTCCATCGGGAACA
GGCACAACACGCGGTTGACCTGATGCACGATTTTGCCCACACGTTCCCGCCGCCCACGCCC
ACACCGACGGGCTGACATAATGCACGGTCGGAATCCCCGACCGTTTCAGCTTTTCCGCCA
CACCCAAATTAAAATCGGGCGCATCGATACCGACAAAGACATCAGGTTTCAACGACAGCA
AATCCCGTACCAGCCCCCTGCGTATCCGTAAAATTTCCGGCAGCCGCCTGACCACTTCGA
CAAAGCCGCGCACCGCCAGCCGCTCCTGATCATAAAGGCTCTCGAAACCTTCCGCCTTCA
TCAGTTCGCCGCCGATACCGGTAAACCGCGCCTGCGGACAACGCTTGCGGATGGCGCGTA
TCAGGTGCGCCCCCAATAGGTCGCCCGACGCTTCGCCGACACTGACGGCAATCAAAGGGC
TTTTTTTATCAGCCATATTCGTCTGTCCCCACATACTTTCACGTCCCGATGCCGTCTGAA
GGCTTCAGACGGCATCGGGGTTCACATTTTCGTCCCGTTTTCCAACATCACCGCAAACTG
CGCCAAGTCCGGCGGCAGCTCCGCCTTCAACACCAGCGGCTCGCCCGTGAGCGGATGGTT
CAAGTGCAGCTCGGACGCGTGCAAAAACATCCGCTTCAAACCCAACTTCTGCAAACGACG
GTTCGCCTGATAATCGCCGTAGCGTTCGTCGCCCGCAATCGGACAGCCTTGAGATTGCAG
GTGGACGCGGATTTGGTGCGTGCGCCCCGTTTTCAACGTCGCCCGCACCAAAGTCAGGTG
CGACAGCCCGACACCGTGCAAAATGCCGTCTGAAAAACGGCTTAACACACGGAACACCGT
ATGCGCCGACTGCCCGTCCGCACTGACGCGCACCATCTTTTCGCCTTGTGCGCCGGTATA
TTTGAACAGGGGCAGTTTGACATGGAAATTGTCGTCCGGCAGTTTGCCCACCCCCAGCGC
AAGGTAGATTTTTTTGGGGTGGTCGTTACGGATGGCTTCGTGAAGTTTGACGAGCGCGCT
GCGTTTCTTCGCCACCATCAACAAGCCGCTCGTATCCTTGTCCAAACGATGAACCAACTC

```
CAAATACTTCGCCTCCGGACGGGCGCGGCGCAACTGTTCGATAACGCCGAAACTCACGCC
GCTGCCGCCGTGGACGGCAACGCCGGACGGTTTGTCGATGACCAAAAGCGCATCGTCTTC
GTAAACAACGTCAAACGCACGCGCCGGTACGGCGGCACGCCTTTCAGACGGCATTTCCTT
CTCCGCCACGCGCACAGGCGGAATCCGCACCGTATCCCCCTCCGCAATACGGCTGTCGGG
TTTGCAGCGTTTCTTGTTCAACCGCACCTCGCCGGCGCGGATAATGCGGTGGATATGGCT
CTTGGGAACACCCTTGAGGATTTTTATCAGATAGTTATCAAGGCGTTGACCCGCCTCATG
TTCGGCAACCCCTATCAAGCTGACCGAATCTTTGCTTATTTCGTGCGTTTTCATCTATAA
TCCGAACATCCGTTTCAGCAAAAAGCGCGCCCGCCGCGCCTCCTGAAACGGTTTACTTTA
AAACGGAATTTTATATTAAAAACGCACTCCGCAAAGCATTTTCCCTGCGCCTGTTCCCAG
CCGGCAGGCGCAGAACGTAATCAAGTTTGAATTGATTTTGCCGTTCGGCGCGGAAGTAA
GACGGCAGCCGGGCCCAAGTCCCAAACGCAAACCGCCCAAAACACAGGCATCACGATAAC
AAGAAGAAGCCGGCCCCCATTTTTCCGACCGCAGCGTTCGGAACGCGGCAGACAAACCGC
CGCATCGATCTTTATAGCCTTCTGTATCCGACCCTTCCGCACACGGTTCTCCGGAACGTG
CATCCCTGCGGATTTTCAACTCAAAAACTGATTACCGGTTTTATCCGAAAACATCGGAAA
ACCCAGCCTTACGGAATGCCGAACCGGGCATGTGCCGTCTGAACGCCGCCTGCCCACGAG
GTGATCATGAAAAGAATGTTATTTAACGCAACGCAGGCCGAAGAGCTGCGCGTTGCCATC
GTCGACGGACAAAACCTGCTGGATTTGGACATCGAAACGCTGGGCAAAGAACAGCGCAAA
GGCAATATCTACAAAGGCATCATTACCCGCATCGAGCCGTCGCTGGAAGCGTGTTTCGTG
GATTACGGAACCGACCGCCACGGCTTCTTGCCGTTTAAAGAAGTCTCCCGCTCATACTTC
CAAGACTACGAAGGCGGACGCGCGCGCATCCAAGACGTGCTCAAAGAAGGCATGGAAGTC
ATCGTCCAAGTCGAAAAAGACGAGCGCGGCAACAAAGGCGCCGCGCTGACCACCTTCATC
AGCCTCGCCGGACGCTATCTGGTATTGATGCCGAACAACCCGCGCGGCGGCGGCGTATCC
CGCCGTATCGAAGGTGAAGAGCGTCAAGAGTTGAAAGCCGCCATGGCGGAACTCGACATT
CCGAACGGCATGAGCATCATCGCCCGTACCGCCGGCATCGGCCGCAGCGCGGAAGAGTTG
GAATGGGACTTGAACTACCTCAAACAACTCTGGCAGGCGATTGAAGAAGCAGGAAAAGCG
CATCACGACCCCTACCTGCTCTTTATGGAAAGCTCGCTGCTGATCCGAGCCATCCGCGAC
TATTTCCGCCCCGACATCGGCGAGATTTTGGTGGACAATCAAGAAGTTTACGACCAAGTT
GCCGAGTTCATGAGCTACGTCATGCCGGGCAATATAGGCCGTCTGAAACTCTACGAAGAC
CACACGCCGCTGTTTTCCCGCTTCCAAATCGAACACCAAATCGAAAGCGCGTTTTCGCGC
AGCGTCAGCCTGCCCTCCGGCGGCGCGATCGTCATCGACCATACCGAAGCCCTCGTCTCC
ATCGACGTGAACTCCGCACGCGCCACTCGCGGCGCAGACATTGAAGACACCGCGTTCAAA
ACCAATATGGAAGCCGCCGAAGAAGTCGCCCGACAAATGCGCCTGCGCGACTTGGGCGGC
TTGGTCGTCATCGACTTCATCGACATGGAAAACCCCAAACACCAGCGCGATGTGGAAAAC
GTCCTGCGCGACGCGCTCAAAAAAGACCGCGCCCGCGTGCAGATGGGCAAACTCTCCCGT
TTCGGACTTTTAGAATTGAGCCGCCAACGTTTGAAACCGGCTTTGGGCGAAAGCAGCCAC
GTCGCCTGTCCGCGCTGCGCCGGCACCGGCGTGATTCGGGGCATCGAATCCACCGCCCTG
CACGTTTTACGCATCATTCAAGAAGAAGCGATGAAGGACAACACCGGAGAAGTGCGCGCA
CAAGTGCCCGTCGATGTCGCCGCCACCTTCCTGCTGAACGAAAAACGCGCCGAGCTGTTTGCG
ATGGAAGAGCGTTTGGATGTCAACGTCGTCCTGATTCCGAACATCCACCTCGAAAATCCG
CACTACGAAATCAACCGCATCCGCACCGACGACGTAGAAGAAGACGGCGAACCGAGCTAC
AAACGCGTCGCCGAGCCGGAAGAAGACGAATCCGCCAAACCGTTCGGCGGCGAAAAAGCC
AAAGCCGCCCGTCCCGAACCCGCCGTCAAAGGCGTGCGCCACACCAGCCCCGCCCCGACT
GCCGCCCCCGAGAAAAAAACCTCTTGGTGGGACAGCTTCAAAGCATGGCTCAAACGCATT
TTCGGCGGCAGCGAAACCCAAGCCGCGCCCGCTGCCGAAACCTCCGAAAAACGCAGCACG
GCAAACCGCAGCGGCAGCCGCGCCAACAACCGCCGCCAAAAACCCGCGCCGCAGCAAACGC
GAAGGCAGCAAAGTAGAAGTCCGCGAAGTGGCAGGCAAAACTGCCGGACAGGAAGCGCGT
GCCGACAAAGCCGAAACGCGCAACAACGGCAACCGCCGCCGCAATGAACGCGGCGACCGT
GCCGCCGAACGCGCCAACGAAGCGGAAATCCAAAGCCGCAACGTACAGCCTGCCGCAACC
GTTGCAGATGCCGCACCGTCCGAAACCGAAGTGCAAACCGGAAAACGCCGCCGCAACGGC
AGCCGCAGCGAACGCGGCCAAACCGCGCCGGAAACCGCCACCGTTGCCGAAACAACCGTT
CAGACAGCGGAAAACACGCCGTCCGAACCGCATACCGCAGAAGACAAAGGCAGCAAGCCC
AAATCCGAACGCAACCGCCGCGAACGCGACAGCCGAGATGCCAAAGAACGCCGCGAGCGC
AACAATCAGCGCGACCGCCGTCAAAACGGCAAAAAACGCAATATTCCGTCTGCCGCCAAA
ATCGAGCAGTACCTGAATATTCACGACACCGCCGACAAAGTCCGTTCCGCCGCCGCGCAC
GTTTTCGGCGAAACCGACGCAAACGCGCCGATTACTGTCAGCATTGCCGATCCGGTTGCA
GAAAGGGATCTTCCGACAGCATCTCCCGCCGTTTCAAACGGCGACGCACCGGTTTATGAT
GCGGCGGAAAAAAATCCGCCGTGCCACCGCCGCCATCCTGCCCGAAGGCGCGACACCGAAA
```

-310-

```
GCCGAAGCACAGGAAATGCCGTCTGAAACCGCAACCTTTACGGCTGCGGCGGAACAGGCA
CGGGAAACCGCACAAACCGGCGGACTCGTCCTGATCGAAACCGACCCTGCCGCATTGAAG
GCATGGGCGGCACAACCCGAAGTCCAAGCCGGACGCGGTTTGCGCCGTTCCGAACAGCCC
AAGCCGTCTGAAGTCGCAACCGTCCCTGCCGAAGAAATGATCCAAGTCGAAACCCGGCAA
GGCTGAACCGACGGCGGCAAAAAGAGGTTCTGTTCCGCAGAACCTCTTTTTTACATGGGT
TCGGATACCTGCAATGCCGTCTGAAACTTCGCCATTCCCGTGATTACCGAAACATTCCGC
CATTCCCATGATTCCCGCAACATTCCGTCATTCCCATGATTCCCGCAACATTCCGTCATT
CCCATGATTCCCGCAACATTCCGTCATTCCCATGATTCCCGCAACATTCCGTCATTCCCG
TGAAAACGGGAATCTAGAACCTCAAACTTTCGGATAATCTTTGAATATTGCCGTCGCCCA
AAGGCCTGGATTCCCGCCTGCGCGGGAATGACGGCGGAGGGTGGACGATGCCGTCTGAAA
CTTCGCCATTCCCATGATTACCGCAACCTTTCGTCATTCCCGCCACCTTTCGTCATTCCC
GTGAAAACGGGAATCTAGAACCTCAAACTTTCGGATAATCTTTGAATATTGCCGCTGCCC
GAAGGTCTGGATTCCCACAACCTTTCGTCATTCCCGTGAAAACGGGAATCTAGAACCTCA
AACTTTCAGATAACCTTTGAATATTGCCGCTGCCCGAAGGTCTGGATTCCCACAACATTT
CGTCATTTCCGTGAAAACGGGAATCTAGAACCTCTAAACTTTCAGATAATCTTTGAATAT
TGCCGTCGCCCAAAGGCCTGGATTCCCGCCTGCGCGGGAATGACGGTTTAGAAGTTGCCC
GAAACCTCAAAAAAAACCGAAACCGAACAAGCCGGATTCCCGCAACATTCCGTCATTCCC
GTGAAAACGGGAATCTAGAACCTCTAAACTTTCAGATAATCTTTGAATATTGCCGCTGTC
CAATGGTCTGGATTCCCGCCTGCGCGGGAATGACGGTTTAGAAGTTGCCCGAAACCTCAA
AAAAACCGAAACCGAACAAGCCGGATTCCCGCAACATTCCGTCATTCCCGTGAAAACGGG
AATCTAGAACCTCAAACTTTCAGATAATCTTTGAATATTGCCGCTGTCCAATGGTCTGGA
TTCCCGCCTGCGCGGGAATGACGGTTTAGAAGTTGCCCGAAACCTCAAAAAAAAAAACCG
AAACCGAACAGACCGGATTCCCGCCACCTTTCGTCATTCCCGTGAAAACGGGAATCTAGA
ACCTCAAACTTTCGGATAATCTTTGAATATTGCCGCTGTCCAATGGTCTGGATTCCCGCC
TGCGCGGGAATGACGATTTGGAAATTACCCGAAACCCAAAAACAACTGAAACCGAACAGA
CCGGATTCCCGCCTGCGCGGAAATGACGGGTCTTTTATCATCTTTAAAGGCTGCCGCGCG
CCATCTCGACGGCGGTCTCCACGGCAGTTATCAGGCTGCCGGAATCCGCCCTGCCGGTTG
CCGCCAAATCAAGCGCGGTGCCGTGATCGACGGAGGTGCGGATAAAGGGCAGGCCGAGCG
TGATGTTCACGCCCTGTCCGAAGCTGTGGTATTTCAACACGGGCAGCCCTTGGTCGTGGT
ACATCGCCAATACGGCATCCGCACCTTCGAGCATAAACGGCTGGAACAATGTGTCCGCCG
GATACGGGCCGGCAAGGTTTATCCCTTCGCGGCGCAGGTTTTCCAATGCAGGGATAATGG
TGTCGGTTTCTTCGTGTCCGAGGTGTCCGCCTTCGCCGGCGTGGGGATTAAGTCCGGCGA
CAAGGATTTTGGGATTTTTGATGCCGAATTTGTGTTTTAAGTCGTGATGCAAAATGCGTG
CGACGCTTTCAATCAGCGGTTGCGTGATGGCGGCGGCAACGTCTTTCAGCGGCAGGTGGG
TCGTTACGAGGGCGACGCGCAGGCCTTTGCCGGCAAGCATCATCACGACCTGCCCCGTGC
CGCTTTTTTCCGCCAGATATTCGGTGTGTCCGCTGAAAAAACCTGTGCTTGCGCGCGCGT
CGTTGATGATGCCTTTGTGCAGCGGCGGTAACGATGCCGTCGAAAATGCCGTCTGAAA
TGCCTGCGAGCGCGGTGTCCAAAAGTTGCAGCACATAGGCGGCGTTGGCGGGATTGAGTT
TGCCCGCCTCAACCGCTTCGACGGCAGGGATGTGCAGCACTTCCAGCTCGCCGTATGCCG
CGCCGCCTGATTCTGGATCGAAGTCGCGCAGGACGACGCTTTTGCCCAAGGCTTCGGCGC
GCGCGCGCAATAGGTTTTTGTCGCCCAATACCGCGCAGCGGCAGGGCAGGCGTGCAAACG
CCAAGTCCAAACAAATATCGGGGCCGATGCCGGCAGGCTCGCCGGAAGTAACGGCAAAAA
CAGGCTGTTTCATCGTGTTTGCTCCAAACAAAATGCGATTCTAACGCCGCAGCCGCGCGG
CGATGTAAATTTTTCTGATTTTGTTGACAATCTGCTAGAATGGGCGTTTACAAAATTTAA
ACCCTGCTTGCATACCGCCAATATGTGCGAGTTTCAACTTTAAGGAAGCGATATGAACGA
GAACTTTACCGAATGGCTGCACGGCTGGGTCGGCGCCATCAACGATCCGATGTGGTCATA
CTTGGTTTATATGCTTTTGGGTACGGGGCTTTTCTTCACCGTAACCACGGGCTTTGTCCA
ATTCCGCCTGTTCGGGCGCAGCATCAAAGAAATGCTCGGCGGCCGCAAACAGGGGGACGA
CCCTCACGGCATCACGCCGTTTCAGGCATTTGTAACCGGCCTTGCCAGCCGCGTGGGCGT
GGGCAATATCGCGGGCGTGGCCATCGCCATCAAAGTCGGCGGACCGGGCGCGGTGTTTTG
GATGTGGGTAACCGCCTTAATCGGTATGAGTTCGGCGTTTGTCGAATCTTCGCTGGCGCA
GCTCTTTAAAGTCCGCGACTACGACAACCACCATTTCCGGGGCGGCCCTGCCTACTACAT
CACTCAAGGGCTGGGGCAGAAATGGCTGGGCGTGTTGTTCGCCCTGAGCCTGATTTTCTG
TTTCGGCTTTGTGTTTGAAGCGGTTCAGACCAATACCATCGCCGATACCGTCAAAGCGGC
ATGGGGTTGGGAGCCTCATTATGTCGGCGTCGCCCTGGTGATTTTAACCGCGCCGATTAT
CTTCGGCGGCATCAGGCGCATATCTAAAGCGGCGGAAATCGTCGTCCCCCTGATGGCGGT
TTTGTACCTCTTTATCGCGCTTTTCATCATTTTGACCAATATTCCGATGATTCCGGACGT
```

```
GTTCGGTCAGATTTTTTCGGGCGCGTTCAAATTCGACGCGGCAGCAGGCGGCTTACTCGG
CGGTCTGATTTCGCAAACGATGATGATGGGCATCAAACGCGGCCTGTATTCCAACGAGGC
GGGTATGGGTTCCGCGCCGAACGCCGCCGCCGCCGCCGAAGTGAAACACCCTGTTTCGCA
AGGTATGATTCAAATGCTGGGCGTGTTTGTCGATACCATCATCGTTTGTTCTTGCACCGC
CTTCATCATCTTGATTTACCAACAGCCTTACGGCGATTTGAGCGGTGCGGCGCTGACGCA
GGCGGCGATTGTCAGCCAAGTGGGGCAATGGGGCGCGGGCTTCCTCGCCGTCATCCTGTT
TATGTTTGCCTTTTCCACCGTTATCGGCAACTATGCCTATGCCGAGTCCAACGTCCAATT
CATCAAAAGCCATTGGCTGATTACCGCCGTTTTCCGTATGCTGGTTTTGGCGTGGGTCTA
TTTCGGCGCGGTTGCCAATGTGCCTTTGGTCTGGGATATGGCGGATATGGCGATGGGCAT
TATGGCGTGGATCAACCTTGTCGCCATCCTGCTGCTCTCGCCCTTGGCGTTTATGCTGCT
GCGCGATTACACCGCCAAGCTGAAAATGGGCAAAGACCCCGAGTTCAAACTTTCCGAACA
TCCGGGCCTGAAACGCCGTATCAAATCCGACGTTTGGTAAATCCCGCCCTTACCGGAGCC
GCTTCCCCGCGAAGCGGCTTTTCCCTTTCCGCACACTGTAAAAACAGGGCGAACAAGCGT
ACAATCCCAACCCTTTACTTTTGAATCCATTTCGTTTTTCAGACGGCATATTGAATATAG
TGGTTTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAGCAGTACGAAAC
CGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAA
CGCTGTACTGGTTTTTGTTAATCCACTATAAATGCCGTCTGAAACACCGTCAGGCAATAC
ACACTATGACCCACATGATTTACCCCAAAACCTACGACGTTATCGTCGTCGGCGGCGGAC
ACGCCGGCACGGAAGCCGCACTCGCCGCCGCCCGTATGGGCGCGCAGACGCTTTTGCTCT
CACACAATATCGAAACGCTCGGACAAATGTCGTGCAACCCCTCTATCGGCGGCATCGGCA
AAGGGCATTTGGTGCGCGAACTCGACGCGCTCGGCGGCGCGATGGCGTTGGCAACCGACA
AATCCGGTATCCAGTTCCGCCGCCTGAACGCCAGCAAAGGCGCGGCAGTGCGTGCCACGC
GCGCGCAGGCGGACCGCATCCTGTACAAAGCCGCCATCCGCGAAATGTTGGAAAACCAAG
AAAACCTCGACCTTTTCCAACAAGCCGTCGAAGACGTAACGCTCGACGGCGAACGCATCA
GCGGCGTAATTACCGCGATGGGCGTGGAGTTTAAAGCACGCGCCGTCGTGTTGACCGCAG
GCACGTTTTTGTCCGGCAAAATCCACATCGGTTTGGAAAACTACGAAGGCGGACGCGCCG
GCGACCCCGCCGCCAAATCGTTGGGCGGACGTTTGCGCGAATTGAAGCTGCCGCAAGGCC
GTCTGAAAACCGGCACGCCGCCGCGTATTGACGGACGCACGATTGACTTCTCCCAACTGA
CCGAACAGCCCGGCGACACGCCCGTTCCCGTCATGTCCGTGCGCGGCAACGCCGATATGC
ACCCGCGCCAAGTGTCCTGCTGGATTACGCATACCAACACGCAAACCCACGACATCATCC
GCTCAGGCTTCGACCGCAGCCCGATGTTTACCGGCAAAATCGAAGGCGTGGGTCCGCGTT
ATTGTCCGTCTATCGAAGACAAAATCAACCGCTTCGCCGACAAAGACAGCCACCAGATTT
TCCTCGAACCCGAAGGTCTGACCACGCACGAATACTATCCTAACGGTATCTCCACCAGCC
TGCCGTTCGACATCCAAATCGCGCTCGTCCGCAGTATGAAAGGTTTGGAAAACGCCCATA
TCCTGCGCCCCGGCTACGCCATCGAATACGACTACTTCGATCCGCGCAACCTCAAAGCAA
GCCTCGAAACCAAAACCATTGCCGGATTGTTTTTCGCCGGGCAAATCAACGGTACGACCG
GCTACGAAGAAGCCGCCGCGCAAGGTTTATTGGCAGGCGCGAACGCCGTGCAATATGTGC
GCGGACAAGACCCGCTCCTGCTGCGCCGCGAACAAGCCTACCTCGGCGTATTGGTGGACG
ACCTCATCACCAAAGGCGTGAACGAACCCTACCGAATGTTCACCAGCCGCGCCGAATACC
GCCTGCAACTCAGGGAAGACAACGCCGACATGCGCCTGACCGAAGACGGCTACAAAATCG
GCTTGGTGTCCGAAGCGCAATGGCGCATGTTCAACGAAAAACGCGAAGCCGTCGAACGCG
AAATCCAACGTTTGAAAACAACGTGGTACACGCCGCAAAAACTCGCCGAAGGCGAACAAA
TCCGTGTGTTCGGACAAAAACTCAGCCGCGAAGCCAACCTGCACGACCTCCTGCGCCGCC
CAAACCTCGACTACGCCGCGCTGATGACGCTCGAAGGCGCGATGCCGTCTGAAAACCTCT
CCGCCGAAGTCATCGAACAAGTCGAAATCCAAGTCAAATACCAAGGCTATATCGACCGCC
AAAACGAAGAAATCGACAGCCGCCGCGACATCGAAACCTTAAAACTGCCCGACGGCATCG
ATTACGGCAAAGTCAAAGGCTTGTCGGCAGAAGTGCAGCAAAAGCTCAACCAGCACAAAC
CCGAAACCGTCGGACAAGCCAGCCGCATTTCCGGCGTAACCCCTGCGGCAGTGGCATTGC
TGATGGTGCATTTGAAGCGCGGGTTTAAAGACGCGAAATAAACACATCGGCGCGATGCCG
TCTGAAACCCTTTTCAGACGGCATTCCCACCATCCCGACAGGAAACATCATGCACATACT
GACCGCCGGCGTGGACGAGGCAGGACGCGGACCTTTAGTCGGCAGCGTGTTGCCGCCGC
CGTCATCCTTCCGGAAACATTCGACCTGCCCGGACTGACCGACTCCAAAAAACTCAGCGA
GAAAAAACGCGACGCGCTTGCCGAAATGATAAAAAATCAGGCGGTTGAGTGGCACGTTGC
CGCCGCCTCGCCCGAAGAAATCGCCAGCCTCAACATCCTGCACGCCACCATGCTCGCGAT
GAAACGCGCCGTTGACGGCTTGGCTGTGCGTCCCGAAAAAATATTCATCGACGGCAACCG
CATTCCTGAACATTTGAACATCCCTGCCGAAGCCGTCGTCAAAGGCGACAGCAAAATCAT
CGAAATCTCCGCCGCATCCGTTTTGGCAAAGACCGCACGCGATGCGGAAATGTACGCACT
```

```
GGCGCAACGCCATCCCCAATACGGTTTCGACAAACACAAAGGTTACGGCACGAAGCAGCA
TTTGGAAGCCCTCGAAAAATACGGCGTGCTGCCCGAACACCGCCGCGACTTCGCCCCCGT
CAGAAACCTGCTCGCGCAGCAGGCCTTGTTTTAAACCGGCACAAAAATGCCGTCTGAAGC
CTTCAGACGGCATTTCCGGCATCGCAACTCCAAAGAGAAAGAACCCAAACCGTCATTCCC
GCGAAAAATAGAAAATCAAAAAAAAACCTAAAATCCGTCATTCCCGCGCAGGCGGGAAT
CCAATCCGTCCGGTTTCCGTTTTTTTTTTGAATTTCAGGTAACTTCCAAACCGTCATTCC
CGCGAAAGCGGGAATCTAGAAACTCAAAGCTGCAAGAATTTATCAAAAATGACTGAAGCT
CAAAAAACCGGATTCCTACGAAAACAGGAATCCGGAGTCTCAGGGCTGGCAAAACCGTTT
TACCCGATAAGTTTCCGTACCGACAGACCTAGATTCCCGCCTTCGCGGGAATGACGAAAT
TTTAGATTGCAGGCATTTATCGGATAAAACAGAAATTAAGCGTGACGAAAATTTATCCGA
AATCACAGCAACTTTTCCGCGTCATTCCCGCAAAAGCGGGAATCTAGAAACTCAAAGCTG
CAAGAATTTATCAAAAATGACTGAAACTCAAAAAACCGGATTCCCGCGAAAACAGGAATC
CGGAGTCTCAGGTTTGGAAAAACCGTTTTTCCCGATAAGTTTCCGTACCGACAGACCTAG
ATTCCCGCCTTCGCGGGAATGACGAAATTTTAGGCTTCTGTTTTGATTTTTTGTTTTTGC
GGGAATGACGAAATTTTAGATTGCAGGCATTTATCGGATAAAACAGAAATTAAGCGTGAC
GAAAATTTATCCGAAATCACAGCAACTTTTCCGCGTCATTCCCGCAAAAGCGGGAATCTA
GAAACTCAAAGCTGCAAGAATTTATCAAAAATGACTGAAACTCAAAAAACCGGATTCCCG
CGAAAACAGGAATCCGGAGTCTCAGGGTTGGAAAAACCGTTTTTCCCGATAAGTTTCCGT
ACCGACAGACCTAGATTCCCGCCTGCGCGGGAATGACGATATTTCAGTTTTGTGTTTTTG
ATTTTTTTGTTTTTGCGGGAATGACGATAAATGACGATATAAGTATTTTTATTTTAATCC
GCCATATTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAG
AACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGCACTGTCT
GCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATAACGCACCCGGCCAAACAG
CATAAAGGCACGGGCAGCCCGATTTGGATTGACCTATTTCCCCGACACCCTCGCCGCCAG
CTCGTCCGCCAAGGCAAGATACGCCTTGGTACCCTTTGCCTGCGCGTCGTAAGCCATCAC
CGGCATACCGTGGCTCGGCGCTTCCGCAAGGCGGATATTGCGCGGGATGACGGTTTCAAA
AAGCAAATCCCCGAAATGGCTGCGCAACTGTTCGCTGACTTCGGCAACCAGCCTGCTGCG
GCTGTCGTACATCGTGCGCACGATGCCCGTGATGTCCAAATCGGGATTGACCGCCTGACG
GATTTTGCGCACGGTCGCAATCAAATCGGAAATCCCTTCCAGCGCGTAATATTCGCACAA
CATCGGCACAATCACGCCGCCCGCCGCCACCAGCCCGTTAAGCGTCAACAGCGTCAGCGA
AGGCGGGCAGTCGATCAGGATAAAGTCGTAATCTTCTTCCACTGCCTTGAGCGCGTTTTT
CAAACGCACTTCCCGGGCGATTTCCTGCACCAGTTCGATTTCCGCGCCGGCCAGCGCGCG
GTTCGCACCCAACACAGCGTATCCGCCCTCTTTGCTGCGTACCGCCGCCGACTGCACGTC
CGCATCGCCCAATAAGACCTGATAAACGCCGGACTGCAAACCCGCCTTGTCGATGCCGCT
GCCCGTCGTCGCATTGCCCTGCGGATCCAAATCGACCACCAGCACGCGTTTGCCGCGCGA
TGCCAGCGAAGCCGCCAAATTTACCGTCGTCGTCGTTTTGCCCACACCGCCCTTCTGATT
GGCGATGGCAAGGATGTTCGCACTCATGTCCCGCCCGTGTCCCGTCTGATGTTGAAAAAA
GAAAAACAGTGCGGAATTTTACCTTTATCCGCACAAAAAAGGTATTCATGCCGTCTGAAG
TGCGCTCAACGCTTGCTCAGGATGACGATATGGCGTTCCGCATCCAAGCCCGGCACGTCG
AGCCTTTGGACTTTTTCAACGCACACATCCTGCGGCAGGCGGCCGATTTCTTCCTGCGGA
TACACGCCCTTCATCGCCGCCCAGTAGCCGCCGTCTTTCAACAGATGCACCGTCCACGAC
ACAAATCCGCCAGTTCTGCAAACGCACGGCTGGTAACCACATCGGCACGCACGTCCGAA
ACCGCCTCCACGCGTCCGGATACCACGCGCACATTGTCCAACCCCAACTCGATAACCGCC
TGCTGTAAAAAAGCCGTTTTCTTCGTATTCGCATCCAAAAGGGTTATTTGCACATCCGGA
CGGCACACCGCCGCCGGAATGCCGGGCTGACCGCCGCCCGAACCGACATCCAGCATCGTT
TGCACACCCTCGATATGGGGCAGCAGCGTCAGGCTGTCCAAAAGATGATGGACAATCATT
TTTTCCTCGTCGCGCAGGGCGGTCAGATTGTAGGTTTTGTTCCACTTTTTCAACAAATCC
ACATAGACCAAAAGCCTGTCCTGCGCCGTTTCCGAAATATCCAGCCCCATCGCGGCAATG
CCTGCACGCAGGCGTTCTTTGCGTTCCATATCTGCTTCCTGTCCATATTCAGGCGTAATG
TTAGCGGAAAAACATGCCGTCTGAAACCGCGTGTCGGGTTTCAGACGGCATTTCCCGTTC
CAACCTATTTTTTCCTGTGAAACACCACCGGCTGCACCGGCGCGCGCGTCAGGCGTTTGG
GCAGCGTCAGCATCGCCACCAGCCACACGGCAAACGCATATTCCAACACCGCCTCCCCCG
CAGCCCGCCCAAAGCCCCACTGCCAAGCAGCAGCTCGAAAATCCAAGCCACCGCTGCCGC
CGCGCAAGCCGCCACGCCCGACAGAAACAGTGTGTAACGCGAATGCCGCCGCATCATCTT
TTTGTACGCCAGTTTCGTCAGACCCGCCGACACAACCACATTCAAAAACGCAAACACACC
GAACACAAACCAAACAGTGCCGTCCCAACCGCCACGCCAGCCGAATCCGCCGTCCGACAC
CGACACCAGCAACCCCGTCCGTCCGAACGCAAGCGCAAAGGCATCATGCACCGCCAACGC
```

```
AAACGGCAGCGTCAAAAACACCAGTCCCGCAAACAGAGCCGCATAAGGATATTTCTCGTT
CACAAACATCGCCGTCCCCCTCTTCCGAAGCAGACCGCATTATATAGCGGATTAACAAAA
ATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGT
GCTTGAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTT
TTTGTTAATCCACTATACCGCGCACTGCCTTGCCGCCCGCCCGAAAAGTTGCACAAACAA
CCGTTCATATATATCATGACGAAAAAACGCCGGTGTAGCTCAGTCGGTAGAGCAGCGCAT
TCGTAACGCGAAGGTCGGGGGTTCGATTCCCTTCTCCGGCACCAATACCAAGCACAGACC
CTCCCTTCCTCGGGAAGCCTGTGCTTTTTCACATTTCCGCTTCAGACGGCACAACCGATA
TGAACACCTCGCAACGCAACCGCCTCGTCAGCCGCTGGCTCAACTCCTACGAACGCTACC
GCTACCGCCGCCTCATCCACGCCGTCCGGCTCGGCGGGGCCGTCCTGTTCGCCACCGCCT
CCGCCCGGCTGCTCCACCTCCAACACGGCGAGTGGATAGGGATGACCGTCTTCGTCGTCC
TCGGCATGCTCCAGTTTCAAGGGGCGATTTACTCCAAGGCGGTGGAACGTATGCTCGGCA
CGGTCATCGGGCTGGGCGCGGGTTTGGGCGTTTTATGGCTGAACCAGCATTATTTCCACG
GCAACCTCCTCTTCTACCTCACCGTCGGCACGGCAAGCGCACTGGCCGGCTGGGCGGCGG
TCGGCAAAAACGGCTACGTCCCTATGCTGGCAGGGCTGACGATGTGTATGCTCATCGGCG
ACAACGGCAGCGAATGGCTCGACAGCGGACTCATGCGCGCCATGAACGTCCTCATCGGCG
CGGCCATCGCCATCGCCGCCGCCAAACTGCTGCCGCTGAAATCCACACTGATGTGGCGTT
TCATGCTTGCCGACAACCTGGCCGACTGCAGCAAAATGATTGCCGAAATCAGCAACGGCA
GGCGCATGACCCGCGAACGCCTCGAGGAGAACATGGCGAAAATGCGCCAAATCAACGCAC
GCATGGTCAAAAGCCGCAGCCATCTCGCCGCCACATCGGGCGAAAGCCGCATCAGCCCCG
CCATGATGGAAGCCATGCAGCACGCCCACCGTAAAATCGTCAACACCACCGAGCTGCTCC
TGACCACCGCCGCCAAGCTGCAATCTCCCAAACTCAACGGCAGCGAAATCCGGCTGCTTG
ACCGCCACTTCACACTGCTCCAAACCGACCTGCAACAAACCGTCGCCCTTATCAACGGCA
GACACGCCCGCCGCATCCGCATCGACACCGCCATCAACCCCGAACTGGAAGCCCTCGCCG
AACACCTCCACTACCAATGGCAGGGCTTCCTCTGGCTCAGCACCAATATGCGTCAGGAAA
TTTCCGCCCTCGTCATCCTGCTGCAACGCACCCGCCGCAAATGGCTGGATGCCCACGAAC
GCCAACACCTGCGCCAAAGCCTGCTTGAAACACGGGAACACGGCTGACGGTCGGACACGA
TGCCGTCTGAAACGCCTGTCGCTTCAGACGGCATCCCCAATCCGCCTACCTTGTCGTTAT
GCCCGAATAACGGTACTATTCGCGGTTAACGGTCTTTATGCCGTCTGAACGGCTTGAAAC
GCGTTCAGACGGTCTCCCGCCCACCTTATCCCACCGAAAGAACAATATGATCAACGATAT
TCAAAAAACAGCCGAAGGCAAGATGCAGCGTTCGGTCGAAGTACTGAAAGAAAATCTGGC
GAAAGTGCGTACCGGCCGCGCGCATACCGGCCTGCTCGACCAAGTGGAAGTCGAATACTG
GGGCAGCATGGTCCCCGTCAGCCAAGTTGCCAACGTAACGCTTCTGGACGCGCGCACCAT
CGGCGTGAAACCGTTTGAGGGCAATATGGCGGCCAAAGTCGAGAAAGCCATCCGCGATTC
AAACTTGGGACTGAACCCGGCAGCTGTCGGCGACCTGATCCGCGTGCCGATGCCCATGCT
GACCGAGGAACGCCGCAAAGACCTGATTAAAGTCGTACGCGGCGAAGCGGAAGAAGGCCG
CGTCTCTATCCGCAACGTGCGCCGCGATGCCAACGACCACATCAAAAAACTCCTCAAAGA
CAAAGAAATTTCCGAAGACGAGGCACGTCGCGGCGAAGAAGCGGTTCAAAAACTGACCGA
CAAATACATTACCGAAGCCGACAAACTCCTGACTGCCAAAGAAGAAGATTTGATGGCAAT
TTAACCTGCACGGTTCGGCGTTCAGACGGCATTTGAATGCCGAACCGCGAAAGGCAGACA
TGAAAAGCAGCACGCAGGCCGTTTTGGAACACACCGCCATTCCCAAGCATATCGCCGTGA
TTATGGACGGCAACGGCCGTTGGGCGAAAAAACGTTTCCTCCCGCGCATAATGGGACACA
AACGCGGTTTGGACGCATTGGAAAATATGGTGAAGCATTGCGCCAAACTGGGTGTGCAAT
ATCTGACCGTGTTTGCCTTTTCAACCGAAAACTGGCGCCGCCCCGAAGACGAAGTTTCGT
TCCTGATGGGGCTGTTTTTACAGGCTTTGCAAAAACAGGTACGCCGCCTGCACGAAAACA
ATATGCGCCTGAAGATATTGGGCAGCCGCGAACGCTTCAACCGGCAGATTCTGCAAGGCA
TCGAAGAGGCGGAAGCGTTGACGGCAAACAATACCGGCCTGACCCTGAGCATTGCCGCCG
ATTACGGCGGCCGCTGGGATATTTTGCAGGCGGCAAACAAACTGATTGCCGAAGGCGTAT
CCGAGATTACGGAAGACACGCTGGCGAAACACTTGATGCTGGGCGATGCACCGGAACCGG
ATTTGTTCATCCGCACCGGCGGCGAAACGCGCATCAGCAATTTCCTGCTCTGGCAGATGG
CATATGCAGAACTGTATTTCACCGATATTTTGTGGCCCGATTTTGACGGCAAGGCTTTGG
ACGATGCCGTCGCTTCGTTCCAAAAACGCGAACGGCGGTTCGGACGCACCTCCGAGCAAC
TGCCTATCGAACAGCAAAGGAACTGAATATGCTGAAACAACGGGTAATAACCGCCATGTG
GCTGCTGCCGCTGATGCTGGGCATGCTGTTTTACGCGCCGCAATGGTTGTGGGCTGCATT
TTGCGGACTGATTGCCCTGATTGCCTTGTGGGAATATGCCCGTATGGGCGGTTTGTGCAA
AATTAAAAACCAACCATTACCTCGCCGCAACCTTGGTTTTCGGCGTGGTTGCCTATGCGGG
CGGCTGGATGCTGCCTAATTTGGTTTGGTATGTTGTTTTGGCATTTTGGCTCGCCGTTAT
```

GCCTTTATGGTTGAGATTCAAATGGAGGCTCAACGGCGGTTGGCAGGTTTATGCCGTCGG
CTGGCTTCTGGTCATGCCGTTTTGGTTCGCGCTCGTATCCCTGCGCCCGCATCCCGATGA
TGCCCTGCCGCTGCTCGCCGTGATGGGTTTGGTGTGGGTTGCCGATATTTGCGCGTATTT
CAGCGGCAAGGCGTTCGGCAAACACAAAATCGCGCCGGCAATCAGCCCCGGCAAAAGCTG
GGAAGGTGCAATCGGCGGCGCGGTTTGCGTGGCAGTGTACATGACCGCCGTACGAAGTGC
CGGCTGGCTGGCATTCGATACAGGCTGGTTCGATACCGTGTTAATCGGTTTGGTGCTGAC
CGTTGTCAGCGTATGCGGCGACCTTTTGGAAAGCTGGCTCAAGCGCGCGGCAGGCATCAA
AGACAGCAGCAAGCTGCTGCCCGGACACGGCGGCGTGTTCGACCGTACCGACAGCCTGAT
TGCCGTTATCAGCGTCTATGCAGCGATGATGTCGGTTTTAAATTGATTCTATGCCGTCTG
AAAACGCTTCAGACGGCATCCGGTATAAAGTTATCCCCATTATGACACCACAAGTCCTGA
CCATATTAGGCAGTACCGGCAGCATAGGCGAAAGCACGCTGGACGTTGTCTCCCGCCACC
CCGAAAAATTCCGCGTATTCGCGCTGGCAGGGCATAAGCAGGTCGAGAAATTGGCGGCTC
AATGTCAAACGTTCCACCCCGAATATGCCGTCGTTGCCGATGCGGAACACGCCGCCCGGC
TTGAAGCCCTGTTGAAACGCGACGGCACGGCGACTCAGGTTTTACACGGCGCGCAGGCAT
TGGTTGACGTTGCCTCTGCCGACGAAGTCAGCGGTGTCATGTGCGCCATCGTCGGGGCGG
TGGGGCTGCCTTCCGCGCTCGCAGCGGCGCAAAAAGGCAAAACCATTTATCTGGCAAACA
AAGAAACGCTGGTGGTTTCCGGCGCGTTGTTTATGGAAACCGCCCGTGCAAACGGCGCGG
CAGTGCTGCCCGTCGACAGCGAACACAACGCCGTTTTCCAAGTTTTGCCGCGCGATTACG
CCGGCCGTCTGAACGAACACGGCATCGCTTCGATTATCCTGACCGCTTCCGGCGGCCCGT
TTCTGACCGCCGATTTAAACACGTTCGACCGCATTACGCCCGCCCAAGCGGTCAAACACC
CCAATTGGCGTATGGGACGCAAAATCTCCGTCGATTCCGCCACCATGATGAACAAAGGTT
TGGAGCTGATTGAAGCGCATTGGCTGTTCAACTGTCCGCCCGACAAACTCGAAGTCGTCA
TCCATCCGCAATCCGTGATACACAGCATGGTGCGCTACCGCGACGGCTCCGTGCTGGCGC
AACTGGGCAATCCCGATATGCGAACGCCCATCGCTTATTGTTTGGGTTTGCCCGAGCGCA
TCGATTCGGGTGTCGGCGACCTGGATTTCGACGCATTGTCCGCGCTGACCTTCCAAAAGC
CCGACTTTGACCGCTTCCCCTGCCTGAGGCTCGCCTATGAAGCCATGAACGCCAGGCGGAG
CCGCGCCCTGCGTATTGAACGCCGCCAACGAAGCCGCCGTCGCCGCCTTTTTGGACGGAC
AGATTAAGTTTACCGACATTGCCAAAACCGTCGCCCACTGTCTTGCACAAGACTTTTCAG
ACGGCATAGGCGATATAGGGGGGCTCTTGGCGCAAGATGCCCGGACACGCGCACAAGCGC
GAGCATTTATCGGCACACTGCGCTGATGCCATCTGAACACCGTTATCAAAGGAAAACCAT
TTGCACACCCTTCTAGCTTTTATCTTCGCCATCCTGATTTTGGTCAGCCTGCACGAGTTC
GGACACTACATCGTTGCCAGATTGTGCGGCGTCAAAGTCGTACGCTTTTCCGTCGGCTTC
GGCAAACCGTTTTTCACCCGAAAGCGCGGCGACACCGAATGGTGCCTCGCCCCGATTCCG
TTGGGCGGTTACGTCAAAATGGTCGATACGCGCGAAGGCGAAGTATCAGAAGCCGATTTA
CCCTACGCTTTTGACAAACAACACCCCGCCAAGCGCATCGCCATCGTCGCCGCCGGCCCA
CTGACCAACCTCGCACTGGCGGTTTTGCTGTACGGACTGAGCTTTTCCTTCGGCGTAACC
GAACTGCGCCCCTACGTCGGCACAGTCGAACCCGACACCATTGCCGCCCGCGCCGGCTTC
CAAAGCGGCGACAAAATACAATCCGTCAACGGCACACCCGTTGCAGATTGGGGCAGCGCG
CAAACCGAAATCGTCCTCAACCTCGAAGCCGGCAAAGTCGCCGTCGGCGTTCAGACGGCA
TCGGGCGCGCAAACCGTCCGCACCATCGATGCCGCAGGCACGCCGGAAGCCGGTAAAATC
GCAAAAAACCAAGGCTACATCGGACTGATGCCCTTTAAAATCACAACCGTTGCCGGCGGC
GTGGAAAAAGGCAGCCCCGCCGAAAAAGCAGGCCTGAAACCGGGCGACAGGCTGACTGCC
GCCGACGGCAAACCCATCGCCTCATGGCAAGAATGGGCAAACCTGACCCGCCAAAGCCCC
GGCAAAAAAATCACCCTGAACTACGAACGCGCCGGACAAACCCATACCGCCGACATCCGC
CCCGATACTGTCGAACAGTCCGACCACACCCTGATCGGGCGCGTCGGCCTCCGTCCGCAG
CCGGACAGGGCGTGGGACGCGCAAATCCGCCGCAGCTACCGTCCGTCTGTTGTCCGCGCA
TTCGGCATGGGCTGGGAAAAAACCGTTTCCCACTCGTGGACAACCCTCAAATTTTTCGGC
AAACTAATCAGCGGCAACGCCTCCGTCAGCCATATTTCCGGGCCGCTGACCATTGCCGAC
ATTGCCGGACAGTCCGCCGAACTCGGCTTGCAAAGTTATTGGAATTTTTAGCACTGGTC
AGCATCAGCCTCGGCGTGCTGAACCTACTGCCCGTCCCTGTTTTGGACGGCGGGCACCTC
GTGTTTTATACTGCCGAATGGATACGCGGCAAACCTTTGGGCGAACGCGTCCAAAACATC
GGTTTGCGCTTCGGGCTCGCCCTCATGATGCTGATGATGGCGGTCGCCTTCTTCAACGAC
GTTACCCGGCTGCTCGGTTAGATTTTACGTTTCGGAATGCCGTCTGAAACCGCATTCCGC
ACCACAAGGAACTGACAATGAAACTGAAACAGATTGCTTCCGCACTGATGATGTTGGGCA
TATCGCCTTTGGCACTTGCCGACTTCACCATCCAAGACATCCGCGTCGAAGGCTTGCAGC
GTACCGAGCCGAGTACCGTATTCAACTACCTGCCCGTCAAAGTCGGCGACACCTACAACG
ACACACACGGCAGTGCCATCATCAAAAGCCTGTACGCCACCGGTTTCTTTGACGACGTAC

```
GCGTCGAAACTGCGGACGGGCAGCTCCTGCTGACCGTTATCGAACGCCCCACCATCGGCT
CGCTCAACATCACCGGCGCAAAAATGCTGCAAAACGACGCCATTAAGAAAAACCTCGAAT
CGTTCGGGCTGGCGCAGTCGCAATACTTTAATCAGGCGACACTCAATCAGGCAGTCGCCG
GCCTGAAAGAAGAATACCTCGGGCGCGGCAAACTCAATATCCAAATCACGCCCAAAGTAA
CCAAACTCGCCCGCAACCGCGTCGACATCGACATCACGATTGACGAGGGCAAATCCGCCA
AAATCACCGACATCGAATTTGAAGGCAACCAAGTCTATTCCGACCGCAAACTGATGCGGC
AAATGTCCCTGACCGAAGGCGGCATTTGGACATGGCTGACACGAAGCAACCAATTCAACG
AGCAGAAATTTGCCCAAGATATGGAAAAAGTAACCGACTTCTACCAAAATAACGGCTACT
TCGATTTCCGTATCCTCGATACCGACATCCAAACCAACGAAGACAAAACCAAGCAGACCA
TCAAAATCACCGTCCACGAAGGCGGACGTTTCCGTTGGGGCAAAGTCTCCATCGAAGGCG
ACACCAACGAAGTCCCCAAAGCCGAACTGGAAAAACTGCTGACCATGAAGCCCGGCAAAT
GGTACGAACGCCAGCAGATGACCGCCGTTTTGGGTGAGATTCAGAACCGCATGGGCTCGG
CAGGCTACGCATACAGCGAAATCAGCGTACAGCCGCTGCCGAACGCTGAAACCAAAACCG
TCGATTTCGTCCTGCACATCGAACCGGGCCGGAAAATCTACGTCAACGAAATACACATCA
CCGGCAACAACAAAACCCGCGACGAAGTCGTCCGCCGTGAATTACGCCAAATGGAATCCG
CACCTTACGACACCTCCAAGCTGCAACGTTCCAAAGAGCGCGTCGAGCTTTTGGGCTACT
TCGACAATGTCCAGTTTGATGCTGTCCCGCTTGCCGGCACGCCCGACAAAGTCGATTTGA
ACATGAGTCTGACCGAACGTTCCACCGGTTCCCTGGATTTGAGCGCGGGTTGGGTTCAAG
ATACCGGGTTGGTCATGTCCGCAGGCGTTTCCCAAGACAACCTGTTCGGTACGGGCAAGT
CGGCCGCACTGCGCGCCTCCAGGAGCAAAACCACGCTTAACGGCTCGCTGTCGTTTACTG
ACCCGTACTTCACGGCAGACGGGGTCAGCCTGGGCTACGATGTTTACGGAAAAGCCTTCG
ACCCGCGCAAAGCATCGACCAGCATCAAACAATATAAAACCACCACGGCAGGCGCAGGCA
TCCGCATGAGCGTGCCTGTTACCGAATACGACCGCGTGAATTTCGGTTTGGTGGCAGAAC
ACCTGACCGTCAACACCTACAACAAAGCGCCCAAACACTATGCCGACTTTATCAAGAAAT
ACGGCAAAACCGACGGCACAGACGGCAGCTTCAAAGGCTGGCTGTACAAAGGTACCGTCG
GCTGGGGGCGCAACAAAACCGACAGCGCGTTATGGCCGACGCGCGGCTACCTGACGGGCG
TGAACGCCGAAATCGCCCTGCCTGGCAGCAAACTGCAATACTACTCCGCCACCCACAACC
AAACCTGGTTCTTCCCCCTGAGCAAAACCTTCACGCTGATGCTCGGCGGCGAAGTCGGCA
TTGCGGGCGGCTACGGCAGAACCAAAGAAATCCCCTTCTTTGAAAACTTCTACGGCGGCG
GCCTGGGTTCGGTGCGCGGATACGAAAGCGGCACGCTCGGTCCGAAAGTCTATGACGAAT
ACGGCGAAAAAATCAGCTACGGCGGCAACAAAAAAGCCAACGTCTCCGCCGAGCTGCTCT
TCCCGATGCCCGGCGCGAAAGACGCGCGCACCGTCCGCCTGAGCCTGTTTGCCGACGCAG
GCAGCGTGTGGGACGGCAAAAACCTACGACGACAACAGCAGTTCCGCGACCGGCGGCAGGG
TTCAAAACATTTACGGCGCCGGCAATACCCATAAATCCACCTTTACCAACGAATTGCGCT
ATTCCGCCGGCGGCGCGGTTACCTGGCTCTCGCCTTTAGGCCCGATGAAATTCAGCTACG
CCTACCCGCTGAAGAAAAAACCGGAAGACGAAATCCAACGCTTCCAATTCCAACTCGGCA
CGACGTTCTAATCCCGCAAATGCCGTCTGAAGCCCTTCAGACGGCATTTCGCGGCAACAT
TCGAAGGAGTTTTACCATGACCCGTTTGACCCGCGCGTTTGCCGCGGCTCTGATCGGTTT
GTGCTGCACCGCAGGCGCGCACGCCGACACCTTCCAAAAAATCGGCTTTATCAACACCGA
GCGCATCTACCTCGAATCCAAGCAGGCGCGCAAGATTCAAAAAACGCTGGACAGCGAATT
TTCCGCTCGTCAGGACGAATTGCAAAAACTGCAACGCGAAGGTCTGGATTTGGAAAGGCA
GCTTGCCGAAGGCAAACTCAGAAACGCAAAAAAGGCGCAAGCCGAAGAAAAATGGCGCGG
GCTGGTCGCAGCGTTCCGCAAAAAACAGGCGCAGTTTGAAGAAGACTACAACCTCCGCCG
CAACGAAGAGTTTGCCTCCCTCCAGCAAAACGCCAACCGCGTCATCGTCAAAATCGCCAA
ACAGGAAGGTTACGATGTCATTTTGCAGAACGTGATTTACGTCAACACCCAATACGACGT
TACCGACAGCGTCATTAAAGAAATGAACGCCCGCTGACCCTTTCAGACGGCATACCGAAC
AGGAAAACCATGATTCCGGCCACCTACACCCTGTCCCAAATCACCGCGCGGCTCGGCGGC
GAATGGCGCGGCGAGGACATTTCCGTTACCGCCGTGCGCCCGCTCGCAGACGCGCAGGCG
GAACACATCAGCTTCCTTGCCAATCCGAAATACAAAGCCGAAGTCCACGACAGCAGCGCG
GGCGCGGTCATCGTTTCCGCCAAAGCGGCAGACGGATTTGAAGGGCGCAACCTGATTGTC
GCCGACGACCCCTATCTCTATTTCGCCAAAGTCGCCCGCCTGTTTTCACCCGTCGTCAAA
GCGCGCGGCGGCATCCATCCGACCGCCGTCGTCGAACCGGGCGCGACCGTTCCCACCAGC
TGCGAAATCGGCGCGAACGTCTACATCGGCGCAAACACCGTGCTCGGCGAAGGCTGCCGC
ATCTTGGCAAACGCCGTCGTCCAACACGATTGCAAACTGGGCGACGAAGTCGTCCTGCAT
CCCAACGCCGTCGTTTATTACGGCTGCACACTGGGCAGACGCGTCGAAATCCACAGCGGC
GCGGTCATCGGCGCGGACGGTTTCGGACTCGCCTTCGCCGACGATTCGTGGTTCAAAATC
CCGCAAACCGGCGCGGTAACGCTGGGCGACGACGTAGAAATCGGCTCGAACACCAACATC
```

```
        GACCGCGGCGCGATGAGCGACACCACCGTCGGCAACGGCACCAAAATCGACAACCAAGTC
        CAAATCGGACACAACTGCAAAATCGGTTCGCACACCGTCATCGCCGCCAAAACCGGCATC
        TCAGGTAGCGTAACCATAGGCAGCTACTGCATCATCGGCGGCGGCGTCGGTACGGTCGGA
        CACATCGAAATCGCCGACAAAACCACCATCGGCGGCGGCACGTCCGTCACCCACAGCATT
5       ACCGAAAGCGGCAAACACCTCGCCGGCATCTTCCCGATGTCCACCCATAAAGAATGGGCG
        CGCAACGCTGTTTACATCCACCGCTTAAGCGAAATGAACAAACGGCTCAAAACACTGGAG
        CAGCAGCTTTCAGATGCCGGTCAAGACAGCAAATAACCAAACCGACTTTATTCAAGGAAT
        ACGACAGACATGGACGTACAACTCCCCATCGAAGCCAAAGACATCCAAAAACTCATCCCC
        CACCGCTATCCGTTTCTCCAGCTCGACCGCATCACCGCCTTCGAGCCGATGAAAACCCTG
10      ACCGCGATTAAAAACGTCACCATAAACGAACCCCAGTTCCAAGGCCATTTCCCCGACCTG
        CCCGTGATGCCCGGCGTACTCATCATCGAAGCGATGGCGCAGGCGTGCGGCACGTTGGCG
        ATTTTGAGCGAAGGCGGGCGCAAAGAAAACGAATTCTTCTTCTTCGCCGGCATAGACGAA
        GCCCGTTTCAAACGCCAAGTCATCCCCGGCGACCAACTCGTCTTTGAAGTCGAGCTGCTG
        ACCAGCCGGCGCGGCATCGGCAAATTCAACGCCGTTGCCAAAGTGGACGGGCAAGTTGCC
15      GTCGAAGCCATCATCATGTGTGCCAAACGCGTGGTTTGAGTGTTCAGAAAAAGGTCGTCT
        GAAAGTTTTCAGACAACCTGTTGCCGTCGCGCATCTTCGCGGCAACACGACAGGAAAGGA
        AAAACATGACCCTCATCCACCCGACCGCCGTCATCGACCCCAAAGCCGAACTCGACTCCG
        GCGTCAAAGTCGGCGCGTACACCGTTATCGGCCCCAACGTCCAAATCGGCGCGAATACCG
        AAATCGGTCCGCACGCCGTCATCAACGGCCACACCAGCATCGGCGAAACAACCGCATTT
20      TCCAATTTGCCAGCCTCGGCGAAATCCCGCAGGACAAAAAATACCGCGACGAGCCGACCA
        AGCTGATTATCGGCAACGGCAACACCATCCGCGAATTCACCACCTTTAATTTAGGTACGG
        TAACCGGCATCGGCGAAACCCGGTATCGGCGACGACAACTGGATTATGGCGTA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 27>:

gnm_27

```
        ATTTCGGCGAGCCGTAGGGTGGGCTGTAGGGTGGGCTTCAGCCCACCAATTTCACCGCAT
        CAAAGGTTTTTGGGAATACGGCGGTTTCGGTTTTCGGTGGGAATGGGCGGAATkGATAAC
        ATTGACGGAGTTGGGGGAATAGGTGGAAACGGTGGGATTGGTGGGcTGAAGCCCACCCTA
        CAGCCAGCCCTATGTCCACGCTGCACATCCTACGCCCGCCTTGCGTTTCTTATAAGCAGC
30      ATTTTACGCAATACTTTGCGTCCGCTGAAAAAATTTCAAACGGTCTTTTTTATCAAATGC
        GAAAAATATAACGTCATTCCCGCGCAGGCGGGAATCTAGTCTGTCGGTGCGGAAACTTAT
        CGGATAAAACGGTTTCTTTAGATTTTACGCCCTAGATCCCGTCTGCTCGGGAATAACGGG
        ATTTGAGGTTTCTGTTTTTGATTTTCTGTTTTCGCGGGAATAACGGTTTAGAAGTTACCC
        GAAACCTCAAAAAAACCGAAACCGAACGGACTGGATTCCCGCCTGCGCGGGAATGACGGG
35      TTTCGAGATTACGGTGTATCGGGGATGATGGAAAATGGCGGGGATTGTGTAAAAAATGCC
        GTCTGAAGCCTTTCAGACGGCATTTGCGGCGTTTGGACGTTTAGAACTTCATTTCCAAGC
        TAAATGTGTAGTTGCGACCGGGGGCGGCATATCGGTTGTAAACGCCGACATTTTTGTGTT
        GGTTGACTGCGCCGCCGGCAGTTTGCCGCACATTTTCCCAAGTAACATAGCGGTAGTTGA
        GGAGGTTGTACACGCCCGCACGGAGGGTAAAGTGTTTTTTAACCGTGTAATAACCGGACA
40      CGTCCACAATATACCAAGGGCGGGTACGGCGCGCGGTGGCTTTTGTATTGCGGCTGTTGC
        CGTTGAGCAAAGCCCGGCTGCCCAACAACTCTGTGATTTCCTTGGCTTTGGAATAAGTCA
        GCATACCGTTCACACCCCATTTGCCTTCCGGTTGGTCATAGCCCAAGCCGACGACATAGC
        GCGAGGGTTGGATGGCATCAAACAGATGTGATTGAATATCGGTGCGGTCTGCGCGTTTTT
        TGATGTCGCGGACACGGACACGATTATAGGCAAATGTAGAATACCAACCTTCGGGCAATT
45      TATCCCATACGCCGTTCCAATCGATTTTGCCCAAAATATTGATGCCGGTAATCCGCGCGC
        TTTGGGCATTGAGGTAAGCCGGGTCGCCTTTGGCTTCTTCTTTGCCGTCTTTAATTTGCG
        CTTCATAACCCCGGACAATCAAATCGCGGTAGGCATTGTTGAACCAACTTGCCTCCAAGT
        TGCCGAAATCGCCTTTAAACACGATGCCGGCTTCTTTGTTGAACGATTTTTCCGGATCGA
        TTTTGACCGCCTTGCTTTGAACACCCGCCCGCCAGCCGTACATTTCCGCAAACGAGGGCA
50      GGCGGAAGCCGGTTGAGGTGCGGTAAGTCAAATCCAGCCAGTCGGTAGGTTTGAGGACGA
        TGCCGGCGTTCCAGGACAAGGTGCGGTGCGTGCCGGTGGAAACGCTGCCGTCGTCCGAAT
        GCGTGCTGCGGTAGTCGTAGCGCAAGCCCGCGCCGACATCCGCCCACCTGCCCAAACGGA
        CATTGTCCCGAACTGCCGCGTAATAGCTTTTACCGTTGATGCTGCGCGGCGTGCAGTCCG
```

```
TATAAGTATTGTTGCCCAAGCGGCAGATTTGCCCCGTAACGACATTTCCCCTGCCTATGG
TGACCCAATAGGGGCTGGTTTCACTGCCGTTGGGGCTGATTTTTTTGCCGTTGTTTTGAG
GGGGCGTGTTCGACGAATAGGCGCGGTTGGCATGTTGATAATAATAATCCTGATGGCGGA
GATTAGAGCCAAAGCGGTCAAACCCGAGATTCACGCTCAGGTTGTGGCGGATTTTGGCGG
TATCGAAGGATTTTTTGAATGCCGCCTGCAAGAGCCTGTGGCTTTCCCCGTAAATCACGC
GATCGGATTTGTAATAGGAAACGGCTTGTCGGCACTCGGGCGGCAATATTTGTCCGAAC
CGTCGGCAGAACAGTGCGTCTGCTGAAAATGATTATCCAAACCGATGCCCTGCCGGTCGT
AAGAGAGGCGGGCATAATCCGCCCAAGTGTCTTTATCGGCATTGGTATAGACATATTCCA
AACCGTAGCGGCTTTTGGTGTGCGTCTCGTCGTAAAACACGCCCGTACCGTATTCCGCGC
CCACCAGCGCACCGTTTTCGCCGTTGGTAAACAGTCCGCCGTATTTGTGGTTGCCCGCGT
ATTTGCCGTTACCGGGCAAAGAACCCGCCTGTTTTTTATTTGCATCAAAAACCGCCTTGG
TCAGGAATGCCGGAACCGTCATATCGCGCGTGTCGAAAGTTTGTTGCGTGTGTTCGAGTA
TGCCGCCGATGTAGTGCCGCTTATTCTCAAAACGAAAACCCGGGCGGAACAGCCACGACC
GGCTTTCGTATGAAAGCGGATCGGCGAGGAAGCGGTTGGGACCCGTGTAGTCTCGGGTGG
AAACCGTTTGACGTTCGTCTTTGCCGACAACATCTTTTTTCGGATTCGCTTTACACGTTT
CATAACTCCCGTTTTTGCATTCTTCTTTAACGATGAAATAGGCGTAATTGCTGCTGTCTT
CAACCGGCACCAGCCTGTTAAAGCTCTGAACGCCGCGTCCTGCATCTTCGTGGGCGCGGA
TTTCCCCGCGCGCCGCCCGGTGTGGATCAGCAAAGCCTCCGCACCGCCGATGCGCCCCG
CCAGCGCGATGGATTGGGTAAGCCCCCGGTTTTTGCCGGAATAGGCGGTTTTACTCTGAA
TGCCCCACTGCCTGCCTTCCCCGATAACATCGTCGGCGGTTTTGGTTTGAAATGCGACCG
AGCCCGCCAATGCGCCGCTGCCTTGTTCGACCGAGTTTGAGCCTTTGCTGATTTCGACAG
CTTTGACGTTTTCATACTCGATTTCATTGATTGCGCCGCTGCTGCCCGCCGTCCTCGTCC
CGCCCAATGCCGCCTGCGCGGTGTAGGACTGTATTTGCGAAACGCCGTCCACCGTTAAGG
AAACGCGGTTTTTATCCATGCCGCGTATTGAATAGCCGGAACTTGCGCCCCGACCCTGTT
CGACCACGGCAATACCCGGATCATAACGGGTCAGGTCTCGGATATTCAAAACCTGTTCTT
TACTTAGCGTATCGGAAGACTTGACCAACTTGCCCAGCCCGGTTACTTCGTTATCGCGGC
GGGTTTTCTGTTTTTTGGCTTTTACCTGTATGGTATCCAACTGTTTTTCCTGTGCTTGTC
CGGCTTGCACATTTTCTGCATAAGCGGGCAGCGCAGTCATTAAAGACAGGCATAAAAATAT
TGAATCGGAACAAATGTTGCTGTTGCATAGTGTTTCCCTAATCTTCGCTTTCAGACGGCA
TCGGAAGGAGCGGTGCCGTCTGAGGCCTTATTCTTGATTGTTCGGCAGCCGTGCTTATCG
CACAGGCTGTTGGCGTTTCGCACCGAATACGACAGTTGCACTGCTATTGCCGGATGCATT
TGTTGCATTTTTCGTTTGTTTATCGCCCGGATAGGCAAACCATCCGCCCAACTCTTCGGC
TTTGGGCCCGTAAAAACCGCCCTGCACCTTGGCATCTGTGATATATGCCTTAGGCGTGCG
GGTGGTATTGCTTTGATCGAGATCAAAACCTGACTCAGCAGTTTTCGCCGTACCTTCAAA
GCCGTTGTCCTTAATATTACCATCAATGGTAAAGGTTGCCTCCTGCCTGTTGTCAGCGGT
TAACGTACCAGTAATTTTTTTATCGGCAAAATTCACAGTAAATTCCGCCCTGTTGCCACT
CGTTGCATTGGAAGCATTGCCGCTCCAGCTTGTGCTTTTGTCGTTGGCAATATATCCGTA
CCAAGACCCCCGATAAACGATGTTTTGCTCGCTTGGAATCTCTTTTTTCATCGGTGCGCTC
GCCTTGGAGGAACATACTTTGTTCAACTTGTTCCGTTTTAGCATCAGCTTGACTACTGCT
TTCTCCTGCCTGCATCGCGGACTTGCTGTTTTTGCGCGTCAACATTCCGTATTTCAGATA
ATTGAGGTTGGAACAGCAGACTTCGACTTCATAGGTTTTTGTTTTGCCATTGGTATCACC
TGCCGTATTTGAAGCGGTTTGCGCCCCATTCGTCTGCGTACCTGCTTGGGCGTCTTTTTT
ATCACTTTCCGGCGTGTGGTCAAATTTGCGGGTAAAGGCTGTTCCGCCATTTGTACCTTG
ATTGGCTTGATTGTTCCCACTTTCGGAAGCCTCGGGCAAGAGCGGAATCATAATGCCGTC
GACAACCAGTTGGGCGGCGTTGCTGAAGTTGTCGAGCTTTTGGACTTCCTTATCGCCCAA
TTTCAGCTCGACCGCATCCAAAACCGTGGTCAGCTTACCGTTTTCAGACGACGTGCCTGC
CGCACCGTTTGATGCTGCCGCATCTGTGCCGCCTGAAGCCGCCGCAGTATTGCCATTTGC
GGGTTTGTCTTTGGTTTTCGCGCTGCCGACAACGGCAACTTTTTGATCGTCGCTCAAAAA
GCGGAAACCCAATTCCTCACCCTGCGGGCCGAAAAGCCGCCGCTCAAAGAAGACGAATC
GGAAACAAAGGGATGTTCCTTGGTTTCGCTGTTTGTTGGGGTTTGTCGGTTGCCGTTGC
CTTGCCGTTGAAGCGGTTGCCTGTTACTTGAGCCTCAAGGCTGTAGTATTGCGTGGTGGT
GGCTTGGTTGTTATCGGTATTCGCATTGTTGCGTATCAGTTTGCCCGTCAATTTTTTATT
ATGGAAATCCACTTCTAAATTTGAGGTAAAACCATAACCCTCTTGACCATCTGTCAGCGT
GGATTTGTTTTTGTTGGAATATTCTTCGCCGTCATCGCCCGAAAATCCGCTATACCTGTC
GCCTTGACTTTTTGAAGGTTGGATAATTTCACGAAATTTTTGACCCTTTTTTGTATCGGT
CGCAAAATGCCACACACCTTTATAGGTAATTTTTCCAGAAGCGGGAAGTTGTCGGGAAGG
TTCTTTACCGTGATAGAAGATATAACCGTCGTCGCCGTTTTTTGCACTTTTAGGTTCCAC
```

-318-

```
CTTTAAGTTAAACTCTCGTTTGGCGTGTTTGTAAAACCAGCCGGAATAAACATATTTAAA
ATTTTCGTAATCTTTTGCCTGATTTTTAGGTTGGTTTATACCGTTGCCAGTGTTGCCGTT
TTGATGGTTTGATGGTTTGAGATAGGGGGAAGAATAAATATTGTTGTCGCTGTCTGTTTC
TACTTTTTCGATAACCGATTTTTGCCGTTTAGGGAGTTCCTTAGGTTCGTCCGGCAATCC
TGTCGCCTCCCAATCACTCTCGTCCAGTTTAACCTCGTCTTCTTTTGCCTGCGGATACCA
ATTCCTCCGTTTCAACCTCATTGCAAAACCGTATCCGCCTTGGTCTTTTTGGGCTTGCGG
TTTTTCGGAAAAAACATCTTGATATTTTGGCGCGGGACGCGGGGCTTCGGTATCGACAGA
ATCAAGATCGAAACTGCCGCCTCCGCCCAAACAAGCACTCAACAAAAACACAGGCAGCAC
CATAGCAGCCTGATTCACCAATGGATTGTTCATAATAAATCCAATTCAATTAAAGAATGA
TAAGGATTATTATTTTATTTATTTTTAACAAATTTGCAAATACTTTTTTATTTTTTTAGG
GAATACACCAAAATCCCGTCATTCCCGCGCAGTCATGAATCCGAACGCGTCCGCACGGAA
ACCTATATCCCGTCATTCCCACGAACCTACATTCCGTCATTCCCACGAAAGTGGGAATCC
AGGACGCAAAATCTCAAGAAACCGTTTTACCCGATAAGTTTCCGCACCGACAGACCTAGA
TTCCCGCCTGCGCGGGAATGACGGGATTTTAAGTTGGGGTCATTTATTGGAAAAAGCAGA
AACCGCTCCGCCGTCATTCCCACGAACCTACATTCCGTCATTCCCACGAAAGTGGGAATC
CAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCCACTTCGTCATTCCCGCG
CAGGCGGGAATCCAGTGTGTTGAGTTTCAGCTATTTAGAATAAATTTTGAAACTCTAATC
GCGTCATTCCCACAAAAGTGGGAATCCAGTTTTTCGAGTTTCAGTCATTTCCGATAAATT
GCCTTAGTATTGAAGGTCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATCCATACGG
AAACCTGCACCACGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATT
CCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGGCGG
AGCGGTTTCTGTTCGCGTCATTCCCACGAAAGTGGGAATCCAGGACGAAAAATCTCAAGA
AACCGTTTTATCCGATAAGTTTCCGCACCGACAGACCTAGATTCCCGCCTGCGCGGGAAT
GACGGCGGAGCGGTTTCTGTTTTTTCCGGTAAATACCCACAAGCTGAAATCCCATTATTT
TCACAAAAACAGAAAACCAAAAACAGTAACCTGAAATTCGTCATTCCCACGAAAGTGGGA
ATCCGGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCCACTTCGTCATTCCC
GCGCAGGCGGAATCCAGTGCGTTGAGTTTCAGCTATTTAGAATAAATTTTGAAACTCTAA
TCGCGTCATTCCCACGAAAGTGGGAATCCAAGACGCAAAATCTCAAGAAACCGTTTTACC
CGATAAGTTTCCGCACCGACAGACCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATC
CATACGGAAACCTGCACCACGTCATTCCCACGAACCTGCATCCCGTCATTCTCACGAAAG
TGGGAATCCAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCCACTTCGTCA
TTCCCGCGCAGGCGGGAATCCAGTTTTTTGAGTTTCAGTCATTCCCGATAAATTGCCTTA
GCATTGCATGTCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATCCATACGGAAACCT
GCACTACGTCATTCCCACGAACCTGCATTCCGTCATTCCCACGAACCTGCATTCCGTCAT
TCCCACGAAAGTGGGAATCCAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTT
CCACTTCGTCATTCCCGCGCAGGCGGGAATCCAGTGCGTTGAGTTTCAGCTATTTAGAAT
AAATTTTGAAACTCTAATCGCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTT
CAGTCATTCCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAAT
GACGAATCCATCCATACGGAAACCTGCACCACGTCATTCCCACGAACCTACATTCCGTCA
TTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTTCCGAGAAATTGCCTTA
GCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGGGATTTGAGATTTCTGTTTTT
GATTTCTGTTTTCGTAGGAATGACGGTTTAAAAGTTACCCGAAACCTCAAAAAAAAAGG
CTGTGTTTTAATATAGTGTTGATAGACGTACTTGGCTTCCATGTATTCAATCGTGGAAAT
CTATATCTTCGTCCTCGCCGAAATAGTCTATGCCCGATATACAATTTTGATACACAAACT
TGGAAATATGGGTATCGTCGCCGGAGCGATAGAATGCGGACAGTTATATATATACGGTTT
TTTTAGGGAAGCGGGCAGATGAAGGGCGGGCGGATTTTGAATTAACCCCATGCAAATTGA
CTTTTGCGGGCGGTTTTACCTCCCATATACTTACAAAAGCCAAATTTTTAAACATATATC
CTTGATATATACACGGCGTAAACATATACTGGAAACATCTTTAAATTTTCCGAAATTTTA
AATATGAGCAACTGGAAACCCAATATTCCCTATAACGATTACCACCCCTGCCGCCAAAA
CAGGATATTGAAAGCAAAACCATCCTGAAACGTTGTATAGCCGCCCGTGCATCCCTTGCC
CGTTTAAAGCAGGCGGCAGAATTGATACCGAATCAAGCCATGCTGATTAACACCCTTCCT
GTTATGGAAGCCCGTGCAAGTTCGGAAATTGAAAACATCGTAACCACCACGGACAAGCTG
TTTCAATCCCTGCAAATGGATACGGAACGGCAAGACCCTGCCACGAAAGAAGCCCTGCAA
TACCGCACCGCCCTGTTTGCAGGCTATGAATCACTGACGAGCCGCCCTTTATGCACACAA
ACCGCCATCATGGTCTGCAACGCCATCAAGCACCCCTACGAAATGGCCATCCGCAAAACA
GGCGGCACAGCCCTAAAAGGAGGCAACAGCGGAAATGTTGTCTATACCCCGCCCGAAGGA
GAAGAAACCATACGCGGCAAGCTGGCAAATTGGGAGCGGTTTATTCACGAAAGCGGCGAT
```

```
        TTAGACCCGCTTATCATCATGGCGGCGGCACATTACCAATTTGAAGCCATCCATCCGTTT
        ACGGACGGCAACGGGCGGACGGGGCGCATATTGAACAGCCTGCTATTGATTGAAAAAGGG
        CTTTTGGATTTGCCTATTTTGTATTTGAGCCGCTACATCATCGAAAACAGGGCGGACTAT
        TACCGCCTGCTTTTAGGCGTAACCGAACGGCAGGACTGGGAAAGCTGGATAATCTACATC
5       TTAGACGGCGTAGCTGACACCGCCGATTGGACGGTATCGAAAATAGATGCGATACGCCGC
        CTGTTCGAGCAGACACGGCAACACATACGGACACACGCACAAGGAATCTACACGCACGAA
        CTGGTAAATCTTCTGTTTGAGCAGCCATATACACGCATTGCCAACCTAGAAGCGGCAGGG
        ATAGCCAAACGGCAGACGGCCTCTAAGTACCTGAAAGAGCTTTCAGACATAGGTGTGCTG
        CAAGAAATCGTCATCGGCAGGGACAAACTATTCATTCATCCGCGCCTAATGGAACTATTG
10      CGGGGAGAGGGCAACAGCTTTACTTCATTCTAACCCCCTCTTCCCCCCCACATGACTAAC
        ACGAAACAGGGATTTTGACACCCGAACCGAGACCCCTTGTATTTCCCCCGCGAAAAGCCG
        GCATCCGCCCGCGTATCATGGGAGCAACAAAACCCCTGCCTAAAATTTTGACTTGTGCAA
        ATTGGGGGTATATTTGGGGGTATATTGAAAAATGGCTAAAATAAAATGTTTAATAAACAA
        AATGTTGAAACTTAATTTCGATAGAGCATCTGCATATCGTATTGAGGCGTTCATGGAATT
15      TGAGAAAGCTATTTTTAAATAAGAAAAGGTAACTATTAAATAGCTACCTTTCTAAAATTA
        AATATCAACACATCGTTAAAACACAGCCTTTATTTTTAACAAAGTTGCAAATGTTTTTTT
        ATTTTTTAGGGAATACACCAAAATCCCGTCATTTCCGCGCAGTCGTGAATCCGAACGCG
        TCCGCATGGAAACCTATATCCCGTCATTCCCACGAAAGTGGGAATCTAGTTTTTTGAGTT
        TCAGTCATTCCCGATAAATTGCCTTAGCATTGAATGTCTAGATCCCGTCTGCTCGGGAAT
20      GACGAATCCATCCATACGGAAACCTGCATCCCGTCATTCCCACGAACCTACATTCCGTCA
        TTCCCACGAAAGTGGGAATCTAGTTTTTTGAGTTTCAGTCATTCCCGATAAATTGCCTTA
        GCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGGCGGAGCGGTTTCTGTTTTTT
        CCGGTAAATACCCACAAGCTGAAATCCCGTTATTTTCACAAAAACAGAAAACCAAAAACA
        GAAACCTGAAATTCGTCATTCCCGCGCAGGCGGGAATCCAGTGCGTTGAGCTTCAGCTAT
25      TTAGAATAAATTTTGAAACTCTAATCCCGTCATTCCCACGAAAGTGGGAATCTAGAACGT
        AAAATCTAAAGAAACCGTTTTATCCGATAAGTTTCCGCACCGACAGGTCTAGATTCCCAC
        TTTCGTGGGAATGACGGGATTTTAGGTTTCTGTAATCTCGGGCAGCTTTCCGTCATCGTT
        TTAACCCAAAGACACCATTTCAATCTGCTCCATCGTCCTGCCCAGAAAACGCTCGCCGAT
        GGTTCTGAATTTCAAAGGAATATCGCTGACGTAAAAACGGTAGTCGGGATTGTTGTTGTC
30      GGTATTGAGCAATCCTTCCTGAGCAAGGACGCGTGCGGTTTCTTCGGCCGTTGTAATTGC
        AGAATCAACCAACGCGACATTGCCCGCCTCCCTGCCGATTAAGGGCTTGAGCAAGGGAAA
        GTGCGTGCAGCCCAACACCAGCGTATCGATGCCGTCTGCAAGCAATGGTTTGAGGTATTC
        GCATACGGTCAGGCGGGTAACTTCGTGTTCCAGCCAGCCCTCTTCCACCAAAGGGACGAG
        CAGCGGCGCGGCCTGCGTGCGGACGAGCGTGTCGGGGTTGTTCCTATGGATGGCGCGCGC
35      ATAAGCATTGCTGTTGACTGTCGTATTGGTGGCGATAATGCCGATTTTATTGTTGCGCGT
        CGTTGCCAGCGCGGCTTTCGCGCCGGCGGAAATCACGTCCAAAACGGGCATATTGCCGGT
        TTTTTGACGGATTTTCTGCCCCGCCACCGCCGCAATCGTATTGCACGCGATAACCATCGC
        CTTGACATCGTGTTCCAATAAAAATCGACAATCTGCATCGAGAAATTTTCGATGGTCGC
        CTTAGATTTCGTCCCGTAAGGCACGCGCGCCGTGTCGCCGAAATAAATGATGTTCTCCAT
40      CGGCAGCCGTTCCATCAGCGCTCGCACATTGGTCAAACGCCGATTCCCGAGTCAAAAAC
        GCCGATGGGTCGCTGCCTGCCGATATTTTCCATTCTTTTTCCAATCCGTCCTAAACATAC
        AATCCGCGTATTGTACACGCGCCGCTTTTTCTTGACAGCCGTTGCCGTCTGAAAGCAGAA
        CGCGGATTTGGCTGTTATAATGCTCGGACAAGAAGCATCCGCCCCTCGGGTGCAAAGTTT
        GCAAAACCTGCAAAACTGCCCATAATACCCTAGACCTTACAACAAACCGTTTCCATGTCT
45      GATTTACCCTCTATCTCCCGATTCCTTGCCGACGAAGCCGCCACACTCGATTTGGGCGCG
        GCGTGGTCTTCCCGTTTAAACGCACCGCTGGTCATTTATCTCGAAGGGGATTTGGGTGCG
        GGCAAAACCACGCTGACACGCGGCATCCTGCGCGGATTGGGTCATCAGGGCGCAGTCAAA
        AGTCCGACCTACGCCATCGTCGAATCTTATCCGCTGGAACGCTTCACCCTGCACCATTTC
        GACCTCTACCGCTTCTCGTTCCCCGAAGAATGGGAAGACGCGGGGCTTGACGAACTGTTT
50      GCCGCAAACAGCGTCTGCCTGATCGAATGGCCGCAACAGGGCGGGGAATTTACGCCGCCC
        GCCGACATCACCGCAACATTGACACACGACGGCGACGGCAGAAAATGCCTGCTGACCGCC
        CATACCGAACGAGGACGCGAAAGCCTGCCGCTATGATCAAACTGACACGAAGACAAATCA
        TCCGCCGCACCGCCGGCACACTGTTCGCCCTAAGCCCCATCGCATCCGCCGTTGCCAAAA
        CGGTACGCGCCCCGCAATTCACCGCCGCACGGATATGGCCGTCGCACACCTACACCCGCC
55      TGACGCTGGAAAGCACCGCCGCGCTCAAATACCAGCACTTCACGCTCGACAACCCGGGCA
        GGCTGGTCGTCGACATACAAAACGCGAACATCAATACCGTATTGCACGGACTGTCTCAGA
        AAGTCATGGCAGACGACCCCTTTATCCGCAGCATACGCGCGGGTCAGAACACGCCGACCA
```

```
CCGTCCGCCTCGTCATCGATTTGAAACAGCCCACCCACGCACAAGTCTTCGCGCTTCCGC
CCGTCGGCGGCTTTAAGAACCGCCTCGTCGTCGACCTCTATCCGCACGGGATGGATGCCG
ACGATCCGATGATGGCACTGCTCAACGGTAGCCTGAATAAAACCCTGCGCGGCTCTCCCG
AAGCCGACCTCGCCCAAAACACCACGCCCCAACCCGGGCGCGGCAGAAACGGGCGCAGAC
CCGTCATCATGCTCGATCCGGGACACGGCGGTGAAGACCCCGGCGCCATCAGCCCGGGCG
GTCTACAGGAAAAACATGTCGTCCTATCCATTGCCAGGGAAACCAAAAATCAGTTGGAAG
CATTAGGTTACAATGTATTTATGACGCGCAACGAAGACGTGTTCATCCCATTGGGCGTGC
GTGTCGCCAAAGGGCGAGCACGGCGGGCGGACGTATTTGTCTCCATCCACGCCGATGCCT
TCACCAGCCCCTCCGCGCGCGGCACGGGGGTTTATATGTTAAACACCAAAGGCGCAACCA
GCTCTGCCGCCAAATTCTTGGAACAGACGCAAAACAATGCCGACGCGGTCGGCGGCGTAC
CGACCAGCGGCAACCGCAATGTCGATACCGCCCTGCTCGACATGACCCAAACCGCCACGC
TGCGCGACAGCCGCAAACTCGGCAAACTGGTGCTTGAAGAATTGGGCAGGCTCAACCATC
TGCACAAAGGCAGGGTGGACGAAGCCAATTTCGCCGTTTTGCGCGCACCCGATATGCCGT
CTATCCTGGTCGAAACCGCCTTCCTGTCCAATCCTGCCGAAGAGAAGCTGCTGGGCAGCG
AATCCTTCCGCCGGCAGTGCGCCCAATCCATTGCCTCGGGTGTCCAACGCTACATCAATA
CATCCGTATTGAAGCGGGGTTGATTCCGAAAAATAAATGCCGTCTGAACATTTTTCAGAC
GGCATTTTGTACACTTTCCTCAACGGTTCGATCCTTCCACCATATCAATCAGGAACAGG
CGGCAGTCGATGTTGCCGTTATAAAGCGGGATTTTCCGCTTGGGCGACAGGCACATGAAT
TTGGGCATTTCCCTATCGCCGGTAAACATTGCCGCCAACCAGCCTGCGTAATGTTTTTTC
AACCACGTCCCCAACTGCGGATACAGTGCCTGCAAGGCGCGGACTTCCTCAAGGCGCACG
CCGTAGGGCGGATTGGACACCATAATGCCGTTTTCGCCGTTCGGTCGGACGGACTGCGCG
TCGGCAACGCTGAAGGAAACGATGTCGTCCACCCCGGCGCGGCGTGCGTTGTCCAATGCC
GTCTGAACGATGCGGCGGTCGTTGTCGCTGCCTGCAATCGGGGCGCGGACGGGGCGGGTT
TGCGCTTCGGCGCGGCGCCGCAAATCCGACCACAGCGTTTTATCGAAATTTTGCAGTTTT
TCAAAACCGAAACGGCGCATCATACCCGGCGCGCGGCGGGCGGCAATCCAAGCGGCTTCG
ATAGCAATCGTGCCGCTGCCGCAAAACGGGTCTTGAAACGGCTGCGTGCCGTCGTAGCCT
GCCGAGAGCAGCAGTCCGGCGGCAAGGTTTTCGCGCAGCGGGGCTTCGCCGGTATCCAGG
CGGTAGCCGCGTTTGAACAGGGCTTCGCCCCGAAGTGTCAATAAAGATTTCGACATTGCGT
TCGTTCAAAAAGGCGTGGATGCGGACATCGGGCGCGGCTTTGTCCACGCTCGGACGTGCG
TCGTAAATGTCGCGGAAAGCGTCGCAGACGGCATCTTTGACGGTCAGTCCGACAAATTGG
ATGCTCTTAACGTTGGCACGCTTTGCCTCGACTTTGACTTTGAACGTCTGCTGTAAAGTA
AACCAATTAAACCAGTTGATATTTTTGGCGAGTTTGTAGATGTCGCGCTCATTGCGGTAT
GTCCCTTTGGTCAGGCGCAGCAGGATACGGCTGGCAGTACGCGAATGCAGGTTGGCGGCG
TAAACCTGTTCCAATCCGCCCCGGCAGGAAACGCCGCCGTCAAACACTTGTACATCGGTA
CAGCCGAGGCTTTCGAGTTCTTGAGATAAAACGGTCTCCAAGCCGCGCGGGCAGGTGGCG
AAAAGTGTATATAAAGTATTCATAACGTGTCCTTTCCGGACGGATGTTCCGGCAATGGCG
GATTGAAAGGTTTATTCGGCGGTAAATGCCGTCTGAAATGTCCGACTGCCGATTGTAATG
TCCGCCGTAAAATCGCGCCTGCCTTCGACACAGATGGGCAGGCGGATGCGTACTGCCTGC
CAAGTCCCCGACGGTTGCCGCTCGAACATATAGCGGTTGAAACCCATATCCATATTTTTC
ATACTGAAGCTGATGCTGACCTGTTCCGTGCCGGCGGGCGCGTGTTCGATATAAATATCA
AACGGTTTTTTGGTTGAAACGGCGGCGGCGCGGACGGCGGCTTCCGTCCGGCAGCGTGCAA
CCCTCGGTCAAATCGCATTGCGCCGCCACAGCGTTGCGGCTGCTGCGCCTGCCACCATTGC
AACAAAACGAGCTTGACGGCGGCAAAGGCAATCAGCAGCAGTGCGGCAAGCAGTAATTTA
CGGTTTTTATTCATGATTCTTCCCTATTGTTTCATCCCTTACCACCACGTGCGCCCCCAA
TCCGAGCCATAGTTTTCCATAACGTGCAACCGTCTGTCCGTTTGCTGCAAGTACGAGCGG
CACGGATACGCCCTGCCGCAGGGCTTCTGCCGCCTCTTGTGCCTGAACATCATCGCACAC
GCGCCAAACGACCGCATCCGCGCCCTTTTCCTGCGCCCGCCGCCATTGTTCGCGGGTCTG
CACCACCATCCACACGCTGTCGGCGTGTTCGGGTCTGTCCTGCCATTGCGCCGCCTCCAT
CAAAACGTTCGCACCGCTTCCCTCTGCCGAACCCAAAGGCAGGACGCGGTACGCGCCCAT
ACTGTTTTCTCCGTGCAAACCCGTTTTCAGGCTGCCGTACAAACGGCGCGGGACGGACAG
CGAACGCAAAAGCGCGCCGTTGGCGGGCAGCATGGGGGCAACGGTAAAATCACCCGCCTT
CTGCCAAGACCATTCCTGCCCTTCGCGGGATTGCGGTTTGCCCGTCCATTGGTCGGGGTT
GACCCATAGGAATTTCAGGCAGACGCGGGCGTGTTCGTAGGAATGGATTTTGGTCAACCA
AGGCGTGGCGGCGAGGATGCGGATGCCGAGTTCTTCTTCAAACTCGCGTTGCAGGGCTTG
GAAGTCGGTTTCGCCCGCTTCGACCTTGCCGCCGGCAAATTCCCAATATCCGGCATAGGG
TTTGCCTTCGGGGCGCGAGCTGAGCAGGTAGTTGCCGTCTGAATCGAGCAAGGATGCCGG
CAACGACGCGGATAAGGGGTCGGGTGTCTTGAATCATGGCGGGTACGCGGTTGGTCGGTC
```

-321-

```
GGAGTGCAAATGAGGGACGGGCAATGCCGTCAACGGGTTTGCCGCATTTCAGACGGCATT
ATTTTTCGGCAACGACAAACGCCAATACGGTGTCTTCTTCGTCGCTCATGCTGAGGCTGA
CGCGGCTGATGCCTTGTTCCTCCAGCCATTTGGACAGGGCGGGGCCGTAGAAAAATTCGG
GCTTGCCCAATGCGTCATGCCCGATGCCGATGTTGCGGAAGGAAACCGCGCCGCGTATGC
CCGTGCCGACGGCTTTGGCAAAGGCTTCTTTGGCGGCAAAGCGTTTGGCGAGGTAGTTGA
CGGGTTTGCCCGCTTGCGGAAATTCAAGCAGCTCTTCCGGAGTGAGGATGCGCCCGGCAA
ACGCCTGTCCGAATTTTTTGTTTAAGCGGATGATGCGCTTGAGGGAAACAATGTCTGTGC
CGATGCCGTAAATCATATTTGCGCTCCTTCGCCCTTGGTTGCGGGTAGTGATGAATGTGA
TGATGAATGCCGTCAATTTCTTGGGGCGTTAAAATGGCGTGAATATCCACTTTTGGGGTT
TTGTCGGTAACAATTTTCACTGTAACCTTTTGCATTTGAAATTCTAAAACATCGTGCCAA
TTATTTAATAAGGAGTTAAGGCATTTAATAATGAATTAAAGTTTGATTAAACCCGAATGC
CCGATTTTCAGAGCCAATACCAATAAAACAATAAAAATTAACATTTTAAAAAAATTTGGG
CTAATCTTAGTCCTTAACCGAATTCCAACATACAATCCAATAACAGACAATACGGACAGT
AAAAATATTAAACCGTATTCACTCTTATTTAATAACCAATACTGGTCTCTTAGCATATAT
ATTTGAACAATTTTCGCCAAAAGATAGCATAGATTGCTTGATTTTACGATACGATTTTTA
TTTTCTGTTTCGCTAAGCAAAAATATTAACAATATGGGAGACATGGCATTGGTTGAACCG
CCGATGATGCCTGCCAAAAACCCAAAAAGAACCATATTCTTATTATTGGCAACTACTTGA
ATATTTTTGCTTTTGCACATACATTTAAAATACCATTGACAGAATAATACAATGTAATG
ATTGCCATCAGTAAAAGCAGCCAAGACACTGGAAGTATCAAAAGCAACTTCACCCCCAAA
ATGCTGCCAACGACGCTGCCGATAGCAAGCAATTTATAGGTTTTTAAATAATAAACAATC
TCTTGCCAAAAACCCTTTTTGTTATTGCTGCATAGAACCAACAAGCTCATTAACAGGCTT
GGTAATGCCACCAAGGCAACAACCTTAGACAATGGCATGATAAAAGCCAATGCGGTTGTA
CCGAGCATCGGAAATCCCATGCCTGTAATTCCGTGCAGTATTGCGGCAGCAACAAAAACG
ATAGATTGCATTATTTCTTGCATAACCGTCCTTTATACAGTAATTCTTGCTCTAATATAA
TGCCTGTTTTTATCCGTATAATCAGTTCTGGCATGCAAGCCATTGACATTGTCAATAATA
ATCAAACCATCATCTTGTGCAGAAAATTCTTGAATATCACTCGCATTTTTTATAACATTT
ATAAGATAATCAAGTGCAAGTACCATTTCCTTTGATACTTTATTTCTATTTTCTTCAATA
CCTTTATAGATACAATCACTTCTAAATCTAATCATTTGAGTATTGACCGATAAGATATTA
CCCCATCTCACACCTTGTTTTTTATCAAATGATGCTGGTGTTTTAAATGGATATAAATTG
CCCGTTAATGTTTTTAAGTGTTTTTTACCGGTTTCTGTTTTAGATAACTGATTGACAATA
TCTGATGAACTTAAAAATAGGGAATTACCTCCATCATTGGCTGATTTTACTACATACATA
ACCAAATAACTTTCCGGGTTTTCACTAAAAGATGAATCACTATGAAGTGGACATTCTCCA
ACATCTTCCGAGAAAGTTATATCATTATTTATAGTGGATTAACAAAAACCAGTACGGCGT
TGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGG
TTCCGTACTATCTGTACTGTCTGCAGCTTCGTCGCCTTGTCCTGATTTTGTTAATCCAC
TATATTACATAATCATCGCCTCAATATTTAATATCCCAAAATATAGATTTAAAACCATCG
CCTTTGTGGTTTGTCAGCATTCCTAATTGAGATAGAAAGTCAAATAATTTCTTGTTTCTC
CGGCTGCCATCAAGATGGTTTAGATTAAGACCTCGAACAATACAATACCCAATACTCTGT
ACTGTATTGTGAATTTCTTCTATCAAACTATTATTGTTTGCAGATAAAATATACTTTTGA
TTCATATAGTGAATTAAATTTAAACCAGTACGGCGTTGGCTTGCCTTGCCGTACTATTTG
TACTGTCTGCGGCTTCGCCGCCTTGTCCTGATTTAAATTTAATCCACTATAACATATCCC
TGTCGTGAAATGCTGTCTGAAAGGGTTTGCCTGCCCTTACGGCAGCAGCCTTGCCCTGAA
CATCGCCTCCTTCATTTGGCGCACGGCTTCGGGCAGTCCGAGGAAGAGGGCTTGGGCAAT
CAGCGAATGCCCGATGTTCAGTTCGCGGATGGCGAGGATTTGGGCGATGGGGGTAACGTT
GTGTATGGTCAGTCCGTGTCCGGCGTTGACGACCAAGCCCAAATCGCCGGCGAAATGCGC
GCCGTTTTGGATGCGCTCGAACTGCCTGATTTGTTCGGCGTGGCTGCGCGCGTCGGCATA
CGCGCCTGTGTGCAGCTCGACAACGGGCGCGCCGACATCACGGGCGGCTTGGATTTGCCT
GTCGTCGGCATCGATAAACAAAGACACGCGTATGCCTGCGTCGGTCAGGATTTTGGTGAA
CCCGGCGATTTTTTCCTGTTGCGCCAATACGTCCAAACGCCTTCGGTCGTGATTTCCTG
ACGTTTTTCAGGCACGATGCACACGTCTTCCGGCATCACTTTCAAAGCGTTTTCCAACAT
TTCTTCCGTCAACGCCATTTCAAGGTTCAGGCGCGTGCGGATGGCGTTTTTGACGGCAAA
CACGTCCGCGTCTTTGATGTGGCGGCGGTCTTCGCGCAGGTGCATGGTAATCAAATCCGC
ACCGTGCGTTTCGGCAACCAGTGCCGCCTCCACGGGGCTGGGATAAGTCGTACCGCGCGC
ATTGCGGACGGTGGCGATGTGGTCGATGTTGACACCTAAAAGCATAATCTTTCCTTTTAT
TTCTGCCTTCAGACGGCATTTGAAGCCGTGCCGTCCGAAGTCGGGACGGTTTCCCGGGCG
GTTTCTTTGCGGTCAAACTGCCGTATCTGTTCCAACACCTGCCGCGATTTCAGCCCCTCG
GGCAACAGGTGGCGGATAAAAAGCCGTGTGATTTTCAATGCCTGTTGCAGGCTTTCGGCA
```

```
GTGCGGAAACTGCCTTCGCGCAAATCGATCAGGCTCTGCCCGGGGGCGACAACGCCGGCG
GCGTGCGGCGGTACGGCAAATCCTTTTCCGACGGGGAAGACGGCTGTTTCCGGGCGGACA
AGGTATGTGCCGCCTGCCGCAATCGTCCCGCCGTCCCCGTCGCGGTTCAAATCGGGGGCA
ACGCCCAACAGGTTCAGCAGCCGCCACTCGAAACGGCGCAAGTCGTCGATATAAGCGGCT
TTGCAGCACACCGCCTCCATCACTTCCGCCAACGCGTCGTATAACTCGGGCACCGGGTCT
TCGCGGGCGGTCAGTTTCAACACCAACTCGTTCACATACAATCCGCCGAACAACGCCCTG
CCCTGAGGCTGCCGCCAACCGCCGACCCATTCGGCGCGGTGTAGGGTTTTGAGTTCCTGA
CTGCCGTACCACGACACGCTGACGGGCACGAACGGCACCAATACGCCGCGCAGCTCGCTC
TGCCTTTTGCGCGCGCTGCGCGCCAGCAAAGCCACACGCCCGTAACGGCGGCTGAATGCT
TCAACCCACAGGCTGCTTTCGCGCCAGGGCGAAGATGCCAGCATAAAAACGGGTTCATGG
TTGACTCGGTATTCGGACATAATCGTTGGGGAAATGCCGTCTGAACGCTGCCGCCGCTAC
AAAACGGCGGTCGGGTACGAACCGATGACTTTGACGAACGAAGCGCGTTCGCCCAAGCGT
TCCAATGCCGTCTGAATCTGCGCGTCCCGGCGGTGTCCTTCGATGTCGATGAAGAACAGG
TATTCCCACAAAACGGATTTGCTCGGACGGCTCTCAAACTTGGTCATGGAAATACCCGAT
TCGGTCAGCGGTTGCAGCAGCGAGGCAACCGCGCCTGCCCGGTTGGGCGCGGAAACGGCC
AGCGAAGTCTTGTCGCTGCCGCTTGCACCGGTTTCGTGATGTCCCATCACCAAGAAGCGC
GTGGTGTTGTTCGGTTCGTCTTCGATGCACTCGGCAACCATATCGAGTCCGTAGATTTCC
GCCGCCGTGCGTCCGGCGATGGCGGCAACCGTACCGTCGTCCGATTCGGCAACCAGCCTT
GCGGCTTCGGCATTGCTGGACACGGCAATCCGTTCGGCGTTGGGCAGGTGTCTGCCCAAC
CAGTCGTTGCACTGCGCCAACGCCTGCGCGTGGGAAAAGACTTTGGCAATGCCTTCGGTG
CTGCCGTTGTTTTTACGCAAAAGGTTGTGGTGGATGCGCAAAACGATTTCGCCGCACGCC
TGCAACGCGGTAACGGCAAGCAGGTCTAACGTGCGACCGACCGAGCCTTCGGTCGAATTT
TCCACGGGGGGCGACCAGATAATCCGCCTGACGCGTTTCAACCTGCTTGAAGCAGTCGTCT
ATGGTCGGACACGCCATGGTGTGCGCGGCGTGTCCGAAATGTTTGATTGCCGCCTGCTGG
GTAAACGTGCCCTGCGGCCCCAGATAGGCGATGGTCAGCGGGCGTTCGACGGCGAGGCAC
TCGCTCATCACTTCCCGAAACAGGCGTGCTACCGATTCGTCGGGCAGCGGGCCTTTGTTC
AAATCCTGAATGCGGCGCAACACGGCGACTTCGCGTTCGGGGCGGTACACTGCGCCCGTG
CCTTTCAGCTCGCCGATGGCGTGGGCGTGTTGCGCACGTTCGTTGAGCAGGCGCAGGATT
TCGGCATCGATGGTGTCGATGGCGTTGCGGTGGGGAAGGAGGAGTTCGTCGATAGTTTGG
GACATAATTTCGCCTGAACAGTAATTTATCGTGCATTCTAACATCAAATGCCGTCTGAAA
CGGTTTCAGACGGCATTTTCCGTTAAAGGTATTCGCTTTGCCCGTTTTCTTTCCACGCAC
GATGCGAGCAGAGCCACAGAAGCGCAATGCCGCAAGAGGTGGACGCGGTCATCGTTGCCG
CCATCACGGTTGCCGAACCGTCGTGCAAGAAGGTCGCCGCCATACCCACCCCCGCGCCGA
TTAAAGATTGGAATACACCCAATACGGCGTTTGCGCTGCCGCCCTCTTCTTTGAAATAGG
ACATAAAACACGCCTGCGTGTTTGCACCGACCAAGCCCTGCGTACCGACGGAAAACATCA
CGCACGCGACCAGCAGCCAAAACGGGGGCAACCCGAAAAACAGCACGGCGGCGAGTTGGG
ACAGGTTGGCGGCAAACTGGACGACAATCCCCCACAGCAGGATGCTTTGCGGATGCACGC
CGGTTTTGAGCCGCCACGCGGTAACGCGGTTGAAAAACATCATCGTGATGATGTTGAGTG
CAAACGCCCAAGCGTATTGATGAGGCGTAACACGGTAGAGCTGCTGGTACACGAAGGAAG
ATTCGGTCAGAAAGGCGAACATCGAACCGAAGCTGAATGCCTGAAAAAACAGATAACCCA
TCGCAGCACGGGTTTTCAATACGCGCTTGAACCGCCCCGCCACCAGCCCGAACACGTCCC
GTCCGATTTTGCCGCCGACGGCGGGCTTGGGCAGGAAATACTGTACCAAACCGAGCAGCA
CCAGCGAATACGCCGCCAGAAAAACAAAAATCGCCTGCCAGCCACCCAAGCCCTGCAACA
ATGCGCCGACCATGGGTGCGACCAGCGGCACAACCATCAAAATGATGCCGATAAGGGCAA
ACATCTGGGCGGCTTTGCGTCCGGAATAATAATCGCGCACCATTGCGCCGACGATGACCA
CAGTCATGCCCGCACCGAATGCCTGCACGACGCGCAGGTTGAGGAGCTGTTCGGCACTCG
AAACAAATACGATGGCGGCAACGGCAAGGCAATATACAATCAAACCGGTCAGGGCGACGG
GTTTGCGCCCTTTGATGTCGGACACCGAACCGCCGACCACCTGTCCGAACGCCGTGCCGA
ACATAAACAAACTCAAACTCTGTTCGATGCGGTGAACATCCGCGTTCAGCGATTGCGCCA
TTTCGGGAATCGCGGGCAGGTAGGCATCGATGGAAAACGGCATCAGCGTAACCAGCATCG
CCATCAAAACCGCCATCAGTTTTTCGCTCATTTCAGGATAATGGGCAGAAGGCATAAATT
CTCGTCCGATTCGCAAACAAACCGCCCGGCGGCGGAAAACACAATACGCGGAAACGGAAA
ATTTTAACACACCGGCACAAACAGGCGGCAACAAAAGCCCCGGCAAAACCGGACGAACCG
GAACGATATAGTGGATTAACAAAAACCAGTACAGCGTTGCCTTGCCTTAGCTCAAAGAGA
ACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATCTGTACTGTCTG
CGGCTCGCCGCCTTGTCCTGATTTTTGTTAATCCACTATAAAATCCCGTCATTCCCGCGC
AGGCGGAAATCCGGACATCCAACGCTGCAGCAATTTGTCGGAAATAACCGAAACTCAAAA
```

```
AACCGGATGCCCGCCTGCGCGGGAATGACGACGCAAAGATGGTCGTTATTTCGGATAAAT
ATCCGTCTTTTCGTTCCGGATACCCGCTTTCGCAGGAATGGAGATGGAAAGATTTCAGCC
TATTCGGCAATCATCAAATACCGCTTCCCAACTTTATTTTTGATGCGACAGCCGGCCGGC
AACCAAGGTGGCGGCGATGACGACAAACACGCCCAAGGCGGACACGGGCGACAGGTGTTC
GCCCAAAATCAAAACCGCCAGCAGCACGCCGACGACGGGTTCGAGCGAAATCAACAGTCC
CGAAACATTGGCAGGAACACGGCTCATCCCCTTGTTCCACAGCCAATAGGCGTACCAGCC
GCACCCCAAACCCAAATACAGCAGCGACAATACCATCCCGACGCTCCAGTCCACGGTATA
ACTTTGCGCCAAAGCAAGCGAAAACGGCAGGCACATCAACGATGCGGCGGCAATGGAAAC
AGATGTGAATGCCGGTGCGCCGATGCGTGCAATCAGCCTTTGCGTCGGACGCATAGCGGC
ACAAAGCCCGCGCCCGCCAACAACACCAGCAGGCAGCCGAACCAGCCGACTTCGCCGCC
CTCTTCCGCACCGCCCGCCATCAGCAGCGCGACACCGGCAAATGCCGCCGCGCCGCATAT
CCAGTGGTAGGCACGCGCTTTGTCGTTGAAGAAAAAGTGTCCGACAAACACCATCAGCAG
CGGCTCGAGTCCGACAATGACCGATGCGCTGGCGGCGGAAGTGTATTTCAACCCGACAAA
CTGAAGCAGCAGGGTCAGCACATAGTTGACGAACGACACAATCAGCAACGGCTTCCATTC
CTCACGCGGAATCTTGCCGACATGACGGCGGCAGGCGGGCAGTGCAGGCAGCGCGGCAAT
TAGCAGGCGCACGCCGACCATCAATGCGGGATCGATGCCGCCATAGACATATTTGGCGGC
AATAAACGAGCTGCTCCAGATAATCAGGGCAAGGATTTGGTAAAACATAGTGAGTGATAA
AGTCAGATGGTCATACAAAGTATAGCGGATGAACAAAAATCAGGACAAGGCGACGAAGC
CGCAGACAGTACAAATAGTACAGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATC
GTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTCATCCACTATAACAG
CAACCCTGTCGCCGTCATTCCCGCAAAAGCGGGAATCCAGTCCGTTCAGTTTCGGTCATT
TCCGATAAATGCCTGCTGCTTTTCATTTCTAGATTCCCACTTTCGTGGGAATGACGGCGG
AAGGGTTTTGGTTTTTTCCGATAAATTCTTGAGGCATTGAAATTCCAAATTCCCGCCTGC
GCGGGAATGACGAATCCATCCGCACGGAAACCTGCACCACGTCATTCCTACGAACCTACA
TCCCGTCATTCCCACAAGGACAGAAAACCAAAATCAGAAACCTAAAATCCCGTCATTCCC
ACGAAAGTGGGAATCTAGAATCTCAGACTTTCAGATAATCTTGGATTCGGATTTCAAGTG
CAACACTAGTGTATTAGTGGTTGGAACAGATTCAAGAATAAAACACTTGGCGTTTCGTAG
CCAAGTGTTTTTCTTGGTCGGTGGTTCAACTCATCTTGAACCCTGCGTATCTCCCGATCA
CTGATGTTACGGAAATCGGTTTGTTTGGGGAAGTATTGCCGGATGAGTCCGTTGGTGTTC
TCATTCAGCCCTTTCTCCCAAGAATGGTAAGGACGACAAAAATAAGTCTCCGCTTTCAAT
GCTTTGGTTATTTTGGTGTGTTGGTAGAACTCTTTGCCGTTATCCATGGTAATGGTGTGC
ACCCTGTCTTTATGTGCCTTTAATGCCCTAACAGCTGCCCGGGCAGTGTCTTCGGCTTTG
AGGCTATCCAATTTGCAGATGATGGTGTAGCGGGTAACGCGTTCGACCAAGGTCAATAAT
GCGCTTTTCTGTCCTTTGCCGACAATGGTGTCGGCTTCCCAATCGCCGATACGGGATTTC
TGGTCGACGATAGCGGGTCGGTTTTCTATGCCGACACGGTTGGGTACTTTGCCTCTGGTC
CATGTGCTGCCGTAGCGTTTGCGGTAGGGTTTGCTGCATATTCTGAGATGTTGCCACAAC
GTGCTGCCGTTGCTTTTGTCTTGGCGAAGGTAGCGGTAAATGGTGCTGTGGTGGAGCGTG
ATCTGGTGGTGTTTGCGCAGGTAGGCGCATACTTGTTCGGGACTGAGTTTGCGGCGGATA
AGGGGGTCGATGTGCTGAATCAGCTGCGAATCGAGCTTATAGGGTTGTCGCTTACGCTGT
TTGATAGTCTGGCTTTGCCGCTGGGCTTTTTCGGCGCTGTATTGCTGCCCTTGGGTGCGG
TGCCGTCTGATTTCGCGGCTGATGGTGCTTTTGTGGCGGTTCAGCTGTTTGGCGATTTCG
GTGACGGTGCAGTGGCGGGACAGGTATTGGATGTGGTATCGTTCGCCTTGGGTCAGTTGC
GTGTAGCTCATGGCAATCTTTCTTGCAGGAAAGGCCGTATGCTACCGCATACTGGCCTTT
TTCTGTTAGGGAAAGTTGCACTTCAAATGCGAATCCGCCAATCTTTGAATATTGCTGTTG
TTCTAAGGTCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATCCGCACGGAAACCTGC
ACCACGTCATTCCTACGAACCTACATCCCGTCATTCCCACAAGGACAGAAAACCAAAATC
AGAAACCTAAAATCCCGTCATTCCCGCGCAGGCGGGAATCTAGGTCTGTCAGTGCAGGAA
CTTATCGGATAAAACGGTTTCTTGAGATTTTACATCCTGGATTCCCACTTTCGTGGGAAT
CTAGAATCTCAGACTTTCAGATAATCTTTGAATATTGCTGTTGTTCTAAGGTCTAGATTC
CCGCCTGCGCGGGAATGACGGCTGCAGATGCCCGACGGTCTTTATAGCGGATTAACAAAA
ATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTCGGT
GCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCTGTACTGGTT
TTTGTTAATCCACTATAGTACGGAACCGATTCACTTGGTGCTTGGGCACCTTAGAGCATC
GTTCTCTTTTTTGTTCATCCGCTATATTGTGTTGAAACATCGCCCCAAACCCGATACAAT
CCACCCCTGCAACATCAGTGAAAATCTTTCTTTTTAATCAGTTAAAACCGAATACGGAGT
CGAAAATGAATCCAGCCCCCAAAAAACCTTCTCTTCTCTTcTCTTCTCTTCTCTTCTCTT
CTCTTCTCTTCTCTTCTCTTCCGCAGCGCAGGCGGCAAGTGAAGACGGCAGCCGCAGCCC
```

```
GTATTATGTGCAGGCGGATTTAGCTTATGCCGCCGAACGCATTACCCACGATTATCCGCA
AGCAACCGGTGCAAACAACACAAGCACGGTAAGCGATTATTTCAGAAACATCCGTGCGCA
TTCCATCCACCCCCGGGTGTCGGTCGGCTATGATTTCGGCGGCTGGAGAATAGCGGCAGA
TTATGCCAGTTACAGAAAATGGAAAGAAAGTAATTCTTCTACTAAAAAAGTTACTGAAGA
GATAAACAACAACTACAAAGAAACCCAAACAAAACATCAGGGAAACGGCAGCTTCCACGC
CGTTTCTTCTCTCGGCTTGTCCGCCATTTACGATTTCAAACTCAACGATAAATTCAAACC
CTATATCGGCGCGCGCGTCGCCTACGGACACGTTAAACATCAAGTTCATTCGGTGGAAAC
AAAAACCACGACTATTACCTCTAAACCAAAGAACGGCTCTCCACAGGGAGGCCCTATTAT
ACAAACTGATCCCAGCAAACCTCCCTATCACGAAAGCCACAGCATCAGCAGCGTGGGTCT
TGGTGTCATCGCCGGTGTCGGTTTCGACATCACGCCCAAGCTGACCTTGGACACCGGATA
CCGTTACCACAACTGGGGACGCTTGGAAAACACCCGCTTCAAAACCCACGAAGTCTCATT
GGGCATGCGCTACCGCTTCTGATTCCCCGGCACCGATGCCGTCTGAACCTTCAGACGGCA
TCCAAAACCCGGTATTTCAAGGCGGGCAGGCGGTTGCGGACGCTGTTCAGGCGGTTGGCA
TCGATGTCTGCCGTAACAACGCCTTCGCCCTCGGGCAATACGTCCAACACGTCGCCCCAC
GGATCGACAATCATGCTGTGTCCGAACGTGCGCCGTCCGTTTTCGTGCAAACCGCCCTGT
GCCGCCGCCACGACGTAACATTGGTTTTCGACGGCACGCGCGCGCAGCAGCAGCTCCCAA
TGCGCCTTGCCCGTCGTGTGCGTAAACGCAGCGGGCAGCATCAATACGTCAAACGGCAAC
TGGCGTCGGAAAAATTCGGGAAAGCGGACATCGTAACAAATGCCCGCCGCCACCGGCACG
CCTTCTGCCGACAAGTGCGGCACATCCCCGCCCGCGCGGATGGTATCGGCTTCGGCATAG
CGTTCGCCCAAACCGGAAAAACCGAAGAGGTGCATTTTGTGGTACAGCCCCGTCCTTACG
CCGTCCCGTCCGTACACCAACAGCGTATTCATCACTTTACCCGCCTCGCAGCTTTGCAGC
GGCACAGTCCCGCCGAACAGCACCACGCCGCATTCTTTCGCCGTTTCGCTCAATGCCGTC
TGAAAGCGTCCGCCGCCCAAAGGCTCGGCAAGCGCGAGTTTGTCGGTATCGTTTGCGCCC
ATCAGCACCCAATATTCGGGCAGCAGCACCCAATCCGCACCCTGCTCCGCCGCCCGTGCG
ACCAGGCGTTTCATGGCGGCGACGTTGGTTTCCGGCGACACGCCCGACACCATCTGCACG
GCGGCAACTCTGATTTTGTCCATTTCTTCTCCTTTTTCCTGCCGACCTTGCGGCATATTC
CGCCGATAGGCTACCATGACGGTACTTTGCGAAAACCGTTTACACAAATGCCCATTTTGA
ACCATATTGCCCTCATCGGTGTAGGGCTGATCGGCGGTTCGTTCGTTCTCGACCTCAAAA
GGCAGGGACTCGTCCGCACCGTTACCGGTATCGACACCGACCGCGACAACCTCGAACGTG
CATTGGAACGCGGCGTGATTGACCAGGCTTCCGTTGCCATCGACGCGGACAGCATCGGCG
GTGCGGACTTGGTACTGATTGCCACGCCCGTCGCCACCGTTCCCGCCATTTTGACCGCGC
TGCGCCCCGTTTTGCCGGAACACACTTGGATTTCCGATGTCGGCAGCACCAAATCTTCGG
TCATCGAAGCCTTCCGCCGCTGTCTGCCCGACCGCCTGCACCACTGCATCGCCGCCCACC
CAATTGCCGGTTCGGACAGAAGCGGTGCGCAAGCCGCGCAGTTCGGGCTGTTCCGCCACA
GAAAACTCATCATCACGCCACACGGCGGCGAACATTCAGACGGCATTGCCTTGGTAGAAA
ACCTGTGGCACGCGGTCGGTGCGGAAATTTATACGATGGACGCGCAACGCCACGACGCGG
TTTTCGCCGCCGTCTCCCATATGCCCCACCTGACCGCCTTCGCCTATGTCCACCAGATTC
TCGACCACCCCGACGGACAGGAATATCTGAAATTCGCCGCCACGGGCTTTCGGGACTTCA
CCCGCATCGCCTCCGGTCATCCCGCCGTGTGGGCGGACATCTGCCTTGCCAACAAAGACA
GCCTGCTGCAACTGGTTCAAGGCTTGGGCAAACAGTTGGACGTTTTGGCAAACATCCTGA
CCACCGACGACCGCGAAGCCCTGTACCGCTATTTTGAAGAAGCCAAAACCACACGCGACC
GCTGGCTGGACGGCAACTGACCGCCCTGCCGTCTGAAAAGCAAACCGCCCAGACCCGAAA
TCTGCGGCGGTTTGTCTCAACCGGGCCTGCCGTCCGAACGCGGACGAATCAGCCAAGGAA
TATACTTCCACGCATACACCAAAAGCGCGAGTGCAAACAAAACCGAAGAGGTGCGGATGC
TGTGCGTGTAGGCAGTGCCGGAAGAAAATACGGCAACCATACGGACGGCGGTTGCCGCCA
TCATCAGCCAAAACGCAACGGGAACGGCTTTGGGCGGCGGATAAATCGGATTGCCCGTAT
GACCAAGCGCGGTACGCGCCATCATGCCCAAAGTCAGCACGCCGATACCGCCGACCCCGA
TCAGATGCACACCCAGATTGAGGAAAGCGGGTTTGAAATAAGACGCGCCGACCGCAATCA
GCCCCAATCCGGTAAACAGATAGCCGGCAAACAGAATCCACAGCATCGGCTCTTTCAACA
CGGGTTTATACCACCAGCGGTACACCTGCACGGTAAAAATCACACCTGCCGCAAAGGCAA
AAACGGCAGACAGCCAAGCCAACACACCGTGCGCCATCAGCATGGCAGTCAGCATGGGCA
GCCACAGCGAAGCCTGCGCCACCCATTTCGGACTGGGAATCTGCGGCACATTCAAGCGTT
TGGACGTAAAAAACGAAATAATCCGCGTACCAATCAGACCGATAAAACCCGACACCATCA
CCAAGCCCGACTGCAATCCGCTCAAGAGTCCGCCTAGGTTGCCGTTGTGCAGCTGGACGT
GGAACGCCGCATGCGTGCCGCCCAAGACGAACAGCGCGAACACGGCAACATAGTTGCGTT
GATTCTGCGAACGGATAACGGGCAAAGCCATGCACACCGCGCCGTACCAGAAAAACAGCG
TACCGAGTATGCCGCTTGCCGACGCACCCCAACCCGGGATAAAGGCGGCAATCCGCGCAG
```

```
   CCAGCCAAAAGATAGTCAAGCCGACCAGAACGCCGCCCCGCGTGGGCGGCTGCCCCGTCC
   AAGTGGCGACGGCGGTCAGCAGGAAGGCGATGACGACCAGTCCGGCATAACCCCAAATCA
   TCTCATGCGCGTGCCAATAGAAACCGGACAGCTCGTGCGTTCCCGTGTAGCCGAAACCCC
   ACAGCAATACGGACAATGCGCCGTACAGAGCCGCCAGCGAATAAAATGGGCGGAACGCCA
 5 TTGCCCAGACGGGGTGCTTGGTAAATTTCATGTGTGTTCCTTGTTTATCATTAATATATT
   TACCGCAAAACGGAATCATGCCGGCAAAAACGGTTCGGCGGCGGGAAACAGCTCGCGTTC
   TTCAAAGCGCGCGTGGTCGCGCAGGGTTGTGGCAAAAGCGGTATTCCACGCCGCGTTACC
   GTATTCGGGGCTTGCCATCATCTGCCGCAGTCGGGCGTGGTCTTTCTCGAAACGTTGTTT
   CAATTCGGGGGCGACATTCTGCCAAATTGGGGCAAACTTGGTTTCTTCTTCGCGAAAATG
10 GGTTTCCAATTCGGAAAAATGCGGTTCGAGTTCGTCCCGATGCCTTTCTTCCGGCGTCCG
   CAACAGACGCACGCACAGGGAAAGCGAATGGTGGTGGTCACGCGAAAGCCCGATAAGGGC
   GGGATGTCGTTTCAACGGTTTCATGATTTTGAGTTACAATAACAAATTCTCAAACGGTAG
   CGCGGATGTTTCAGACGGCATACCGCCGCAGACAGGCTGCATTCTACCGCCCCGACGGAC
   AGGGTTTCAACCATTAAGGTATTGTCCGTGAACCTTAAACCGTACCGATAAGAATAACAA
15 TCCATACCGAGAAAATCATGTATTTGACACAACATACGGACTACGGGCTGCGCGTCCTTA
   TCTACACTGCCATCAACGACGATGCGCTGGTCAACATCAGTACCATCGCCGTAACCTACG
   GCATTTCCAAAAGCCATCTGATGAAGGTCGTTACCGCGCTGGTCAAAGGCGGCTTCCTCC
   ACAGTGTGCGCGGAAAAGGCGGCGGTCTGCGGCTTGCCGCACCGCCCGACCGCATCAACA
   TCGGCTCGGTTGTCCGCCACCTCGAACCGATGCAGCTGGTCGAGTGCATGGGCGAGAACA
20 ACGAATGCCTGATTACACCGTCCTGCCGGCTGACGGGCATACTCGGCGGCGCGATGAAGT
   CGTTTTTCACGTATCTGGACGGTTTCACGCTCCAAGACCTGCTCAACAAGCCGACCTACG
   ACCTGCTCTACGAACCGAGAATTCCGATTGCGGTGCAGTAATGCATCAAAATGCCGTTTC
   AAACGGATATTCCGACCGAGCGCGATACGCGCCGGCATTTCGGACTGCCGCCGGCAAGGC
   GCGCAATGCCGTCTGAACAGCCGATGCTTCAGACGGCATCGGTTTCCCTACAAACCGAAC
25 ACCGCCGTATCGCCGCAACCTTGGCGCACCAATTCCGTGCCGTCGGTCATATCGACGACG
   GTGGTCGGCTCGGTTCCGCACCAGCCGCCGTCAATCACCAAATCGACGGCGTGTTCCAAA
   CGCTCGCGGATTTCATAAGGATCGGTCAATGGTTCGCCGTCTTCGGGCAGCATCAGGGTG
   CAGCTTAAAAGCGGCTCGCCCAATTCCCCCAGCAGGGCTTGTGCAATGGCATTATCGGGA
   ATACGCAGCCCGATGGTTTTGCGTTTCGGGTGCAGCGTGCGCGCCGGCACATCCTTCGTC
30 GCCTGTAAAATAAAAGTATAAGGCCCGGGTGTGGCGGCTTTAAGCTGACGAAACTGTACG
   TTGTCGACTTTGGCGTATGTGCCCAACTCGCTCAAATCTGCGCACATCAGGGTCAGGTGG
   TGTTTCAAATCGATTTTGCGGATGGAGAGTATGCGTTCCATCGCCGCCTTATCGCCGAGT
   TTGCAGCCCAAGGCATAACAGGAATCGGTCGGATAAACGACCACGCCGCCTTTATTGACG
   ATTTCAACCGCCTGCTTGATGAGGCGTTCTTGGGGATTGTCGGGATGAATAGCGAAAAAC
35 TGTGCCATGGTTTGTTTCCTTATCGTCATGTTTTCCGTATTGTACGCCCGAAATTCAAAA
   TCCCGTCATTTCCACAAAAACAGAAAATCCCGTCATTCCCGCGCAGGCGGGAATCCGGTT
   CGTTCGGTTTCGGTCATTTCCAACAAATCCCTGTCGCTTTGCGTTGCTGGTTTCCTGCTT
   TCGTAGAAATGGCGGCGGAGGGTTTCTGTTTTCCGACAAATATTTATGTTTACAGGATGA
   AATTCCACCGTCCGCACAAAAATGCAAGATAACAAAAAAATGAACAATGCCGTCTAAAAT
40 CCTCATCAGCCTAATCGGGCGTTTGGGGTTTCAGACGGCATTTTTGCGGACTCGTCCCTT
   TTTTGGCTACAAGATGCCGGCAAGTTCGGCAGTGTCGCAGGCAATCATCAGTTCTTCATT
   GGTCGGGACAACCAAAACAGCCGGAGAAGAATCGGTCGGGCTGATAATGCCCGAATTGCC
   GTAGCGTTTTTCCATATTGGCTTTGGTGTCGATGTGCAGACCCAAGAAATCAAGATAGGA
   AACGGTTTTGGCACGGATATTACGCGAGTTTTCGCCGATACCGCCGGTGAACACGAGTGC
45 GTCAACGCCGCCGCAGCCCACAGCCATCGAAGCGATGTATTTGGCGAGGCGGTAGGTCAT
   GACTTCGAGGGCGAGGCGCGCGCCTTCGTGGCCTTCGTCGGCGGCGATTTCGAGGGTGCG
   GCAGTCGTTGGAAAGTTCGGAAATACCGAGCAAACCTGATTTTTTGTTCAGCATTTCATC
   CACTTGGGCAACATCCATCCCGGCGTGGGAAGTCAGATAGCTGTATACGCCCGGATCGAT
   GTCGCCGCAACGTGTACCCATTACCAAACCTTCGATCGGCGTGAAACCCATACTGGTATC
50 GACGGATTTGCCGTTTTTGATGGCGGTAATGGATGCGCCGTTGCCTAAGTGGGCAATAAT
   CATGCGGATGTCTTCCAGAGGTTTGCCCAAGATGCGTGCGGCTTCAGGGGCAACGTAACG
   CATACTGGTGCCGTGGAAACCGTAGCGGCGGAAAGCGTATTTTTTACGCAACTCGCGCGG
   CACGGCATAAGTGTAGGCACGCTCCGGCATGGTTTGGTGGAACGAAGTATCCATCACGCC
   GACATTGGGCAGACCGGGGAAATGTTCCTGTGCGGCAAGGATGCCGCTGATGTTGGCGGG
55 GTTGTGCAGCGGCGCAAGCGGAATGCAGGCATTGAGTTCGTCCATTACGGCCTGGTCGAT
   CAAAACAGACTCGCTGTATTTTTCGCCGCCGTGGGCGATGCGGTGGCCGATGGCTTTGAT
   GCGGTCGTGCAGACCGTGTTTTTCCAGTTCGTTCAAAAGCATACCCACCGCGCCGGCGTG
```

```
     GCAATTTCGGCCGCTCAGGGGAACTTGGCGTTTGTTGCCGTCTTTGTTGAACGTAATGAC
     GGCTTCGGGCGTGGTCAGGCGTTCGCCGAGGCAGCTTAGGACGACGCTGCCGCTTTTTCG
     GTCGATAACGGCGCCTTTGAGCGATGAACTGCCGCAGTTCAGAACGAGGATGAGTTGGTC
     GGACATGATGTTTCTCCTTGTAGTTTGTGGTTGTTTTTTrGTGTGGGGTCGTCTGAAAA
  5  AGGCAGACATCAGGCGCAAGGTGTTTCAGACGGCCTCTTTGGGCAAAGCGTATGCCGCAT
     TTTCTATCGTTATTCCGTCCCCGCCTACGCGAGGACAGGCTGTGGCGGGAATCCAGAATG
     TAGAACTCACGAAACCTGTTTTCCCCTGCCAATCCTCCATATTGACAGGTCTGGATTCCC
     GCCTGCGCGGGAATGACGGTAATACGGGAAGCTGTCTTTTATCGGGGTTTCCGTGTTCTT
     CCTTGTGATTTGCCGCCTTCCGCCACAGGGCAAGGGAAAGGAATGGTCAGTGATTTGATG
 10  TTTACTTGTTTTTCAGACGACCTTTTTATGGCTCGCGGGCAAACCCATGCTACGTCAATT
     TAAAAACAATCCTCAGGCACCCTGACCCAACCTTCCATCATCACGCGTGCGCTACGGCTC
     ATGACCGCTTTGGTGGCCGTCCATTGTCCGTCCTGACATTCGGCGGCTGCACCGACGCGC
     AATGTGCCGGAAGGATGCCCGAAGCGCACTTCTTTACGCGTTCCGCCGCCTGCGGCAAGG
     TTGACCAGCGTACCGGGTACGGCGGCGGCGGTCGCAATGGCAACAGAGGCGGTACCCATC
 15  ATCGCGTGGTGCAGTTTGCCCATGCTCAGGGCGCGTACCAGCAAATCGATGTCGGCGGCG
     TTCACGGTTTTGCCACTGGAGGCGGTGTAATCGGCGGCGGGCGCGACGAAGGCGACTTTC
     GGCGTGTGCGCGCGAGCGGCAGCTTCGGATACGTCGCTGATCAGACCCATTTTCAGCGCA
     CCGTAAGCGCGGATTTTCTCGAATTTTTCCAAAGCCGCGGCATCGTTGTTGATGTCGTCT
     TGCAACTCTTTGCCTGTGTAGCCCAAGTCGGCGGCATTCAAGAAAACGGTCGGAATGCCC
 20  GCGTTGATGAGCGTGGCTTTCAAACGGCCTATATTCGGCACATCAATTTCATCGACCAAA
     TTGCCGGTTGGGAACATACTGCCTTCGCCGTCGGCTGGATCAAGAAATTCGATTTGTACT
     TCGGCTGCCGGGAACGTTACGCCGTCGAGCTCAAAATCGCCTGTTTCCAAAACTGCGCCG
     TTTTGCATCGGTACATGGGCAATAATGGTTTTGCCGATGTTTTTCTGCCAGATTTTGACC
     GTGCAGATGCCGTCTGAAGGAATCTTGCCTTTATCGACCAAGCCCTGTTCGATGGAGAAT
 25  GCGCCCACGGCAGCGGTGAGGTTGCCGCAGTTGCCGCTCCAATCGACAAAAGGTTTGTCG
     ATGGAAACTTGCCCGAAAAGGTAATCGACATCGTGATCGGCGCGTTCGGACTTGTCCAAA
     ATCACCGCCTTGCTGGTGGACGAGCTGGCGTTGCCCAAACCGTCTATCTGCTTGCCGTAG
     GGATCCGGGCTGCCGAGTACGCGCAAGAGGATTTTGTCGCGTGCGCTTCCCGCTTCCCGC
     GCCGCCTCGGGCAGGTCGGAACGTTTGAAAAACACGCCTTTTGATGTACCGCCACGGTAG
 30  TAAACGGCGGGAATTTTAATTTGCGGCATTTCTAGATTCTCCTTATGTAGCGTGGGCTCT
     GCCCACGATTTTTATAGTGGATTAGGCTGCCACTCCGACCAAAGCCGTTTGATTCCGCAA
     ACTGTCGGGGTTCGCCCCAATCTACGGCTACTGTGTTGTGATACGGCAGATTATTAAACC
     CCGTCATTCCCGCGCAGGCGGGAATCCAGATTTATCCGCACAGAAACTCATCGGATAAAA
     AGGTTTCCTCAATTCCACTTTCTGGATTCCCGCCTGCGCGGGAATGACGATTTACAGTAT
 35  AGTGGATTAAATTTATAGTGGATTAACAAAAACCAGTACAGCGTTGCCTCGCCTTAGCTC
     AAAGAGAACGATTCTCTAAGGTGCTCAAGCACCAAGTGAATCGGTTCCGTACTATCTGTA
     CTGTCTGCGGCTTCGCCGCCTTGTCCCGATTTTTGTTAATCCTCTATACCATGTCAATTC
     AGCCTTTATTTCGCGGGCAAAGCCCACGCTACACCCACTTTCCAGAAGTACATTAGGCTG
     CCACTCCGACAAAGCCGTTTGATTCCGCAAACTGTCGGGGTTCGCCACAATCTACGGCTA
 40  CTGTGTTGTGATACGGCAGATTATTAAACCCCGTCATTCCCGCGCAGGCGGGAATCCAAA
     TTTGTCCGCACAGAAACTCATCGGATAAATAAGGTTTCCTCAATTCCACTTTCTGGATTC
     CCGCCTGCGCGGGAATGACGATTTACAGTAGATGCCTGCCATATCGAGAATTACGTGAAT
     GAGCAAAATGTTGAACCCGACCCACGCTACGTCTTGCTTTTCAGACGACCTCTAAGCCGC
     GTTCCCTTCCAAAAAATCCTGTGCAAACCGTTGCAACACGCCGCCGGCTTCATATACCAA
 45  TACTTCTTCTGCAGTATCGAGGCAGCAGGTAACGGGAACTTCAACGGTTTCGCCGTTTTT
     ACGGTGAATCACGAGGGTCAGGTCGCAGCGCGGTGTGCGTTCGCCGACCACGTCGTAGGT
     TTCCGTACCGTCCAGTTGCAGGGTATGGCGGTTGGTGTCGGGTTTGAACTGCAGCGGCAA
     CACGCCCATGCCGATAAGGTTGGTGCGGTGGATACGCTCGAAGCCTTCGGCAACAATCGC
     TTCTACGCCGGCGAGGCGTACGCCTTTTGCAGCCCAGTCGCGGCTTGAGCCTTGACCATA
 50  GTCCGCACCGGCAATGATGATGAGCGGCTGTTTGCGGTTCATATAGGTTTCGATGGCTTC
     CCACATGCGCATGGTTTCGCCTTCGGGTTCGACGCGGGCGAACGAGCCTTGGCGCACGCT
     GCCGTCTTCGTTTTTCACCATTTCGTTAAACAGTTTCGGATTGGCGAAGGTAGCGCGTTG
     GGCGGTCAAGTGGTCGCCGCGGTGGGTTGCGTAAGAGTTGAAGTCTTCTTCAGGCAAACC
     CATTTTCGCCAAATACTCGCCTGCGGCACTGACGGCCAAAATCGCATTGGACGGCGAGAG
 55  GTGGTCGGTGGTGATGTTGTCGGGCAAAATCGCCAGCGGACGCATACCTCTTAATGTGCG
     TTCCCCTGCCAGCGCGCCTTCCCAGTAAGGCGGACGGCGGATGTAGGTGGACATCGGACG
     CCAATCGTACAGCGGACTGGGTGCTTTTTGCGCTGTGCCGGTGTCGAACATCGGTACATA
```

```
CACATCGCGGAACTGCTGCGGTTTCACATATTCGGCAACGACGGCATCGATTTCTTCATC
GGCAGGCCAAATGTCTTTCAGGCGGATTTCCTTGCCGTCTGCAACGCCGAGTACGTCGTT
TTCAATATCGAAACGGATACTGCCTGCCAGCGCGTAGGCAACGACCAACGGAGGCGAAGC
GAGGAAAGCCTGTTTCGCATACGGGTGGATACGGCCGTCGAAGTTGCGGTTGCCTGATAA
TACGGCGGTGGCGTACAAATCGCGGTCGATGATTTCTTTCTGGATTTTCGGATCCAGCGC
GCCACTCATGCCGTTGCAGGTGGTGCAGGCGAAGGCGACGATACCGAAGCCGAGTTTTTC
CATTTCGGGCAACAGGCCCGCTTCTTTCAAATAGATTTCGGCTACTTTTGAACCCGGGGC
AAACGAAGATTTCACCCAAGGTTTGCGTTTCAAGCCGAGACGGTTGGCATTGCGTGCCAA
GAGCGCGGCGGCAACAACGTTGCGCGGGTTGGAAGTGTTGGTGCAACTGGTAATCGCGGC
GATGATGACCGAGCCGTCGGGCATTTGGCCGTCCGAAGGCTCTTCGTAAGGCTTCGCCAG
CCCTTTCGCCGCCAAATCGGCGGTCGCAAAACGGGCATGCGGGTTACTTGGGCCTGCCAT
ATTGCGCGTTACGCTGCTCAAATCAAATTTCAAAACGCGAGGATAAACGGCGGTTTTCAA
GGCATCTGCCCACAAGCCTGCGGTTTTGGCGTAGGTTTCCACCAATTTCACCTGCGCGTC
GTCGCGTCCGGTCAGTTTCAAATAATCAATGGTTTGCTCATCAATAGCGAACATCGCGGC
AGTCGCGCCGAACTCCGGCGTCATGTTGGAAATGGTCGCGCGGTCGCCGATAGACAGGCT
TCTCGCGCCCTCGCCGAAGAATTCGACAAACGCCCCGACCACGCGTTCTTTGCGCAGAAA
CTCGGTCAGTGCCAACACAATATCCGTCGCCGTAATGCCCGCCTGCCGTTTGCCGTTCAG
CTCAACGCCGACAATATCGGGCAGGCGCATCATGGACGCGCGTCCCAGCATTACGGTTTC
CGCTTCCAATCCGCCCACGCCCACGGAAATCACGCCCAATGAATCGACGTGCGGCGTATG
TGAGTCAGTACCGACGCAGGTATCGGGGAAAGCCACGCCGTTTTTGACTTGGACGACGGG
CGACATTTTTTCTAGATTGATTTGGTGCATGATGCCGTTGCCCGCCGGAATCACGTCCAC
ATTTTCAAACGCGGTTTTTGTCCAGTTGATGAAGTGGAAACGGTCTTCGTTACGGCGGTC
TTCGATTTCGCGGTTTTTGCGGAAGGCATCAGGATCGTAACCGCCGCACTCCACCGCCAG
AGAGTGGTCGACGATGAGCTGGGTTTGCACCACCGGATTCACTTTGGCAGGATCGCCGCC
TTTTTCGGCAATCGCATCGCGCAGGCCTGCCAAATCCACCAACGCGGTCTGCCCCAGAAT
ATCGTGGCACACCACCCGCGCCGGATACCACGGAAAGTCGATTTCCTGCTTCCCTTCTAT
CAACTGCCCCAGCCAGCTTTGCAGCGTCGGCAAATCGACTTTGTCCGCGCGGTTGACCAA
ATTCTCCGCCAAAATGCGGCTCGTGTAAGGCAGCTTGTCGTAAGAGCCGGGCTTGATGTC
CTCACACGCCGCACGCGCGTCGTAGTATTCCAAATCCGTACCGGGCAGCGGTTTGCGGTA
ACGTTGGTTGGCAGCCATGTCGGTTCTCCTGTGGATCTGTTTTTCTTGTGGTTTGAGGTT
TCAGCCGACGTTTTGAAGGGGTCGTCTGAAAGGGTTTAAAACATCGAAACAATCATCTGA
TACAGCGGATTTCTCTCGTCTATCAACAATTTCACAGCCATCGAAATGCTGATGACAATC
AGCAGCGGCTTAATCAGCTTCGAACCGAAGCGGACGGCAAATCTCGCACCTAAATTCGCA
CCGACAAACGCACCGACCGCCATCGTTGCCGCAATCGGGAAAATAATCGAACCGTGCAGC
AGGAATACCGATAGCGAACCAAGATTGCAGGCAACGTTCGCCAATTTGGTGTAAGACATC
GCGTTCAACAGCTTGCAGCCGAGCAAAACAATAAAGGCAATCAGAAAAAACGAGCCGACA
CCCGGTCCGAACACACCGTCGTAAAAACCCAAAAGCGGTGCGACCGTCAGCCCGAACAGA
AAAAAAGACATTCTGGCTTTGCCTTCCTTACTGCCGTCGAGCTTGGGCGAAAACACAAAA
TACAGTGCGACAAATATCAACAAAACCGGCACGACCGCCAGCAGAATATCTTTGGAAACC
AAGCTGACCGATAATGCACCGGCCACGCCGCCTACAAACGATGCTGCGGCAATCGGGAGA
CCTTTCTTCCAATCAATCAAACCTTTGCGTGCAAAAGAAACCGTAGCTGAAAACGTAGCA
GCGGCTGCTTGCAGCTTGTTGGTGGCAATTGCCGACACGGGAGGAATACCTGCCAACAAG
AGTGCGGGCAGCGTAATCAAACCACCCCCGCCCGCAATCGCATCGATAAATCCGGCAATC
ATCGCAACCAAACCCAAAGCGAGTATTATATATAAATCTTCCATGTTTCTTATCCTGTTA
CTTGCGCCAATACAGGATTATCTTCTCCTATTAGATTAAACTTATTTCAGACAACCTTTC
CAATAAGGCAAGGTCGTCTGAAATCCTTAGCTTTGCATACCGAAATTAAAGAACAAACTG
CTATTGCATTCTTCAATTATCGTTCTTCAATCTCCACAAACGCCAAATCTTCAGGGCCTG
TGTAGTTTGCGCTCGGACGGATGATTTTGCCGTCTTTGCGTTGCTCAAGAACGTGTGCGC
TCCAACCGGTTGTACGGGAAATTACGAACAGCGGTGTGAACATAGCGGTCGGTACGCCCA
ATTTTTGGTAGGAAACGGCAGAGAACCAGTCCAGATTCGGGAACATTTTTTTCTCTTCCC
ACATCACGCTTTCCAAACGTTCGGCAATGTCAAAGAGGCGCATATCGCCGGTTTCTTTGC
TCAAACCGCGTGCCACTTCTTTAATGACAACGTTGCGAGGGTCGGAAATGGTGTACACCG
GATGACCGAAACCGATCACGATTTCTTTGCGGCCGATGCGTTCGCGGATGTCGGCTTCAG
CTTCGTCGGCATTGCGGTAGCGTTTTTGAATATCGTAAGCCACTTCGTTCGCGCCGCCGT
GTTTCGGACCTTTCAACGCGCCGATTGCTCCGGTAATGCTGGAGTACATATCAGAGCCTG
TACCGGCGATCACGCGGGCGGTAAAGGTAGAAGCGTTGAACTCGTGTTCGGCATACAGAA
TCAGTGAAACGTGCATGGCTTTGATGTGTGATTCGCTTGGGCGTTTGCCGTGCAACAGTT
```

-328-

```
GCAGGAAATGACCGCCGATGGTCTCTTCGTCGCTTTCAACCTCAATGCGTTTGCCGTTGT
GCGAATATTGATACCAGTACAAGAGGATGCTGCCGAGGCTGGCGATCAGTTTGTCGGCGA
TGTCGCGCGCTTCACTTTCCGGATGGCTTTCACGTTCAGGATGAACGCAGCCCAGCATGG
ATACGCCGGTACGCATTACGTCCATCGGATGGGTATGTGCAGGCAGGCTTTCCAAAACTT
TAATCACACGGATAGGCAGGCCGCGCATGGATTTGAGCTTGGTTTTATAAGCGGCCAGCT
CGAATTTGTTGGGCAGATGGCCGTGAATCAGCAGGTGGGCGACTTCTTCAAACTCGCATT
TTTGTGCCAAATCCAGAATGTCGTAACCGCGATAGCTCAAATCGTTGCCGGTACGGCCAA
CGGTACACAAAGCGGTATTACCGGCCGCAACGCCAGAAAGCGCAACGGATTTTTTAGGTT
TGAGGGTCGGGGTTTGAGTAGTTTCAGTCATGGTATTTCTCCTTTGTGTTTTTATGGGTT
TCGGGTTTTCAGACGACCGATGCGGATTTGTTGAAAGGCAGTCTGAAAGCGGTAAATCAT
TTTTGAAACAATTTATCCAGTTTTTGCTCGAAGGCATGATAGTTCAGATGCTCGTACAGC
TCGGCACGGGTTTGCATACTGTCCACCACCGCCGCCTGAGTGCCATCGCGCATAATCGCT
TCGTAAACATTCAGAGCGGCTTTGCTTGCTGCACGGAACGATGACAGCGGATACAGCACC
AGCGACACGCCGTTTTCAGCCAGCTCGCTTTGGGTATAAAGCGGAGTGGAACCAAACTCG
GTAATGTTCGCCAACACGGGCACTTTCACCGCATCTGCAAATTGGCGGTACATGTTCAAA
TCGGTCATGGCTTCAGGGAAAATCATGTCCGCACCGGCTTCGACACAAGCTTGGGCGCGT
TCGATAGCGGCATCCAAACCTTCTACCGCCAGCGCATCGGTACGCGCCATAATCACGAAG
TTCTCATCAACGCGCGCATCTACGGCAGCTTTGATACGGTCGACCATTCATCTTTAGAT
ACAATGGCTTTGTTCGGACGGTGGCCGCAGCGTTTTTGCGCTACCTGATCTTCGATGTGA
ACCGCTGCAACACCGGCGCGTTCAAAGTTGCGAATGGTACGGGCAATATTGAATGCACCG
CCCCAACCCACATCGATGTCCACCAGCAGAGGCGTATCCACGTTGTCCGTAATGCGTCGT
GCGTCGATCAGCACATCTTCCATTGTGGTAATGCCCAAATCAGGGATACCGCAAGAACAG
GCTGCCACGCCGCCGCCGGACAGATAGATGGCTTTGAAACCGCTTTGGGTGGCCAATCGT
GCAAAATAAGCATTGACGCAACCGGCGACGGCAAGCGGATTCGATTCTTTCACGGCTTGG
CGGAAACGTGCTCCGGCAGAGTGTTGACTCATCATATTCTCCTTTATAGACTTTTTTTC
AGTATGGACAGGCTTCCATCACATTCGGACGGCAAAACACAGCCATCCGACGCGTCGGGC
ATCCCAATCCAATCATTAAAAATATATGGGAAAAATTATCTTATTGATATTTAAAACGAA
TCAAAGAAAAACAGCAGACCGTTCGGAATTATGCGGCAAAACCGCAGACAAGAAGAAAC
AAGGGGATTATTCAGAAAAGGGGAAAACATCTGAATTGGTTTCATAGTAATGTTCCTTTG
TAGTGTTATGTAGTTTTATTTTTCGATAATCTAAAACACAAGACTGAAATGTCAAACAT
TTTTAAGGAGACTCATTACATAATTTTAATATTTATTTTAATTCCATGATTAAACTAGA
TTAATTTTGAATTATTTGTTTCAATAAAATTGTCAGGAAATCAAGAAAATTTTTGATAA
TCAAAATCCTGAAAACTTATAAAATATTTATACATAAAAACAATGTATTATTTTTAAGC
AATCCGATGTATTTTATTATGTATTTGATTTTTATATAATTTAATAAAAATTAAATATAT
CGGCAAACAAAATGCCGTCTGAAAACCTTTCAGACGGCATTTTTAATATCGAATCAATCA
GCCCAAATACCAGAATTTCAGTGCCCACAATACGGCAACAATCCATACCATAGGCGGAAC
GTCTTTGGTGCGGCGGCATAAAAGTTTAACCACGGCATAACTGATGAAGCCGAAAGCGAT
GCCGTCTGCAATCGAATAAGTAAACGGCATGAAAACAATGGTCAGGAACGCAGGTGCGGC
TTCCGTCATATCGTCCCAATCAATATCCCTCGCACTGCGGAGCATCTGCGTGCCGACATA
AAGCAGGGCGGGCGCGGTGGCAAAAGCGGGAACACTTTTCGCCAAAGGTGAAAACATCAG
GCAGGCGAGCATCAATACGCCGACGGTAACCGCCGTCAGGCCGGTCCGTCCGCCTGCCGA
TACGCCCGCCGCGCTTTCCACATAAGGCGTGGTGGAAGAAGTACCCAAAGCCGCACCTGC
CACAATGGCGGTAGAGTCTGCAAGCAGTGCGCGTTTCAGGCGGGGCAGCTTACCGTCCAC
CAGCAGCCCGGCACGGTGGGATATGCCGACCAGCGTTCCGGTACTGTCAAATAGATCGAC
CAAGAAGAAGACGAAAATCACACTGACCATGCTGACGGTAAACAGGCCTTCAAAATCCAT
CTGCATAAAAGTCGGCGCAATGCTCGGTACTTCGCCGATGATGCCGTGAAATTCATTCAA
ACCCATCAGGCTGGCAATGACGGTAATGGTCAAGATGGTGATGATGATTGCGCCTTGAAC
GCGGAAATGTCCCAATACGACCACCATAGCAAAACCGAACAATGCCAACAACGCGGACGG
CTGATGAATATCGCCCAAACCGACCAAGGTTGCCGGATTGGCAACGATAATGCCTGCGCC
TTTCAGGGAAATCAGTGCCAAAAACAAACCGATACCGGCAGCAATCGACATTTTCAAACC
CATAGGCAGTGCGTTGACCAGCATTTCCCTGACTTTAAAAAAGCTGAACAGGATAAAAAT
CAGACCGGAGATGAACACCGCACCCAACGCAACCTGCCAAGGCACGCCCATACCCTTAAC
GACGGCAAAGGTGAAATAGGCATTCAGCCCCATCCCCGGTGCGAGTGCAATCGGATAGTT
GCCGACAAAACCCATAACAAAACAGCCGATGGCAGACGCGATACAGGTAGCGACGAATAC
CGCCCCCATATCCATGCCGGTCTCGCCCAAAATCAGAGGGTTGACGATAACGATGTAGCA
CATCGTCAAAAAGTTGTCAAACCCGCCATCAACTCGGTACGCACCGTCGTACCGTTTGC
CTTCAGCTTAAAAATCCCGTCCAACAGTGTTTGTTTTGAAGTGTCCATATCTGAAAGTCT
```

```
GTATCAAGTGGAAAAATCTGAATCCGCCGACCGCAAACCGTACGAAATTGCAACATCTTG
AAAAACATACCTCCCAAACCGGACAAACCGATTCGGGAGGCAGCAGGTTTACGGGCAAAC
AGCACATTATTTGTCTGAATTGTGTTGACGACGCAAAATCGCAGGGATTTCAAAGTCGTC
AAGTACGGACTGATTGTCGAAATCCGCAGCGGTAAGGTTCATCGTGCGGATACCGCGATT
GGTGCGGATCATACCTTCGACATTGTGGCTTTGCTCCTGTTTGGACGGAGCAACCGCTTC
TACCTCCCTTGCCGGAACAAAATCGACCGCGCCTTTTTCTTTCAGACCGGTAGCGATAAT
GGTAATCCGGATGGCATCTTCGCTCATGGTCTCGTCTTCAGCCGCACCGAATTTGCATTC
CAAATCGGGATGCGCGCTTTGGTTGACGATTTTCATGACTTCGGACAACTCGGACATTTT
CAAGCAACCCGGAGCAGTCGTAATATTGACCAGCACACCGCGCGCTCCGTCCAAGGTTAC
ATCGTCCAGCAGCGGACTGGAAATGGCCTGGTCGGTCGCCATACGCGCACGGTCGATACC
TTGGGCATAACCCGAACCCATCATAGCGATACCGCGGTTGCTCATCACGGTTTTCACGTC
GGCAAAGTCGAGGTTGATGATTTCGCTCGGGCAAGTTACCACTTCGGAAATGCCTGCGAC
CGCATCGCGCAATACATTGTCGGCGGCACGGAAGGCTTCGCGCATCGTTACGTCTTCACC
CAATGCAGTCATCAGTTTGTCGTTCGGGATGATAATCAGCGAATCGACGTGTTCTTTCAA
CTGTTCCAACCCTGCCTGTGCGACATGGACGCGCTTACCTTCATATGCGAACGGTCGGGT
AACCACGGCAACGGTCAGAATGCCCAAAGACTTGGCAATCTCAGCAACAACCGGCGCGGA
ACCGGTACCGGTACCGCCGCCCATACCGGTCGTGATAAACAGCATATTCGCACCGCGAAT
GGCTTCTTCAATGGCTTCCCGGTCTTCCTGGGCTGCCGCACGGCCGATATCGGGATTCGC
GCCCGCGCCCAAACCGCGTGTCAGATTCGTACCCAACTGGATTCTCTTCGCCGCATGGTT
TTTTGCCAGAGACTGCGCATCCGTATTGGCACTGATAAACTCCACACCGCGCACATTGTT
GGCAACCATGTTATTGATTGCATTGCAACCGCCGCCGCCCAAGCCGATTACTTTAATCAC
CGCAGGGCTGACTGCCGATTCTGCCACGTCGTAAACAAATTCCATTCAAAAACTCCTGCT
CGCCCCATTCAGAGGACGGTTTAAATAAATTATTATTCATTATATAAGAAGTATCTTGCT
GCTGGCAAAATACTTCTCACCTGTCAAACGGCAATCCACCTGTTCAGAAGCTGTTTTCAA
TCCACCGTTTCAATCTTGCCAACAAACCGCCGCCCCTTCCCTCTCTTGCACTGCCACCGT
TTTCCGGCTGCGGCAAGTTTCCTTCCAGCTTGCATGCTGCATGAAGCAGCCCGATAGCGG
TAGAAAAACGCGGTGTGCGGACGCGGTCGGACAAACCGCCCATTTCTTGGGGTGCACCGG
TGCGTACAGGCAAATCGAAGATTTTTTCGGCAAATTCCACAATCCCGGTCATCATGGACA
CACCGCCGGTCAGAACGATACCCGCATTCAGCACTTCTTTGGGGAAACCCGATTTTTGCA
GCTCGCCCAGCACTACGCCAAAAATCTCCTGAATCCGTGCACTGATGATTGCTGCCAGAA
CCTTACTGGAAACCTGACGCGATGTCCGGTCACCCACGCCCGGAACTTCAATCATCTCAC
CCAAGCCTTCCGTATCGCATGATGCCACGCCATAATGGATTTTAATGTACTCGGCGGCAT
CGAGAGGTGTTCTCAACGATTTGGACAAATCTTTGGTAATCAGATTACCACCGGCCGGAA
TGACGGACGTATGGCGGATGGCACCGTTCATATAAACGGCAATATCGGTCGTTCCGCCAC
CAATGTCGATGACGCATACGCCGAGGTCTTTTTCATCTTCAGTCAGCACCGCCTGCCCGC
TTGCCAACGGCTGAAGCATGATCTGATCGCTTTTCAAACCGCACCGCTCGATACATTTTT
GGACATTCTGCACTGCCGTACTTGCACCGGTAATGATGTGCACCCGCGTATCCAGACGCA
CACCGCTCATACCGATGGGCTCCCTCACGCCAAGTTGGGTGTCAATAATGTAGTCTTGAA
CCACGGCATCGAGAATTTTTTGATCGGGCGGGATATTGATTGCCTTTGCCGTTTCAATGG
CGCGATCGATGTCTGCCTGCGTGACTTCCCCATCTTTAATTTTAACCACACCTTGCGAAT
TGAGACTGCGGATGTGGTTGCCTGCGATACCTGTGGTAACGTGAGTAATTTTGGTATCCG
CCATCAGCTCGGCATCATTGACCGCCTGCCTGATGGCTTGGACGGTGGCATCGATATTGG
TTACCATGCCCGCGCGCAAGCCCGTGAAGGAGCCTGCCCCAAACCGACGATGTTGATTT
TGTCGTCATCTTGAACTTCCCCGATCAGTGCGAGGACTTTAGACGTACCGATATCCAGTA
CGCTGATGTATCTTTGCTGCTGTTCCATTGTTCGTCTGCTCTTAAAACTGATTGAAATTT
GCGTCGCACCGTTTCAGACGGCACGGCCGTAATCTGTCCGATACCTGTTCCCACTATTCT
TCGGATTCTTTTTCGGGTAAACCGTCGGAAGCATAGCGGACTGAAAATCCGTCCTTATAC
CTCATATCCACATAGGATAACCGATTTTTATTTTTACGAACAGATGCTGCCACGCTTCG
GTAAAAAGCCGGAGGCGTTTCATCTCGTTTTCCCGTCCAGCCTGACGGTGATGCCGTTG
TCCAAAACGACAATCCACGCCGAACGTGCCGTATAGGTCATCTCTTTGATGCCCAAACCC
TGTTTTGCCAAAACAGTCGAAAATTCGTCATAACGGCGGAGCATTTCGGCAGACGTTCCT
TCCGCGCCTCTGAATACCGGCATTCCGGGTCTGTCCAAGCGGGCTTCAAAAACATTGCCT
TCGCCGTCCACCAAGGCATGGTCGCCCCAACGCGCGACCGGCTTGCGCTCGGTCAGGACG
ACCTCAACCGTGTCGGGAAAACGGCGGCGCACCATGACCGACGCAATCCACGGATACCGG
CGGTAGGCCTCCTGTGCGCCATTGATGTCCGTCCTCAAAATATTCCCATGGATGTATTCT
TTCGCCAAACTGCCCAATGTCTTCTTATCGGAATAAACCAGGTTGCCCTTCAGCGACACC
TGCTTGACGGGCAGATGATTCGAATTGTAAAACCAAACCAGCCCGGACGCAGCAAGCAGC
```

-330-

```
ATCGCCATCATGACAAGCAGCCAGCGCGTCAGCCGTTCCATCGCTTCGGCATTATCCCAC
ATGTGCGGTCTTCAAAATTTCAATACATAAATCGGCAAAACCCACGCCCGTAACGGCAGC
GGATTTCGGTACTAAACTATGGCTCGTCATACCGGGCAGGGTGTTGATTTCCAACAGATA
GAGTTTGCCGTCGGTATCTTTGAGGAAATCGACGCGCACGCAGCCTTCCGCACCGATTGC
CTGCGCGCCGCGAACCGCCAGTTCGCGCATCAGGCTTTCTTCGGCTTCGGTCAAATCTTC
CGAAGGACATTGATAAATGGTGTCGTCGCGGTTGTACTTGGCTTCGTAGTCGTAAAACTC
GGTTGCGGGAATGATGTGTATGCCGGGCAGCCCTTTGCCGTTCAGGACGGGGCAGGAATA
TTCGCCGCCGCCGATAAAACGTTCGGCAATGATTTCGCCCTGAAGGTGTTTCAATTCTTC
GTAAACGCTTTTCAGACGGCCTTTTCCTTTGACTTTTACCACGCCTACGCTGCTGCCTTC
GGCCGCCGGTTTCACAAACATCGGCAGGCCCAATTTTTCTTCGACGGCATCGAAATCAGT
GTCGTCGTGCAGGACGGCGAACTCGGGAACGGGCAATCCCAATGCCTGCCAAATCAGTTT
GCAGCGGTATTTGTCCATGCCGATGGCGGATGCGGCGACACCGCTGCCGGTATAGGGAAT
GCCCAACAGTTCCAATGCACCCTGAACCGCCCCGTCTTCGCCGTAAGTACCGTGAAGGAT
GTTGAATGCCGTCTGAAAACCTTGTGCCTTCAATTCAGACAATGGGGTTTCTTTAGGATC
GAAGGCGTATGCGTCTATGCCTTTGCTTTTTAAAGCATTCAAAATGGCGGTGCCGCTGTC
CAGCGAGATTTCTCGTTCGCTGGAAAAACCGCCCATCAATACGGCCACTTTGCCAAAATT
CTGCATTGTTTTTGTTCTTTCCTGATTGCTTTATGCTTGTTGCCAGAGGTCGTCTGAAAC
CTGATTTGCGGTTTCAGACGATCTTTATATGATGTTCCGTCTGTCAGGCGGGTGTGCCTC
AAATCTGTTTCGACAATGCCAGCAGCGCGGCGGGGACGCGGTTGATGCTTCCCGCGCCCA
TATTCAACACGATGTCGCCGTCCTGCAAAACGTTCAACAGCATTTCGGGCAGATCGGCAA
CGTTTTCGCAGTAAATCGGCTCGAGTTTGCCCAACACGCGGATGGCGCGGGCAAGAGCGC
GGGAATCGGCGGCGGCAATCGGCTCTTCACCGGCGGCATAAACTTCGGTCAGCACCAGCG
CGTCAACGGTATTGAGGACTTTGGTAAAGTCTTCAAACAAATCGCGCGTGCGGGTATAGC
GGTGCGGCTGGAAGGCGAGTACCAAACGTTTTTCCAGATACGCGCCGCGTGCGGCGGCAA
GGGTCGCCGCCATTTCGACGGGGTGGTGTCCGTAGTCGTCCACCAAGAGCGCGGTCCCGC
CGTTTGGCAACTTGATGTCGCCGTATTTTTGGAAGCGGCGGCCGACGCCTTCAAAGCCGA
GCAAGCCTTTTTGGATCGCTTCAACCGATGCGCCGACTTCCAGCGCCACGCCGATGGCTG
CCAATGCGTTCAGCACGTTGTGTCTGCCGGGCATATTCAGCACGACTTCAAACGACCCCT
GCTCATGTCCTTTCATTTGAACATGGACGGTGAATTTCATTTGCGCGCCGACGTTTTCGA
TGTCGGTGGCGTAGATGTCGGCGGTATCGTCCAAACCGTAAGTAGCATAAGGTTTGCTCA
CTTTGGGCAAAATCGCGCGGACGTGTTCGCTGTCAATACACAAAAAGGCTTTGCCGTAGA
AGGGCATACGGTGGATGAAATCGATAAACGCCTGATGCAGTTTTTCGACGCTGTGCCCGT
AGGTATCCATATGGTCTTCGTCGATATTGGTAACGACGGACATAATCGGTGTCAGGTGCA
GAAAGGATGCATCCGACTCGTCGGCTTCGGCAACGATGTATTCGCCTTTGCCCAAGCGGG
CGTTAGTGCCTGCGGCGTTGAGTTTGCCGCCGATAACGAAAGTCGGGTCAAGTCCTGCCG
CGCCGAGGATGGAGGCGGTCAGGCTGGTGGTCGTGGTTTTGCCGTGCGTGCCGGCAATGG
CGATGCCGTCACGGAAGCGCATCAACTCCGCCAACATCAGGGCGCGCGGAATAACGGGAA
TTTGCTGCTCCAACGCAGCGACAACTTCGGGATTTTCTTTTTTGACGGCGGTAGAGGTAA
CGACGACATCCGCACCGTTAACGTGTTCGGCGGTATGGCCGGGATAAACTTGAATGCCCA
GGCTGCCCAAATGCTCGGTAGCGGCATTTCGCGCCTGATCCGAACCGGAAACTTTAAAGC
CCAAATTGTGCAAGACTTCGGCGATGCCGCTCATGCCGACGCCGCCGATACCGACAAAAT
GGATGTTGGTAACTCGATTTTTCATCATAATGTTGCGTTCCGGTGGATTTTCGATGCGTA
AAGGCGTTATTTTAAAGGGCTGACCGTTTGCGCGCCATAGTTTTCTGACAAATATATAGC
GGATTGAAATAAAAAACATCCATGCCGTCTGAACGGCTTTTCAGACGGCATGGTTCGGCA
GTTTACGCCGCACACGCAATCGCGGCTTCCGCCACGTCGTCCGCACTGTGCGGCAGTGCC
AACGTACGGGCGTTTTCTGCCCATTTGAGGCATTTTTCGCGGTTTAAGCCGCCGAGAATC
TCGGCGAGTTTTTCCGCCGTCAACTGGGTTTGCGGCAACAGCAATCCCGCCTCCGCCTGC
ACCATAAAACGCGCGTTGGCGGTTTGGTGATCGTCAACCGCGTGAGGATACGGCACTAAC
AACGCACCCAATCCCGCCGCCGTCAACTCGGCAATCGTCAGCGCGCCGGCACGGCAAATC
ACCAAATCGGCATCGCGGTAGGCGGACACCATGTCGGTAATAAATTCCACGCATTCGGCT
TTCACGCCCAGCGCGTCGTAATCCGCCTGCAAGCTGCCCAGCTTGCCCCGTCCCGATTGG
TGGTACATCTGCGGACGCGCATTGTCGGGCAGCAAAGCCAATGCCTGCGGTACGGTTTTG
TTCAAAACGTCCGCGCCCAAACTGCCGCCGACCACCAAAATTTTCAGACGGCCTTCACGC
CCTTGGAAGCGTTCGGCAGGCACGGGCAGGTTGCTAATATCGGCGCGGACGGGGTTGCCG
ACCAAGCCGCCTTCGTGGCTGAACGCTTTCGGAAAAGCGTACAACACCCGCTTCGCCCAG
CGCGACAGGTGGCGGTTGGACAAACCTGCCACGGCGTTTTGCTCGTGAATCACAATCGGC
ACGCCTAATAGCTTCGCCGCCAAACCGCCGGGGAAGGTAACGAAGCCGCCGAAGCCGATG
```

```
ACGCACTCGACACGGTGTTTGCGGATAATCCGCTGCGCTTCGCGGACGGTTTGATACAAA
GTAACCGGCAGCATCAGTTTGCGTTTGATGCCGTTGCCGCGCACGCCTTTAATCGCCAGC
GTTTCCAAGCGTATGCCGTATTGCGGCACGATACGCTCTTCCATCGAATCCTTGCTGCCC
AGCCAAATCACATGATGGCCGCGCGCGCGCAATGAATCCGCCACCGCCAGCGCGGGGAAA
ATATGTCCGCCCGTTCCGCCCGCCATCAGCATAAAGGTTTTACCGCCCATGATTTACTCC
ACCCGATAACCGCGCATTTTCCGGCGGTTTTCATAATCTATACGCAACAGCAGCATCATG
CTGATCAGCATGAAAAAGACTGACGAACCGCCATAGGACATCAACGGCAGCGTCAGACCT
TTkGTCGGCAAAGCACCGATGTTCACACCGATATTGAAGAAACTTTGGATACCGATCCAA
ATGCCGATACCCGAAGCGATATAGGCGTTGAAAGTCAAACCCAAATCGCGCGACTGCTTG
CCGATGGAAAACGCCCGCACCACCAGCCAGCCGTAACAGAATATCAGCACGCACATACCG
AAGAAACCGAATTCTTCGGCGATGATGGCAAAAATAAAATCGGTATGCGCTTCCGGCAGA
AAGCCGCGTTTGCTCAAACTCGCACCCAAACCCATACCGAACCACTCTCCGCGCCCGATT
GCCATCAGAGAGTGGGTAAGCTGGTAGCCGGCACCCTGCGGGTCTTTCCACGGGTCCAAA
AATGCCACTACCCGCTGCACACGGTAGGGAGCGGCGGTAATCATCAGCACCATCCCGCCC
AAGACGCTGCCTACCAGGACGAAAAAATATTTCCACGGCAATCCTGCCAAAAACAGCATT
CCAACGGCAATGACGGTAATGACGACAAACGAACCGAAATCCGGCTGTACCATTATCAGC
ACCAAACCGAACGCCACCAGCATAATCGGCAGGATGATCGCCCGGAAACGGCCGTACATT
TCTAATGTTTCACGACGTGCCTGCGGATTGGTGGCGGACATGATCAGATTGGCCGTCCCC
CGCCAAATCGACTGCCAACCCAAACTTTCCATGCTGCGCAACACTTCTTCACGGCGCGTG
AACAGGCTTGCCAAATAAAGGATGACCGCCAGCTTGAACAGCTCGGTCGGCTGGAAATTC
AACGGACCCAAAGGTATCCAACGGGTCGCGCCATTGATTTCGCGCCCGGCAATCAATACG
ACTACCAGCAACAGGCCGGATAGGGCAAAAATCCACGGCACAAGCCGCCGCCATGTCCTC
ATCCTGCAAAGAAACCATAACAAACCGCTCGCTATCAAGCCGGCAACGACGAACCCCGCC
TGTCTGGTCAAATAGAAAAACTGATCGCCGCCTTCTTTTGATGCCAAATACACAGAAGCC
GAATAAATCATCAGCAGGCTGAACGCCGTCATCAGCACCACCATCCACAAAAGCGGCGCG
TCGAATTTCCTGCCGTCGCGCACAATCGGCCTGTCGAGCAGCAGAGTGTGGACACCGTCG
CCCACTTTTACCAATACTTCCGAAATCTTCAAAAAAACCACCTGCCAGTCTGTTTGCACC
TGCCGCAAAGGGCAAAAATTTCAGACGGCAGACAATGCCGTCCGAACATACGATACATCC
CAAATCGGTATTCTAAATCTTTACTTGCCGCCCAACAATGACGGCGTTTGCATTTCAGAC
GGCATCACAAAGCCTTAAACGCTTCGATAAACACTTCCGAACGGTGCGCGTAGCCTTTGA
ACATATCAAAGCTCGCGCAGGCGGGGCTGAGCAACACAATATCGCCTGCTTCGGCTTGGG
CATATGCCGTCTGAACGGCTTCTCCCAAAGTGGCGCAGTCGGTCATATTCAAGCCGCAGC
CGTCCAAATCGCGGCGGATTTGCGGCGCATCGACACCAATCAAGAACACGCCTTTTGCCT
TGCCTACCAGTGCATCGCGCAGGGCGTGAAGTCCTGCCCTTTACCCATGCCGCCCAAAA
TCACGAAGAGCGGATTTTGCAAACCGGCAATCGCGGCGGCAGTCGCGCCGACATTCGTGC
CTTTGCTGTCGTCGATAAACACCACGCCGTTTTTCTCGCCGATTTTTTCCACGCGGTGCG
GCAGGCCTTGGAAGGTTTTGACGTGTTCGAGCAATGCTTCGCGCGACAAACCGATGGCCT
CACACAAAGCCACGGCAGCCATGACGTTAGCGGCGTTGTGCAGACCTTGCAACGGAATGT
CTTGCGTGACAATCAAATCTTCATTGCCTTGTTTCAGGCGGCCTGTCTCGCGTTCCAACC
AGAAATCAGCTTCGTGTTCCAACGAAACCATTTTACCTCGCGCCCGGCACGCTTCATCG
CGCGGCAGAACGCATCGTCCGCATTCAAAACCTGCACGCCGTCGCCACGGAAAATCTTGG
CTTTGGTATGCGCATAGTCGAGCAAGTCGTCGTAGCGGTCGAGATGGTCTTCGGAAATGT
TCAGCACCGTCGCCGCAGTCGGACGCAGGCTTTCGGTGTTTTCCAGTTGGAAGCTGGAAA
GCTCCAACACCCACACGTCCGCCTTTTTGCCTTCGCGCTGCCATTCCGCCTCCAAAACCG
GCGTGCCGATATTGCCCGCGATAACGGTATCCAGCCCGCACTTGATACAGAGATAGCCGA
CCAGGCTCGTTACCGTGGTTTTGCCGTTGCTGCCGGTAATCGCAATTACCTTGTCGTCCC
GGCGGTTCACAATGTCCGCCAGCAATTCGATGTCGCCCAACACGCGTCCGCCGTTTTGCT
TGAACGCCTCAATATCCGGCTGCCGCTCGCTGATGCCGGGACTGAGAGCCAGAATATCGA
AACCGTTGTCCAGCGCATCTTTCAGACGGCCCGTGTAAAACACCAACCCGTCAAACATCT
TACCGATTTGCGACACGCGTTCCGGCTTCAGCTCCGCATCATACGCAGCAACCTCCGCGC
CGTTTTTGCGCAGGTAGGCAATCATGGAAATACCCGTACCGCCGAGTCCGGCGACGAGGA
TTTTTTTGTTTTGAAAAGTCATTTTGGTTTGTCCTAAAACAAATCATATTGAGCAGGAGA
TGTCCGCCCCTGCCCAAGCCGCTTTCAGACGGCATCGCGAGCTGTTCAATAACCCGCCTT
CAGGCGTTGGTCATTGTCGCAGCCGTCTTGGTCTCCGTTTTGACAAGCCTTGCCAAACCA
TTCTTGTGCAAGGGCGCGGTCTTGGCGCACGCCGCGTCTTTCGGCATACATCACGCCCAA
ATTGTTTTGGGCTTGGGCTACCCCCTGCGCTGCCGCCTGCCGAAACCATCTGACCGCTTC
GACATCGTCTTGGCGCACTCCACGTCCTTCGGCATATATCACGCCCAAATTGTATTGGGC
```

```
TTGGACAACCCCCTGCGCTGCCGCCTGCCGATACCATCTGACCGCTTCGGTATCATCTTG
GCGCACGCCGCGCCCGTTGGCATACATCCAGCCCAAATTGTATTGGGCTTGGGCTAACCC
CTGTTCCGCCGCCTGCCGATACCATCTGACCGCTTCAGCATCATCCCGGCGCACGCCGCG
TCCTTTGTAATACATTGCGCCCAAATTGTATTGGGCTGCTGCATTTCCCTGTGCTGCCGC
CTGCAAGTTTTCCCGAAAATCCGATACGTCATCCGCCCACACCGCTCGGTTCAAGCCCAA
GGCAATCAGGGCGGCGGCAAGCCATTTGACTGTCTGTTTCATGGTTTTACTTCTGTTTTA
GTATAAGGCGGGTTTCAGCCACCGTTAACGATAGGGCTGGGCGGATTGTCGCCGCAGGTT
TATTGCGCGTTCAAATGCCGTCTGAAAGATGTTCAGACGGCATAGGTTCAGCGGATTTTG
AGGGTACTCAAACCGATCAACACCAAGACGATGGTAATAATCCAAAAGCGGACGACGACT
TGGGTTTCTTTCCAGCCTTTTTGTTCGTAGTGGTGATGGATGGGCGCCATCAGGAAGATG
CGTTTTTTGGTTTTCTTATACCAGCCAACCTGAAGCATAACGGATACGGCTTCTACGACA
AATAATCCGCCCATAATGACGAGGACAAACTCTTGGCGGACGATAACGGCGACGGTACCG
AGCGCGGCACCCAATGCCAATGCACCGACATCGCCCATAAAGACTTGCGCGGGATAGGCG
TTAAACCACAAGAAACCGAGGCACGCGCCGCACATGGCGGTACAGAAAATCACCCACTTCG
TTTGCGCCGGCAACGTAAGGTAATTGCAGGTATTGGGCAAATTGTGAGTGGCCGCTGGCA
TAGGCGAAGATGGCGAGGCCGGCGGCAACGAGGACGACGGGGAAGGTCGCAAGGCCGTCC
AAGCCGTCGGTGAGGTTGACGGCATTGGATGTGCCGACGATGGTCAGGTAAGACAACACC
AAAAAGCCGACCACGCCCAGCGGCAGGGCGATTTGTTTGAAGAACGGGACAATCAAAATA
TTGTTGGCGGAATTGGCGGCAAGGTAAAACAATGCCAAACTGGCGATAATGGCAACGCTT
GACTGCCACACCATTTTGAATTTGGCGGACACGCCGTTGGGGTCTTTATAGACGACTTTG
CGCCAGTCGTCGTAAAAACCGAGTGCGCCCGTGGCGAGCAATACGCCCAAGAGAATCCAG
ATATACGGGTTTGCCCAGTTGCCCCACAACAGGGTGGACACGGTAATGGCGGTCAGAATC
AGCGAACCGCCCATCGTCGGCGTGCCGTTTTTGACGAGGTGGGTTTGCGGACCGTCGGTA
CGCACTGCCTGCCCGCATTTGAGCGCGGTCAGCCTGCGTATCGTCCACGGGCCGAACATC
AGGGAAAACGCTAAGGCGGTCAACGCCGCCATGACGGCGCGGAATGTGGTGTATTGAAAA
ATATTCAGACCGGTTAACCAGTTGCTGAAATGTGCGAGCCATAAAAACATGGGGCTTCCT
TTTTTTGTTTTGTCGTTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAG
CTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTT
GTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTGTTAATCCACTATACATCGGGCC
TGCGCCCGTTTGAGGTTGGCTTGCCGCCCGGCAAGGTTTCGGACGGCTTTTGCAGATTAA
CGTGCAGGGACTTTCTCAATCACGCAAATTGGGTAACTCCCCGGATTTTTACCGCCGCCC
AAGTCTAAACATAAATCTTCATAAAGATACGCCTGCGTCCGCATTCCGGCATAAAACGCG
CCGACCAGCGCGGCAATCAGCAATAAGGCTTTAAAAAAACGTCGGCTTTTCATTTTCACT
TATCCTCCAATGCCTCGACCACTTCTTCCATCTGCATAAAGCGCGAACCTTTCACCAACA
CGGTGGCGCGTTCGGGCAAATCGTGGCGCAACACTTGAATCAACGGGTCTTTGGCGGCGA
ACCACAAACCGTCCGCGCCAAATTTTTCCGCCGCTTCGACGCTGTTGTCGCCGACAAAAT
AAGCCGCTTCGATGCCTTGGTCGCGGGCATACGCGCCGACTTCGGCGTGCATAGCGGCGG
CTTCGTCCTCGCCCAGTTCGCCCAGTTCGCCCATATCGCCCATCACGAAAATACGCGGCG
CAGGCATACGCGCCAACACGTCAATCGCAGCTTTCATGCTGTCAGGGTTCGCATTATAAG
TATCGTCAATCAGGGTTGCGCCCTTGATTCCGGATTTGACGTTCAGACGGCCTTTGATAT
TGCTGAAGCCTTTCAAACCTTCCGCCACATCGTTCAAACTCAAACCCGCAGCCAAAGCCA
GCGCGGCGGCAGCGGCGGCGTTGTGGACATTGTGGCGGCCGGGAACAGGCAGCACCACGG
CGGCGCGCTCATCGCCGCACACCAAATCAAATTCGCACGACAACGGTTTCAGCACAATAT
TTTCCGCGTGAACATCGCCGCTATCGATGCCGAAAGTGCGCGTATTCAAATTAAGCGTTG
CCGTTTTGAAGACAGCCATATTGGCATCTTCTTGAGGAATCAGTGCAATGCCGTCTGAAC
ATAAACCTTGGTAAATCTCGCTTTTCGCTTTGGCAATATCGCCCACTCCGTCGAAACCGC
AGCCGACATGGGCGCGCATGGCGTTGTTGACCAATGCGGCATTTGGTTTGGCGATTTGCG
TTAAAACCGCCAGTTCGCCGAAATGGTTCATGCCCATTTCAATCACGGCATAGCGGTGTT
TTTCGTTTAACTTCAACAAAGTCAGCGGCAATCCGATATGGTTGTTGAAGTTGCCTGCCG
TCGCCAACACGGCATCATCGCCGAAACGGCGGCGCAATACCGCAGCCAGCATTTCCTTCA
CCGTCGTCTTGCCGCCCCGAACCGGTAATGCCGAACACAAACGGATTCACATTTTCACGCC
ACGCCTTTGCCAGCGTTTGCAATGCGGCAAGCGTGTCATCGACTTTCAACGCGCCATCCA
TTGCAGCACAATCTTCGCGCGAAACCACAACCGCCGCCGCACCAGCAGCCAATACGTCTT
CAACAAAATCATGCGCGTCAAACCGCTCGCCCGCCAATGCGAAAAACACATCGCCCGCGC
GGATGTCGCGGCTGTCGGTTACGATGCGCGACACGGGTTTGCTTTCAGACGGCATCGGAA
GCTTGAGGGCTTGGCAGATGAAATTTAGGTCCAGTGGTTTCATATTTACTTTCGTTAATA
TTCGGGCGGCGGACACATCGGTAGCGGCTGATTTTTTTATCGCCTGTTTTGCTGTGGTAA
```

-333-

```
AACACAGATTATTTTCCCATTCTCATTCGGCATTTTTTCTGTACGTATCATTTTTTAGAC
GTATTTTTAGTCGATTTGCCTTTTCCCGCATACCACGGCGCGGGGTCGTCGGGCAGTCCG
TCGATAAAGGCAAGGTTATTGCCTTCGCCCTGCACATCGGGAACATTCCCCCAAAAATCA
TAGCCGTCATCGGGCAACTCGTCGGTTTCGATACCCGTCCAACTGCCGAATCCGCGTAAA
AAATTAAACGCGCTGCGCCTCACTTTAATCATTTCGCGCCGCGTGTCATCGGACGAAATT
TTAACCAGCGGCACGCCGTAGCTTTGACGCTTCCACGCACCATGTGTCAACGTTCGCTCG
CCGCCTTTACCGACATGCATCAAACCGTGGTCGGAAAAGTAAACCAAAGACCAGCTTTCT
TTATTTTCATTCAATATCTTAACTGTATCTTCTAAAAATTTATCGGTTTGCGCGATGGTG
GAAACATAGCAGGATATTTTTTCAGTTTGATACTGAAACCGCCGCGCATCCTTATCCAAA
CGTGTGCAAAAATCACTGTGCGAACCCATCAGGTGCATCACAATCAGCCGAGGCTTCGTG
CCTGCATTTCCTATCAAACCCGTTTGAACGCCGGCAACAAAAGGCGGTCGCTCAACCCC
GCGCTTTTGCCATAATCACCCCTTTGGGTAAACCACGGATAATCGCTGCGTAGGGCATAG
GTGGAAATTTCGTTGGCAAAATGCCCCAACATTCCTTGATTAGACAGCCACGCCGTCCGA
AAACCCGCCTGCTTCGCCAAGCTGACGATGTTATTGTTCGGTTCTCCCGGCAGCCCCAAA
GTCTGCGGCAGCGAAAGATTCGTCGCGTGGGCGGTCGATTGGTAACCGTTTATCAACAGC
CCTTTGGTCTGACTCAAAAAAGGCGTATCGGGCAATGGGAAACCGTAAACATTCATATAA
TCCGAACGCGCGCTCTCACCGATAACCACAACATAATTTTTATACTTGGGCGCAACATGA
CGGATATGCCATGTTGACGCTTTTTTTGCTGCTTCCAAAATGTGGGCGCGCTTGGCGGCA
TATTGTGCCGGCGCGGAAGCCAAATCGTAATACAGGTCGAAAATATTCAACAACAGGCCG
GCATCAGGTTCTCGCAAATCTTTATCGCTGGCGATTTTATCCATCACCGCGCAGGACAAA
ATCAAAGTCAATAATATAGTCAGCCATATTTTGCTGCGGCGTTTATAGTTTTTTACGTCA
GCAAATACCCCCCCCCGATACACAATATTTCCAAACTGTCAAGCCAAAATGAAAAATAA
TGCCTGCACAAAATAAAGCGACCCGGGAAGATTGCCGACAAATTCACGCGCCTCGGCAGG
ATTGCTTTCCAATATCGAACCGACTATCTGATAAGACGGCGCACCATACAGCCAGCCGAC
CGGCAAATATAGGGCGGTTGTGCCGACGTAAATCAGTAAAACAACTGAAGAAACGCGCGG
GAAACCGCGTGCCAATAATAATAAAAATACAACCGAAGCCAAAGCACCCACGGCAGAATA
ACGGTAGCCGTATTCATATTCCAAGTGATAACCTGATGCGATGGCCGCGCCAAAACAAAA
GGCTAAAAGCGCGCAAATGCCCAATGTATTTTTTAATGTCTGATTCATATTTTTATTCG
GGCGGATTGTTTCATACGATGCCGTCCGAATATCCCATTATTTACGAGTTAACAAAGCCT
GTCCGACGATTTCAAGATCGGAAAAACGGTGCTTCACGCCTTGTACATCCTGATAGTTTT
CATGCCCTTTGCCGGCAATCAGGATGATGTCGTTTGCGGCGGCTTGTTCAACCGCATAAC
GGACGGCGGCGGCACGGTCGGCTTCGACGCATTCGGGCGCGGGAACGGCAGGCAGGATGT
CGTTGATGATGTCGTGCGGATTTTCCAAACGCGGGTTGTCGCTGGTGACGACGACTTTAT
CCGCGCCCTGTACGGCTGCCGCGCCCATCAGCGGGCGTTTGCCGCGATCGCGGTTGCCGC
CGCAACCGAATACGCACCATAAAGCCGCACCCTGCGGTTTGATTTCCTGCAAGGTGGCGA
GTGCTTTTTCCAATGCGTCGGGCGTGTGGGCATAATCGACAACGACCAAGGGCTTGCCGC
TGTTCATGATGCAGTCCATGCGCCCTGAAGCGGGACGGATTTTTGCCAGCACATCCAATA
CCTTATCAAGCGGATAGCCGTTGGCGCACAGCAAGGCGATGCAGGCGGCGAGGTTTTGCG
CGTTGAACCGTCCGAGCAGGCGCGTGCGGCATTTCCCTTCGCCCCACGGGGTTTGGAATA
CGGCTGCTATGCCGTCTGAAGAGGCGGTAAAGTCGGTAATGCGGATGTCGGCGTGTTCGC
TGAAACCATAGCTGTAAACGGCCAAATCGGGACAGTCTTTTTTCAGACGACCTACGAGTT
CCGCGCCGTATTCGTCATCCACGTTGATGACTGCGTGTTTCAAGCCGTGCCAGTAAAACA
GGCGCGACTTGATGGCACCGTAGGCTTCCATCGTGCCGTGGTAGTCGAGGTGGTCGCGGG
TGAGGTTGGTAAAGATTGCGCTGCGGAATGACACGCCGTTGACGCGCGACTGGTCAAGCC
CGTGGCTGGAGACTTCCATCGCGGCGACTGTTGCGCCTTGTTGACGGAAACGGTAGAGCA
GGGTTTGGACATCGACGGGGGCGGGTGTGGTATGCGTGGTTTCTTCCAATGCACCCCAAA
AGCCGTTGCCGACCGTGCCGACAATGGCGGTTTTTTCGCCCAACAAATCGGCAGCTTGCG
CCAGCCATTGTGTGATGGAGGTTTTGCCGTTGGTTCCGGCTACGCCCCAAACTTTGAGGC
CGTCTGAAACGTTGCCGTAAACTTGCGCCGCCAATATGCCGGCACGGTGTTTCAAATCTT
TGATGCCTTGATTGGGGACTTTCCATTCGGGATTCCACGCAAATTTGCCGTCGTCGTCCC
AAAAAACAAAGCCGCGCCGTTGGCAACGGCGGCGGGGATATAACTGCGTCCGTCGGCAT
ATTCGCCCGGACAGGCAACGAAAATATCGCCTTGTTTGATTTGGCGGCTGTCTGAATGCA
ACAAACGCCCTGCCGCGTTTGCACACGACAGAGTCGGGATGCCGGTTTCAGCCAAAGGGG
TTAACTTGCTGAACATAAAACAATCTCGTTGATACTCGGATTAAGACGGTGTTTTGACGG
CTGCGGCGGTCAGTGGCTTGGTCGGGGAAATGCCCAAGATGTTCAGGCTGCCGCCCATAA
TTTTTTTGAAGGGCGGCCCTGCCACTACGCCGCCGTAATAACCGTGGGCAGTCGGTTCGT
CAATGGTTACCGCCACAATCACACGGGGATTTTTGGCGGGGGGCAAAACCGATAAAGGTAG
```

```
CGATGTGTTTGTTGTCGGCATAACGCCCGTTGACGAACTTGCGCGCCGTGCCGGTTTTCG
CGCCGACATCGAAACCGTCCACCGCACCCGCCGTACCGGTGCCGCCCGGCTCGGTTACGG
AAACCATCAGATTGCGTACCTCCGCGCGGTCGATTCTTTGAATATGCGTTTGCCTTGCG
GCGCAACCGCCTGTTTTTCAAAGCTGACCGGCAGTAAAACGCCGTCGTGCGTCAGTGCGG
TATAGGCGCGCGCCAATTGCAGCAGGCTCAATTGCAGGCCGTAACCGAAAGACATCGTCG
CCTGTTCGATAGGCCGCCACCTGCGCCAATTTCTCAACAAACCTGCAGTTTCGCCCGGAA
AGCCCGAGTGCATACGCACACCGATGCCCAACTCATGATAGAAGTCATACATTTCTTCGG
CACCGAAACGCGCAGACAGTTTGCTTGTGCCGACGTTGGACGATTTCTGCATGATGCCGC
GCACATCCAAAGAGGGGTAAACATGGGTATCGCGCACGGGAGACGGTCCGATTTTATAAG
GCTGCGTATTCAGCCGTTCGTTCAAATCGGTTTTGCCCGCATCCAATGCCTTCGCAATCA
CAAACGGTTTGATTGCCGAACCGGGTTCGATCATATCGGTTACGGCACGGTTGCGCCGCT
GTTCGCTGTCTGCCCGGCCGGGCCTGTTGGGATCGTAGGCGGGCGTATTGGCCAAGGCGA
GGATTTCCCCCGTGCGGGCATCCAAAACCACCACCGTTCCGGCTTTTGCCTGATGGTATT
CGACCGCCTTGTTCAACTCTTCATAGGCCAAGGTCTGAATCCTCTGATCGAGGGAAAGGA
TGATGTCTTTGCCGTTTTTCGGGGCTTTATTGCGCGGGGAGTCCAAGCTGTCCACAATAT
TGCCCTGCCGGTCCCGCAAAACGACTTCCGCGCCGTCTTCGCCATGCAGGCTGTCTTCAA
GCGAAAGTTCCAAACCTTCCTGACCTTTGCCGTCAATATCGGTAAATCCGATGACGTGTG
CAAACAGGTTGCCCATCGGGTAATGGCGTTTTAATTCTTTTTCAAATACAAAGTTTTCCA
AACCCAAGGCTTTGACCTCTTCGGCAACCTTGGGATCGAGCTGCCGCTTAATCCAGATAA
ACGACTTGCCTTTCTGTTCGAGCTTGTTCCTCAAAACATCAACCGGCACATCGACAAGCT
CGGACAGGCGTTCCAATTGTGCGGCAGACGGCATTTCCTTCATCTCTTTAGGCACGGCAA
ACAGGGACTCCGTCGGCGCACTCAACGCCAAAACCGCACCGTTCCGGTCCGAAACCGTAC
CGCGTGTAGCCGGCAATGTTTGAGTCCGCACAATCCGGTTGTCGCCCTGTTCTTTCAAAA
AGTTATACGTTACCGTCTGCAGATACAGTCCGCGAGCAATCAGACCGGCAAACAAGACCG
CTATTGCCATCAGGACGAAGCTGATCCGTCCGTTACTGGTCATCGGCTTTTTGACCTGCT
CTTCTTTGGGCAGCATCCGAGGCTTATATTCGCTCTTAATCAACATTTTTACTTCTCGTT
ATTATTATCCTGACGCAGGAATCCGATTCCGGCACACAGGCTGCTTCTATCTTTGATGCT
CCACCATAAAGGTATTGCCCGAAACCGGCGGATGGAGGTTTTGTTTTTCTGCCGCCGCCC
TGATCGCTTCGTGGTTCGCCAAACGCGCCTGTTGCAGCCTCATTTGCGCATAATCCTGCT
CCAAGGCGATTTCCTGTTTTTTCGCCTTATCCAAAGCTGTGAAATTGAGCCTGTACTGGT
TTTGCTGCATCACAACGGAAAAAGCGGAAACGCACACCGCAAGCAGCAGAAGGAAATTCA
ATTTGTTCATTGCCATTCAGACGTTTTTCTCTGTGATTGTTCCGGTATCGGACCGGCAGT
CCGCTCCGCCACACGCAAAACCGCACTTCTCGCCCTCGGATTGGCGGCAATTTCCGCCTC
ACCCGGCTTTAATGCCCTGCCCACGATTTTCAGGGGCAGCTCGGGCAAATCCGCTTCCCT
GACCGCCGCCCAGCGCGGCAGGGGCGCGTGTTGCGAATATTTTTGACAAACTGCTTCAC
AATGCGATCTTCCAACGAATGGAAAGCAATGACCGCCAAACGTCCGCCCTCTTTCAGACG
ACACATGACCTGCGGCAATACTGCCCCTACTTCTTCAAGCTCGCGGTTAATAAAGATGCG
GACCGCCTGGAAGGTGCGCGTCGCAGGATCCTGCCCCCGCTCGCGAGTACGGACGTTTTG
TGCCACGATCTGCGCCAGCTTGCGGGTTGTATCGATTGGACTTTCCGCCCGTTGCGCAAC
AATGGCGCGCGCAATCCGGCGGCTAAACCGCTCTTCACCATAATTCTTGATTACCTCGTG
CAAATCCTGTTCCGACGCAACCGCTATCCACTCTGCGGCAGACATACCGCGCGTCGTATC
CATACGCATATCCAAAGGGGCATCGAAACGGAAGCTGAAACCGCGGCTGCCGTCATCGAT
TTGCGGGGACGAAATCCCCAAATCAAACAGCGCACCGTCCACCTTGCCGATACCCAAACC
GTCCAATGCCGTCTGAAACGAAGCAAAACCGCCATGCACGACACCGACCCGTTTGTCCGA
ACGCGCCAGCTCTTCTGCCACAGCAATCGCCTGCGGGTCTTTGTCGAAAACAATCAACCG
CCCCGCATCGCCCAAACGCGACAAAATCAGCCGGGAATGCCCTCCCCTGCCGAACGTACC
GTCCACATAGACACCGTCTTCGCGCACGGCAAGCGCATCCACCGCCTCATTCAGCAAGAC
CGTGATATGCCGGTAACTTTCTGCTCCACTCACAATTGCAAATCCGTCTGACTCAACTGG
AAGGCAAGTTCGTCAGGATCGTCATCCAAAGCCTGAACCATCTCAGCCTCCCACTGCTCG
CGACCCCAAAGCTCCAAACGGTTGGCACGACCGACCAAAACGACTTCACGGTCGAAATCC
ACCCTCTTCCTCAGTCCGGCAGAAACCAGCACCCGGCCGGCGCTGTCCCATTCCAAAATT
TCCGCGTTATGCAGCAAAAGATTTTGAAACCGCCGCAAAACAGGGTTATCCGCCACTTTT
AAGTTTAAAAGTTGCGCCGCAACCTTTTCCCACTCCGCAACAGGGTACATCAACAGCTTG
TGTTTCGACTCGAGCGTTACCACTACGGCAGGCGTATAGAGGCGCGACAGAATGTCACGG
AATTTGGCAGGAACAGCCAACCGCCCCTTACTGTCGATGCTTAATTCGTGTGCGCCGCCG
AACATGACATGTCCCAAGCCGAAATCAAAATCACAAGGGTAAAAGAGACACTTTGCCCCA
CAATTCCCCACCAATCGACACTATAAGAAATTTTAAACACTCGGTCAAATCAGGGCATGA
```

```
     AAACTCATTAACATATCTGAAATTTTTATTCCTTTTAAAAACAATAAGATAAAAAATGAC
     GACAACGGCACGGCGGGTGCGGTACAGAATAATCGAACCAATAAACAACTATATATGATT
     AATTTAATAATATAAACACAATATATAGTATTAAGATAAAGCCATGACAGCACCCGTACC
     AACGTGTAATATGTCGGGAAATCCAATAAATTTACACAAGCTAACACTTATCATGCCCCT
5    CCCCTCTCCCGAAGCACGGCAATTCTCGCTCAAACTGCAAACCCTCATTGCCGAAAAAAT
     CGGCAAACACGGCAACTGGATTCCATTTTCACGTTTTATGGAATTGGTTTTATACGCTCC
     GCAATACGGCTACTACACCGGCGGCAGCCATAAAATCGGCAATACCGGGGATTTTATTAC
     CGCACCGACCCTCACCTCTCTGTTTGCACAGACACTGGCACGCCAACTTCAAGAACTTCT
     ATCCCAAACGGCGGGCAATATCTATGAATTCGGCGCGGGAACCGGACAGCTTGCCGCCGA
10   TTTGTTGGGCAGCATTTCGGACGGCATCAGCCGTTACTATATTATTGAAATATCGCCGGA
     GCTGGCAGCACGTCAGAAAAACCTGATTCAAGCACGCGCACCGGAAGCATCTCAAAAAGT
     TGTCCACTTGACCGCACTTCCCGAAGCGTTTGACGGCATCATCATCGGCAACGAAGTACT
     CGATGCCATGCCTGTCGAAATCGTCCGTAAAAATGAAGGCGGCTCATTCGAGCATGTCGG
     CGTTTGCCTAGATAATGACCGTTTTACCTATTCGGCACGACCGCTGCACGACTTGCAGCT
15   ATCTGCCTTGGCTTCCCTCTATTTTCCTCAAACAGATTATCCCTATACCAGCGAACTACA
     TCCGCAACAATATGCCTTTATCCGCACCCTTGCCTCAAGACTCGAACACGGCTGCATGAT
     ATTCATCGACTACGGTTTTGATGCAGCGCAGTATTACCACCCTCAACGCAATCAAGGTAC
     TCTGATCGGACACTACCGACATCACATTATCCACAATCCTTTTGACTTCATCGGATTGGC
     CGACCTGACCGCACATGTCAACTTTACCGACATTGCACAAGCAGGGACGGATGCCGGATT
20   AGATTTGATAGGTTACCTTCCCCAATCCCATTTCTTATTGAACTTGGGCATTACCGAGCT
     ATTGGCACAGACGGGGAAAACGGATTCGGCAGCCTACATCTGTGAAGCTGCTGCCGTTCA
     GAAACTGATTGACCAGCATGAAATGGGCGAACTGTTTAAAGTCATCGCATTCGGAAAAAA
     TATCGGCATCGACTGGGCAGGATTCCGCTTCGGCGACATCTGCCACAAACTCTAACCCTC
     ATGCCGCCTGAATCCGCTTCAGACGGCATAAACTTTTTAACATTTAAAAACAGTCAACTA
25   ATTCAAAATTAAAAAAATACGGCTTGTCAAAAAAACAGAAAAACATATAATAGCGTCTTCA
     CGAAACGGCGAATTAGCTCAGTCGGTTAGAGCAGAGGAATCATAATCCTTGTGTCCGGGG
     TTCGAGTCCCTGATTCGCCACCAAATTTTCGGGGGTATAGCTCAGTTGGTAGAGCGCTTG
     CATGGCATGCAAGAGGTCAGCGGTTCGATCCCGCTTACCTCCACCAGATAAAAAAGCACA
     GACCGTAAAAAGGTATGTGCTTTTTATTGCCTGATTGCCAGCAAATAAAGAATAAACCA
30   CTGCCTTCAAAACAGGCAATCGACTTTAAACCTATCGCCCCGCCTGTCCTGATTTATAG
     TGAATTAAATTTAAACCGGTACAGCGTTGGCTCGCCTTGCCGTACTATCTGCGGCTTCGT
     CGCCTTGTCCTGATTTTTGTTAATTCACTATATCAGCCCGCCAGACAAACCCGACCCGAA
     TAATGTCTTCAGGTCGGGTTTATGGTTTCATTCCCAACTTATCCAACTTACCTGACAGCCACAA
     TATAATGATGGCAATACCAAAAACAATGCGGTAATAGGCGGCAAAAGGAATATAATTTTTCTT
35   GGAAACAAACCTCAGCAACGCTTTTACCGCTACCAAGCCTGAAACAAAGGCAGCAATAAA
     GCCTATCAGAATCAAACCGACATCATGCAGGGTGAAAAATCGGTAATGTTTCAGGACATC
     ATAAGCCGTTGCGGCAACCATCATCGGCACAGCCAAGAAAAACGAGAATTCTGTCGCAGT
     TTTCCGTTCGATGCCCCAAAGCATCCCGCCCATAATCGTACTGCCCGAACGGGACGTACC
     CGGAACCAGTGCAAACACTTGGGCAACGCCGATCATCAAGGCATCAATCGGACGCAATGC
40   ATCAACATCGGCAATTTTAGGCTCTGCTCGGCTTTGGCGTTTCTCCACCCACAAAATAAA
     AAAACCGCCCAAAACCAGCATGACTGCAACACTCAAGGGGTTAAACAGATACTCTTTGAT
     TTGTTTGCCGAACAACAGCCCCATCACGGCGGCAGGTATAAAAGCAATGGCAAGATTAAG
     GACGAAGCGGTTGGCTTTCCGGTCTTTTCCCAAGCCGTGCAACACATTGCTGAAACGTTG
     CCGGTATTCAAACACTACCGCCAAAACTGCACCGAGCTGGATGGCAATTTCAAAAACCTT
45   GTGATTGCTGTGAAAACCAATCAGATTGCCGAACACAATCAAATGTCCGGTGCTGGAAAT
     CGGTAAAAATTCGGTAAAACCTTCTACCAAGCCCATCATCAGGGCTTTCAGGACAATCAG
     AAAATCCATTGCTTGCGCTTCTTTCGGATACGGGAGTTCGGCTATTTCTGTACAGCAGGG
     GTCTGACGCTTGCGTTCTTCCCTGACTTTGGCAACCAATTCTTTAATCGTATGAACGCCG
     CCGTCAAAGCCGTTATTGAAGATAACGCGGTATTTTCCGCCGACAATAACGGTCGGCGTG
50   CTGTCGATGCGGTATTGTTCCGTCAGTTTCTGCATTTTTAATGCGGCGGCGGCAGCTTCG
     GGGGAATCATAGGCGCGCATCAGTTTTTTGCCGTCAAAGCCTTTTTGAGACAAAGCCCAT
     TTTCCGGCAACCGACCTGTTTTCCAAGCGGATTTTTTGTTCGTAAACTGCTTTAAACACA
     GCAGGGTTTGCCTGATATTTCAAACCCGACAAATTGACGGCAGCCGCCATCCTAGCCAAA
     CCGAGCATTTCAGGCTGCCAGACCACGTGCTCCGTCCTCAAATAGGCATCAGACGGCAAT
55   GCCTTGCCCAGTTTCAATAACAAAGGATCGAAATGATGGCAATGTACGCAGAAATAGCCG
     AAAAATTCCAAAACCTCAATTTTACCCGACTGTTCTTGAGGAATGGGTTTATCCAACACA
     AGATAGTCTTCCCCTTCCGTCAGGGCATATGCCTGCGCGGACAACACTGCCGACAGCAGC
```

```
AGCGGCAACAGATGTTTGAGCTTCATAATTATTTGCTTTCGATAGAACGGATCAGGCTGG
CGACTTCATGTTTTTTCAACTCGTCCTGCATTTTTTTCACCGCATCGGCAGACATATTGC
CGCTTTGCACCCGGTAAAGCGTTTTATGTCCCGCCTGATAACCGACCACCTTGGAAGATA
TGCCCAAGATTGCCAGTTTGGCACGCTGCCCTTCCGCGCTCTGACGGTCGGCATACGCGC
CCATTTGCAGATAATGCGTTGCTTCCGCCTTGTCGGACGTTTTCATTTTCTGCACTTCTT
TGGCGGCGGCACTGCGCGCTTTTTCGATGCTGCCGCTGTTGAGGATTTGTTCCGGGGTTG
GTTTGGGTGCAACTTTTTCCTTCGCCGCCTTTTTCTCTTCTTTTGAAGCTTTTTTCTCTG
TTTCTTTAGACGGTTTTACCGCTTGTTTTTTAACCGTTTCGGCATCTTTCTTCTGCGCTT
TTTCCCTGACGGTTTGTTCACGCTCTTCCGTCAGCGCTTTCTTACGCACTGCCTGTCCGT
CCGGCTCTTCCCGTTCCGGCTCGCCCGCCTTTTCTTCAACCTCGTCGGCTTTATCGGCAA
CGGGCTGCTTGTCGGCAGCTTTTTCCGCATCCGACTGCTCTGCCTCTGTCGCAGCATCCG
GTTCGGACAAGGCGTTTTGATCGGCCGGTTCAGGTTGGATGTCTTCCTTAGGCTGGTTTT
TCGGTTTCAGGATTTCCGTTTCTGCAGGCTGCTTCGACGAAGCCGGGATTTTGAACGCAT
TTTGACCGCTCTGGTTCAGATAAAACAAAATACCGGCAATAATGACCGTCGCCAGTATCA
AACCGAAGAAAAAACCGGACAGACCTTTTCCGGATTGGGAAAATTTGTTCATAAACATAC
CTTAATGTGTTTCAGACGGCATTAACGCCGTTTGCTTACGGGCGGATATTCTAACAATAT
CGCCATATTTGGGCAAAACCTGCTTCCATTCCCATTCCTATAAAGCACGACGGAAACCTA
TGGCTTTCATGACGTGGCTTCTGCCGACTTCTTCGTCGCCCGCCAAATCCGCCAATGTAC
GCGCCACGCGCATAATGCGGTGGAAGCTGCGGGCGGAAAGGGAGAGTTTTTCCAGCAGGC
CGCCCAATGCTTCCTGCGCTTCTTTTTGAATGCGGGCGGATGTGTCGAGTTCACTGACAC
TCAAGGCGGCATTCACTTTGCCTTGCCGTGCGTATTGTTTGTCTCTAGCGGCGATAACGC
GTTCCAAAACGGACGCGCTGCTTTCCCCTGCTTCCTGCTGCATCAGTTCGGCGGCGGACA
GGCTCGGGACTTCGATGGTCAAATCGATGCGGTCGAGCAGCGGCCCGGAAATCTTGCTGC
GGTAACGCGCGACGCTTTCGGGCGTGCAGCGGCAGGGTTTGACGGGATGCCCGAGATAAC
CGCACGGGCAGGGGTTCATGGCGGCAACAAGTTGGAATTTGGCAGGATAGACGGCTTGGC
GCGCCGCGCGGGAAATGTGGATTTCGCCGTTTTCCAACGGTTCGCGCAAAACTTCCAAAA
CTTTGCGGTCAAACTCGGGCAGCTCGTCCAAAAACAAAACGCCGTGGTGCGCCAATGAAA
TTTCGCCCGGACGCGGATCCGAACCGCCGCCGACCATAGCCGCCGCGCTGGCGCTGTGAT
GCGGACTGCGGAAAGGACGGTTGCTGTCGAGTTGTTGTTGGTGGTTGGGCAGGAGCGAAC
GCAATGCCCAAACTTCTACCAATTCGTCTTCGGTCAGCGGCGGCAGGATGCCGGGCAGCC
GTTGGGAGAGCATAGACTTGCCCGTTCCCGGCGGACCCATCATCAAGAGGCTGTGTCCGC
CTGCGGCAGCGATTTCCAAAGCAAGGCGCGCGGTGTGCTGACCTTTCACATCGCACAAAT
CAGGTTGTCCGCCATGTTCAAACGGCATCTGAGGAACTTGGCATTCGGTTTGCGCCAAAG
GTTCGATGCCGTTCAAATGGGCGGCGACTTCGCCCAAAGAGCGCGCGCCGTAAACGGTAA
TGCCGCGCATCACGGCGGCTTGTCCTGCATTTTCTTCAGGCAAAACAAATGCACGTTTTG
CCTGCATACCCTGCCACGCCATCGCCAACGCGCCACGCACGGGGCGCAACAGCCCCGACA
GTGCCAATTCCCCCGCAAACTCGTATTCCTCCAGTTTTTCGGGCGCAACCTGCCCCGATG
CGGCAAGGATGCCGATTGCAATCGGCAAATCGAAACGCCCCGACTCTTTGGGCAGGTCGG
CGGGGGCGAGGTTGACGGTAATTTTTTTGGCGGGGAATTCAAAACCGCTTTGAATAATGG
CGGCACGGACACGGTCGCGACTTTCCTTTACTTCCATATCGGGCAGTCCGACGATGTTGA
AATGTGGCAGGCCGTTGGCAAGGTGGGCTTCCACTTCGACCAACGGCGCATTCATACCGC
TCAAGGCGCGGCTGTAAACCAAGGCAAGCGACATATTTCAGACGACCTTATTCGCCGGCT
TCGGTTTGCTGCCTGATTTCGGCGACGGCTTCTTCGGCAGCGGCTTCAGCCGCTTCCAAT
GCTGCCCGTTCGGGATTTTGCGCGGCTTCGAGTTTTTCCAAACGCGCTTCCAAAGCCGCC
AGTTTGGTACGGGTTTTGATTAAAACCTGCTGCTGGATGTCGAATTCTTCGCGCGTAACC
AGATCCATACGGTTGAACGCGCCGCCCAGCATCGCCTTAATATTTTTTTCCACATCTTTG
GCAGGGCTGTTGGCGATGGTTTCGCTGATTTTCGAGCCGACTTCCTCAAAAAGCTGCTTG
CCGAACATAATCTGTATCCTTCCTGAACATATCAAATTCAATCGGCTATTGTATAAGGAA
AAATGCCGTCTGAAAACGGGCGGCGGATAATCGGCAAAACATACCGCGCCTCCTTTGCGG
TTGCTAAATTACACCTCAAAACACcCGCCTGAAAACGGATTTCATATTCCGCGCAACGC
CCGATTACAAGACACTACAAAACaATATGCTGTTTTAAATGATTTTTCCGACGCGCATCG
TTTCAAACTCGGCTTTTTAAGCCATTAAGTGCTTTGCAAACAACAGAAATTGGGTTATCC
TGAAACGGATTATTTACAATTTCATATAGTTTTATTACATATCTTATTGTGATTGAAGAT
AATTTATCCGAATCCCCCTTTCGGGTATCCGGATTTTCCGTTGTACTTTTATTAGAAAAA
CATTTCAGGCGCAAGTTGCTTGCAATTTCAAAGCCG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 28>:

gnm_28

```
GAGTCTGTCAATGAAAACGTCGTGCGCGGACAATATACCGCCGCCAGAGGCATGAACGGC
TATCTTGAAGAAATCAACGTTCCGCAAGACAGCTTTACCGAAACCTACGTCGCCATTAAA
GCCGAAATCGAAAACGAACGCTGGAAGGGCGTTCCCTTCTACCTGCGTACCGGCAAACGC
ATGGCGGGCAAAGTGGCGGAAATCGTTTTGAACTTCAAAGATTTGAACAGCCATATTTTT
GAAGGCAGCCGCACCGCGCCCAACCGGCTCGTTATCGAGTTGCAACCATATGAATCCGTG
CGCCTCTATACGCAGATGAAAACCCCGGGGGGCAGGAAATAAGGTCGAAACCGTGCCGCTG
GCAACCGATTTGGGCAAAGCATTGGAAGGCCGCCGCGCGGAAGCTTACGAGCGCCTGCTG
CTGGATGTGATTAACGGCAAACTCGCTTTGTTTAACCGCCGCGACGAACTTGAAGCCGCG
TGGGAATATGTGATGCCGATTTTGGAAAACTGGACAAATAACACCACGCCGCCGCACGGC
TACGGCGCACACTCGTGGGGGCCTGAAGCCGCGCGCGAACTATTGGCGCGCGACGGACAC
AAGTGGCACGAAGAGCAGTAATACAATAATGCGTTCAGACGGCATGGGGTTTGAAATGCC
GTCTGAACATAAGTAAAGTAGTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGC
CGCAGACAGTACAAATAGTACGGCAAGGCGAGGCAACGCTGTACTGGTTTAAATTTAATC
CACTATAAAAAGCAGTCCCGATATTTGGTATCAAAAGCATAAACAACTGTTCGGCCGACA
TATTGCTCAACCCGTTTCCATAACGGAATATGCCGTCTGAAATAAAAAAAGGACACAAAT
ATGTTTGTTTGGCACGAATACGAAAATGCGGCAGAAGCGGCGCAGTCTTTGGCTGACGCA
GTGGCGGATGCTTTGCAGGGCGCACTGGACGAGAAGGGCGGTGCGGTGTTGGCAGTTTCC
GGCGGACGTTCGCCGATTGCATTTTTCAACGCCCTGTCGCAAAAAGATTTGGATTGGAAA
AACGTCGGCATCACCTTGGCAGATGAACGCATCGTGCCGACCGTCCACGCCGACAGCAAT
ACCGGTTTGGTGCGCGAATACCTGTTGAAGAACAAAGCGGAAGCGGCAATGTGGATTCCT
ATGGTGGAAGACGGAAAAACTGAAACCGAATTACATCCCGATGCTGTTGTCGATTATGCA
CTGAAACATTACAAACAGCCCGATGTTTTGGTTTTGGGTATGGGAAACGACGGGCATACG
GCTTCGATTTTCCCGAAAGCTCCGCAGTTTCAGACGGCAATCGACGGTTCGGCAGGTGTC
GCGTTGGTGCATACCACGCCCGTTACCGCGCCGCACGAGCGCGTCAGTATGACCTTGGAT
GCGATTGCCCATACGGGGCATGTGTTTTTGGCGATACGGGGCGAAGAGAAAAAAGCCGTG
TTCGACCAAGCCGCACAAGGCGAAAACCGCGAATATCCGATCAACCTCGTTTTGAACCAT
CAAGGAGTGAACTGCCATGTCTTCTACGCCGAATAAACAAGCCGGATATCCCCGACTGGT
CGCCGATATCGGCGGGACGAATGCACGCTTTGCGCTGGAAACCGCGCCGCGCGTCATTGA
AAAAGCCGCCGTGCTTCCGTGTAAAGACTACGATACGGTTACCGATGCGGTGCGTGCCTA
TCTGAATCAAAGCGGTGCAACAGCCGTACGGCACGCGGCATTTGCCATCGCCAACCCGAT
TTTGGGCGACTGGGTGCAGATGACCAACCACCATTGGGCGTTTTCCATCGAAACCACCCG
TCAGACTTTGGGGCTGGACACCCTCATCCTTTTGAACGACTTTACCGCGCAGGCATTGGC
GGTAACGCAGACTTCAAGCAAAGACCTGATGCAGGTAGGCGGGCAAAAGCCTGTCGAATT
TGCCCCCAAAGCCGTTATCGGCCCCGGTACCGGCCTGGGCGTGAGCGGATTGGTGCACAG
CCACGCAGGCTGGGTGGCTTTGGCGGGCGAGGGCGGGCATACCAGTTTCCCGCCGTTTGA
CGATATGGAAGTGCTGATTTGGCAGTACGCCAAAAACAAATACGGCCATGTTTCCGCCGA
ACGCTTTTTGAGCGGCGCGGGCTTGAGCTTGGTTTACGAGGCTTTGGCTGCAAAACAGAA
AGCCAAACCCGCCAAACTGATGCCGTCTGAAATCACGGAAAAGGCTTTGAGCGGCGCGTC
GCCTTTGTGCCGTCAGACTTTGGACATCTTCTGCGCCATGCTCGGCACGGTTGCTTCCAA
CCTCGCCCTGACGCTGGGCGCGCGCGGCGGCGTGTACCTGTGTGGCGGCATTATTCCCCG
CGTGTTGGAATATTTCAAAACTTCCCCGTTCCGCAGCCGTTTCGAGAACAAGGGCAGGTT
TGAAGCATATCTTGCCGCGATTCCCGTGTATGTCGTCTTGAGCGAGTTTCCCGGAATTTC
CGGTGCGGCTGCGGCTCTTGACAACCATTTGAGAAACGTTTAACCACAGCGGCTCCTTGC
AGCGGGGCTGCATTATCGAAGGGCATATCATTATGTTAAGCAAAATCAGCGAATCACTGG
CAAACCTTTCCGGTGCGGAACGCAAAGTCGCCGAATGTGCATTGGCGGAACCCAAATGGT
TCGTCCATGCCGCCGTTGCCGAAATTGCCGAACGTGCGTCCGTCAGCCAGCCGACCGTCA
TCCGATTCTGCCGCAGCTTGGGTTATAAAGGGCTGCCCGAGTTCAAGCTCGCCTTGTCCG
CCAGCATCGGTCATGAGGGTATGCCCTATGTCCACGAAGAACTCAACGCCGACGACGATA
TGGCAAGCGTGGTCGAGAAAGTGTTGGGCAATGCCGCCGCCTCGCTGTTGGGCGAACGCC
GCTTCCTGAAAGAGTCGGAGCTGGAAAACGCCATTGCCACGCTGATGCACGCCCGTCGCG
TCGAGTTTTACGGTGTCGGCAATTCCGGCATTGTGGCACAGGACGCGCAGCATAAATTTT
```

```
TCCGTTTCGGCATGTCCACCGTCGCCTATGTCGATACGCACACGCAGCTGATGGCGGCAT
CTGTTTTGAGCGATCAGGATGTTTTGGTTGCCATTTCCAACACGGGTTCGTCTATCGAAC
TTTTGGATGCGGTCAGCATCGCCAAAGAAACGGCGCGTCTGTCATCGCACTGACCCGCA
ACGATTCGCCTCTGGCGCAACTTGCCGACTGCGTGTTGAGCGTTGCCACACAGGAAAATG
CCGAACTCTACACGCCCATGGTTTCCCGCCTCTTGCAGCTTGCCGTCATCGACATTCTCG
CCATCGGACTTGCCCTGCGCTTGGGCGATGCTGCCAGCCTGCAATTGCAGAAAAGCAAAA
AAAGCATACACAACAAGCACATCGATTACGACAAAGATTGACCTTCAGACGGCATCCCAC
AAATGCCGTCTGAAATGCCGAACAACGGTCGTCGGCGGCTTGCGGCAGTTTCCGGCAGCC
TTTTCATCCCACAACAAAAAACCTCATTCAGGAGCATATAGATGAAACACCTTCACGACT
TACCCGCATGGTCGAAATTGTGGAATCACTTTGACGACAGCAAAACATTGCATATGCGCG
AAATGTTCGAGCAAGACCCGCAGCGTGCGGAACGCTACTGGCTGCAAGTCGGCGGACTGA
CGCTGGACTACTCCAAAAACCGCATCAACGACGAAACCATGTCGCTTTTGTTCGAGCTTG
CCCGAGAAGCAGGCGTGCCGGAGCGGATGCGGCAGATGTTCCACGGCGAAAAAATCAATA
CCACCGAAAACCGCGCCGTCCTGCATGTCGCCCTTCGCAACCGCACCAATTCGCCGATTG
TGGTTGACGGTGAAGATGTGATGCCCAAAGTCAACCGCGTTTTGCAACGTATGGGCGAAT
TTGCACACGAAGTCCGCAGCGGAAGCTGGCTGGGCTATACCAACCAAGTCATTACCGACG
TTGTCAACATCGGCATCGGCGGATCGGATTTGGGTCCGCTGATGATGTGTACCGCGCTCA
AACCTTTCGGTCATCCGCGCCTCAATATGCACTTCGTCTCCAACGTGGACGGCTCGCAAC
TGCGCGACGTATTGTCCAAAGTCCACCCCGAAACCACGTTGTTCATCATCGCCTCCAAAA
CATTTACCACGCAGGAAACGCTGACCAACGCGCTGACCGCGCGCGAATGGTTTTTGAATC
ATGCGGGCGACGAAGAAGCCGTTGCCAAACACTTCGCCGCCGTTTCCACCAATCAAAAAG
CCGTCGCCGAATTCGGCATCGACACCGCCAATATGTTTGAATTTTGGGATTGGGTCGGCG
GTCGGTACAGCCTGTGGTCCGCCATCGGATTGCCGATTATGCTGTATCTCGGCGAAGAAA
ACTTCATTGAAATGCTCAACGGCGCGCACCTGATGGACCAACACTTCATCAACACACCGC
TCGAGCGCAACCTGCCCGTCATTCTCGCCCTCATCGGCATCTGGTATATCAACTACTACG
GCGGCGGCAGCCACGTCATCGCGCCTTACGACCAACATTTGCACCGCCTGCCCAAATTCA
TCCAGCAGCTCGATATGGAAAGTAACGGCAAACAGGTTACGTTGGACGGCAAAGCAGTCG
GACACGAAACCTCGCCGATTATCTGGGGCGAAACGGGCATTAACGGCCAGCACGCCTTTT
TCCAACTGCTGCACCAAGGCACGCACATTACCCCCATCGACCTGATTGCCTCGCTTGAAA
AACGCAGCAACCTGCCCGGACACCACGAAATCCTGCTTGCCAACGTCTTCGCCCAAGCAG
AAGCCTTTATGCGCGGCAAAACCCCCGACGAAGTCCGCGCCGAACTCAAAGCGCAGGGTA
TGGATGAGGTGCGCATCGAAGAGCTGGTCCCGCACAAAACCTTCTCCGGCAACCGCCCGA
CCAACCTCATTCTCATGGACAAGGTCAACCCGCGCAATATGGGCAGCCTGATTGCCATGT
ACGAACACAAAACCTTCGTACAAGGCATCATTTGGGGCATCAACAGCTTCGACCAGTGGG
GCGTGGAACTCGGCAAACAACTGGCTAAAACCATTTTGGGCGAACTGACCGGCGAAACCG
GGCCGCAAAAGCACGACAGTTCGACCGAACGCCTGATCAACCTCTACCTGCAGACCAACC
GCAAATAAAACCTGCGGAAAAATGCCGTCTGAACGCCGACCGTTTCAAACGGCATTTTTA
TCGAACAGGAAAACCGTCGGTAAACTTGCAGAGCGTGTGCAATCCCGATATGATGGTTTG
CATAAATTTAAACATATATGTTCCGCAGCTATGGCACTGATTAAAGAGCCGTTGGACAAA
GTGAAACAAAGGAACGAAGAACTTGAAGCGGCAGAAGAAGCGGCGGCGCAGGAGGCATTG
GGTCGGGAGCAGGAAGCCGCCCGCGTATCCGAATGGGAAGAACGCTACAAGCTGTCGCGC
AGCGAGTTCGAGCAGTTCTGGAAAGGATTGCCTCAAACCGTACAGAATAAGCTGCAAGCC
TCACAGAAAACATGGAAAAGCGGGATGGATAAAATCTGTGCCAACAATGCGAAAGCTGAA
GGTAAAACGCCAAACGGCATAAAATTCAGCGAACTGGCATGCAAAACGGCGAAAACCGAA
GCACGCTTGGAAGAGCTGCACAACCGTAAAAAAGCCCTTATCGACGAAATGGCCAGGGAA
GCGGACAAGAAAGAACTGTCAAAGCGGCTCTGAACAGCGCGGTTCAGGCACTGCCCGCCG
ATATTGCCGAAACCGTCATGCCCGAGTACCGCAACTGACAAAACGGTTTGAATGCCAAAT
GCGCCGACGGCGACGAATACGGCGTGGCACAATCTGACTGCCGTACCAGAGAAATCAATG
CGAAACCAAAGAAATCCAAGGTTATCTGATTGACTGAAACTTGGATGCGGGAATGTCGG
CGGCTTTTGCGTTTTTGTCGTTTTTATAGTGAATTAAATTTAAACCGATACAGCGTTGGC
TCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCC
GTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATA
TCTTTTTCCACTTATCTGCGCTTTCACTATTTGCCCTTTCAGGCTGCGGGCATAGGGACG
GAACAGGTAGCGGTCAAATCCTGTTTCATCCAAATAAACGTTGGTAGTCGGAAAATTC
GGCCGGCTGTGTCAAATAATGCGTTACTTTGGCCGGGTCTTGTTCTTTGTAAGTGGTGGT
CTTTTTTTGCGCGTTATCCCCATCTGTTTGAGTGCATAGCAAATGGTGGCTGCCGTACAA
TCAAAATGTTTGGCGATTTCATGCAGATAGGCATCCGGGTGTTGCCCAACATATTGAGCC
```

-339-

```
   GGTTTTTGCCTATCCGATTTGACGGCATTTAGACCGGTAACTTGATGTTTTAGGCTGCCT
   GTTTGTTTTTTAAGGCGAATCCACAGGTAAAGCGTGTTTCTTGACAAGTTAAACGTTGCT
   GCGGTTTGGCTGATGTTTTTGCATTGTTCGTAATATAGTGGATTAAATTTAAACCAGTAC
   GGTGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGA
 5 TTTAAATTTAATCCACTATAGTTTAAAGCTTTGTTTCTTAAGTCCGCAGAGTATGCCATG
   GTTAGACCTTCAAAGTTGAATATTGTACTATTTTGTTTTTGGGGCTGTCCTAGATAACTA
   GGATAAACTCGATTTTACTAATTGTTTTAAAATGGAAATTTGAACTTTTATCTCACTGTT
   GTTAAAACGCCGTTCGTACCCCTTTAAATACAGCTCAAAATGCGCTTTGGGAATGCCGTC
   AAACTTGCGTAAATGACGTTTTGCCCGGTTCCAAAAGTTCTCAATTCCATTGATATGGTT
10 TTGTCGTTCAGCAAAATAACTTTCATCTGCTTCTACTTCGCCATCAAACATTTCCAAATG
   CGGACTGTTTTGATAAATAAGTAATCGTAAACGATGAAAATAATAGGCTGCGGTACTTTT
   ATTAACGCCTACTAACTCTGCTGTCGTTCTTGCAGTTACACCTGCACAAACAGTTCAAT
   GAGTTTATTTGTTTATACCGGCTTAGACGACTTTTTCTCATAGGGGCAACTCTAACTTAA
   TTTGAATTTCCCTAGTTATCTAGGACAGCCCCTTGTTTTTAATTGACTATAATCCGCTAT
15 ATTGTGAGAAGCTGGATGACGGATGAGGGATAAAATAAATGCCGTCTGAATCTTCAGACG
   GCATCGGGAGATGATTTTCAGTTCTCGACTTCCGGTTCGGTTACATTGGAAATTACAGAA
   GCGTCGGAGAGTTCGGATTCGTCTTCGGCAACACGTTCCAGCGATACCAAGGTTTCGCCT
   TCGTCCAAGTTAATCAGTTTCACGCCTGCTGCGGCGCGGCCGGTTTCGCGGATTTGTTCG
   ACTTTGGTGCGGATAAGTACGCCGCCGCTGGTAATCAGCATCAAATCGTCGGTTTCGCCG
20 ACCAAGGTTGCGGCGACCAAATCGCCGTTTCGCTCGCCAGTGTTAATGGCAATATTGCCT
   TGCCCGCCTTTGTTTTTGCGGCTGTAATCGGCAATCGGGGTGCGTTTTCCGTATCCGTTG
   GCGGTGGCGGTTAAAACTTGCAAACCGCTTTCTTCGGTTTCAGGGGCGAAGGTAATCAGG
   CTGACGATTTTGCCGTCGGCAGGCAGGCGCATACCGCGCAAACCGCCGCTGCCGCGACCG
   GACGGGCGAACACCGTGTTTGCCGCTCGGCAGTGCGTTTTCGCTGTCGGCGGTTTCATCT
25 TCGATGCCGTCTGAAATTTCGGTTTCGATGTCGGCATCTTCCGCTTCGTCGTTGCCGGAT
   TTTTCCCAGTATTCGTTGAAGCGGATGGCTTTACCTAAGTTGGAGAACAGCATGATGTCG
   TCCGCACCGCCTGTTTGCGCAGCGCCGACGAGGTAGTCGCCTTCTTTGAGCGCGATGGCT
   TTAATGCCTTGGGCGCGGACGTTTTTAAAGGCGGAAAGTTGGACTTTTTTCACCATTCCC
   TGCGCGGTGGCGAAGAAGACGTATTGGTCTTCGGGGAACTCGCGTACTGCCAGAATCGCG
30 CTGACTTTTTCGCCTTCTTCCAACTGGATGACGTTGTTAATCGGACGGCCGCGGCTGTTG
   CGTCCGCCTTCGGGCAGTTTGTAAACCTTAATCCAATGACACTTGCCCAAATTGGTAAAG
   CACATCAAATAATCATGCGTGTTGGCAACAAACAGGGTTTCGATAAAGTCTTCGTCTTTG
   GTGGCAGCCGCCTGTTTGCCGCGCCCGCCGCGACGCTGCGCCTGATAGTCGGTGGTCGGC
   TGGGTTTTGATATAGCCGCCATGTGTCAGGGTAACGACCATTCGCGTTGCGGAATCAGG
35 TCTTCATCGGCAATGTCGCCGCCGAACGGGTTGATTTCGCTGCGGCGTTCGTCGCCCATAG
   TTGGTTTTGATTTCTTCCAGTTCGTCGCGGATGATTTGGGTAATGCGTTCGGGGTTTGGAG
   AGGATATCCACAAAGTCGATGATTTTACCCATCAGGTTTTTGTAGCTTTCGACAATTTCT
   TCTTGATCGAGGCCGGTCAGGTTTCGCAGGCTCATGCGTAAAATAGCATCTGCCTGAATC
   TCGCTCAGGTAATAACCTTGCTCTTTCAAGCCGATGTTTGCAGCCAATCCTTCCGGACGC
40 ATCATTTCCAAATCCAGACCGGAACGCGTCAGCATTTCTTCAACGAGGCTGCTGCGCCAA
   GGGCGCGCAAGCAGTTTGTCTTTGgCCTCGGCTGCGTTGGGCGATTCTTTGATGAGCTTG
   ATGATTTCATCGATATTGGACAGTGCGACGGCTTTGCCTTCGGCAATATGCCCTTCATGG
   CGTGCCTTCTTCAGCCGGAAAAGCGTACGTCGGGTAACGACTTCGCGGCGGTGGCGCAGG
   AATTCGGAGAGAATCTGTTTCAGGTTCAACAGGCGCGGTTGTCCGTCGACCAAAACCACC
45 ATATTGATGCCGAAACTGTCTTGCAGCGGAGTCAGTTTGTAGAGTTGGTTTAAGACGACT
   TCGGCATTTTCGTTGCGTTTCAGCTCGATAACGACGCGCATACCGGATTTGTCGGATTCG
   TCGCGGAGCTCGGAAATGCCTTCCAGTGTTTTTTCCCGAACCAAATCGCCGATTTTCTCG
   ACCAGCTTGGCTTTGTTGACCTGATAGGGGATTTCGTCGATAACGATGGCTTCGCGTTCG
   CCGTTTCTGCCTATGGGTTCGATATGGGTCTTACCGCGCATAACGACGCGGCCGCGGCCT
50 GTTTTATAGCCTTCGCGCACGCCGCTCAAGCCGTAGATGGTTGCCCCGGTCGGGAAGTCG
   GGGGCTTGGATAATGTCGATCAGTTCGTCGATTTCGGTGTCGGGTGCATCGAGCAGGCGC
   AGGCAGGCATTGACGGTATCAGAAAGGTTGTGCGGCGGGATATTGGTCGCCATGCCGACG
   GCGATGCCGGACGAGCCGTTGACGAGCAGTGTGGGGAAACGGGTCGGCAGTACAAGCGGC
   TCGTGTTCGCTACCGTCGTAGTTCGGGCCGAAATTGACGGTTTCTTCCTCAATGTCTGCC
55 AGCATTTCGTGGGAAATTTTCGCCATGCGGATTTCGGTGTAGCGCATGGCTGCGGCGGCA
   AGCCCGTCCACCGATCCGAAGTTGCCCTGTCCGTCTATCAGCACATAACGCATAGCGAAA
   TTTTGCGCCATACGGACGATGGTGTCGTATACGGCGGTATCGCCGTGGGGGTGGTATTTA
```

CCGATGACGTCGCCGACAATGCGCGCCGATTTTTTGTAGGCGGCATTCCAGTTGTTTTTC
AGCTCGTGCATCGCGTACAGTACGCGGCGGTGTACCGGCTTGAGACCGTCGCGAACGTCC
GGCAGCGCGCGCCCGACAATGACGCTCATGGCGTAGTCGAGATAGCTTTTGCGCATTTCG
TCTTCAAGGCTTACCGGCAGGGTTTCGAGGGCGAATTTGTGGTCGTGGCGGATGGTTGCG
TCGGTCATGGTTTCAATGTTTCGTATGGCAAAAAATTGTTGCTTATTTTAGCATATTTTG
ACGCGGAACGGTGCGGCGGTTACGCCGTCTGAAACACGGTGCGGATTATAATGCCGAGGA
AATTTCGTTGCGGAGTTTGTCGAGAAACCTGCCTTGGCGGACTTGTTGTGCGGCTGTGTC
GTAATCTTGTCGGGCAAACGACTGTTTCAGACCGCAGAACAGTTTTTCTTGTTCGTCGCG
GATTTCGTTGTCGAGATTTTTCAAGGATTCAAGGTCGTTGCCTGCCCGTGCCTCCATCAG
CGTTTCGCGCCATTCCATTTGCTGCATAAGGAATTCGGGGGCGAAAGCGGTATGCTCCGG
CGCGTCGGCATCGATGCCCGATGTTTTCAGCAGGTAGGCGGCGCGGTCGATGGGGTTTTT
CAAGGTGCGGTAGGCATCGTTGATGGTGGAAGACATCATCACTGCCTGCTTTTGCTCAAA
GGCGGAAGCTGAAGCGAATTTATCGGGATGGAAACGGGCGGCCAAGGCGCGGTAGGTTTG
TTCCAAGTTTTCGGTGTCGATATCGAAAGCGGGTTCAATCCGGAAGAGGGTGAAATATTG
GGACATAGTAGGATGATAAATGTAAGATTTTGGCAGAAAACTGTTTTTGCCTTATAATCT
GCCGCTTCTTAAACGAAAGGACTGAATATGGGCGGCAAAGTGCAGCACAATAAAGGCAAA
ATACGCGACAATGCTTTAAAAGCCTTAGTGAAATCCGATTTGTTCCGGCACAAGGTGGAA
CGGAAAAGGAAAGGCAAAGGCAGCTACAACAGGCAGGAAGCGAAAAAATGGCGGGACGGT
TTTGATACGGTCCCGCCGTTTTTATGCCTTAAACGTGGAAGCTTTCGCCGCAGCCGCAGG
AGTCTTTGACATTGGGGTTTTCAAATTTGAAACCTTCCTGCAAACCTTCTTTGGTGTAAT
CGACTTGCGTGCCATCCAGATAAACCAGGCTTTTCGGATCGATATAAATGCGCGCGCCGT
GTCCTTCGAAAATCAGGTCGTCGCCATCGGCTTCGTCGACAAATTCAAGGTTGTACGCCA
TCCCCGAGCAGCCGCTGGTTTTCACACCCAAGCGTACGCCCAAGCCTTTGCCGCGTTTGG
CGAGATAGTCATTGATGTGTTTTGCGGCATTCTCGGTAAGGGTAATCATATTTCTTCCTT
GTTGTACCGCCCCGGACGGACCTGAAGCGGCGGGTGGTTCGGACGGCATTGCGGGATGAT
GCCGTCTGAAGGGCTTTATCTGTTTTCCTGACGTTTGCGGTAGTCGGCAACGGCCGCTTT
TACCGCATCTTCAGCCAAGATGGAGCAGTGGATTTTTACCGGCGGCAATTCCAACTCCTC
GGCGATTTCGCTGTTTTTGATTGCCAGCGCGTCATCCAGGCTTTTGCCTTTAACCCACTC
GGTAATCAGGCTGGACGAAGCGATGGCCGAGCCGCAGCCGTAAGTTTTAAATTTCGCATC
TTCGATGATGCCCTCGTCGTTCACTTTGATTTGCAGGCGCATGACGTCGCCGCAGGCGGG
CGCGCCGACCATGCCGGTGCCGACGGAATCGTCTCCCTTGTCGAATGTGCCGACGTTGCG
CGGATTTTCATAGTGGTCGATTACTTTATCGCTGTATGCCATGATGTGGTTTCCTTAATG
TTTTTTGATGGTTTAAGTGGTTTGTTTGCCGATTTTCAGACGGCCTGAAGTTTAGATTTT
GCACGCCCCGCCTTCGCAGCCGTCGTCGTTTTCCGAATCGACGCCGCCTTCCACGGTAAC
GCCGTCAAAATCTTCAAGCAGGTTGTCGAGATTGTCCAAATCTAAATCTTGTTCGTTCAT
ATTTTCTCTTGATTGCTTTGTTTTTGGAATGCCGTCTAAAGGTTCGGACGGCATGTTGGT
ACGCTTTAATGCGCTGCCCATTCAATCGAGTTCAAATCAATCCCGTCTTTGAACATTTCC
CACAGCGGCGACAGTTCGCGCAGTTTGCCGATTTTGGATTTAATCAGTTCGGCGGCGAAT
TGCACTTCTTCTTCGGTGGTCATGCGACCGAAGGTGATGCGCAGGGATGAGTGCGCCAGT
TCATCGTTGCGGCCGAGCGCGCGCAGGACGTAGCTGGGTTCGAGCGAGGCGGAGGTGCAG
GCGGAGCCGCTGGATACGGCGAGTTCTTTCACTGCCATAATCAGGCTTTCGCCTTCGACG
AAGTTGAAGCTGACGTTTAGGTTGTTCGGGACGCGATGTTCGAGGTCGCCGTTGATATAG
ACTTCTTCGATGCCTTCGATACCTTTGAGGAAAATATCGCGCAGTTTCAGGTAGTGTGCA
GTGTCTTGTGCCAATTCTTCTTTGGCAATGCGGAAGGCTTCACCCATGCCGACGATTTGA
TGGGTCGGCAATGTGCCGGAACGGAAACCGCGTTCGTGACCGCCGCCGTGCATTTGGGCT
TCGAGGCGGACGCGTGGTTTACGGCGTACATACAGGGCGCCGATGCCTTTAGGGCCGTAT
ACTTTGTGGCCGGACATAGACAGCAAATCAACTTTTGCGGCTTCAACATCAACAGGCACT
TTGCCGCATGCTTGTGCTGCGTCAACGTGGAAAATGATTTTGCGTTCGCGGCAGATTTCG
CCGATGGCAGGAATATCTTGAACCACGCCGATTTCGTTGTTTACCCACATTACGGAAACG
AGGATGGTGTCTTCGCGGATGGCGGCTTTCAGTACGTCTAAATCAACCAAACCGTTTTCT
TGTACGTCCAGATAAGTTACTTCGTAACCTTGGCGTTCGAGTTCGCGCATGGTGTCGAGT
ACGGCTTTGTGTTCGGTTTTTACAGTGATGAGGTGATTACCTTTAGATTTGTAGAAGTGC
GCCGCGCCTTTGATAGCGAGGTTGTTGGACTCGGTTGCGCCGCTGGTGAAAACGATTTCT
TTAGAGTCGGCGTTAATCAGGGCGGCAATGTCTGCACGTGCTTTTTCTACAGCTTCTTCT
GCTTCCCAGCCGAAGCTGTGGCTGTTGGAGGCTGGGTTGCCGAAGGTTTCGGTCAGATAG
GGAATCATTTTTTCGGCAACGCGTTTGTCAACGGGGGGGTGGCGGCGTAGTCGAGGTAA
ACGGGGGTTTTGACGGTCATGGTTTGCTCTTTCTTTTTCGGGTGTTATTTAATGGATGTG

TGTAAATTGGACGACGCGGCTGCCGTCGCCGTTGTTTTTCTGTTCGATGATGCTTTGCAG
GGTAACGCTGCCGAGGTAGTCGTTGATGGTTTTGTTTAAATTCTCCCAAAGATCGTGCGT
CAGGCAGGGCGCGCCGTGGTGGCAGTTGGCTTTGCTGCCGCATTGGGTTGCGTCCAGCCG
GTCTTCGGCGGCGGCGATGATTTGGGCGATGTTGATGCGTGCCGCCGGTGCGGCGAGGAT
GTAGCCGCCGCCGGGCCCGCGCAGGCTTTCAACAAGTCCGGCGCGGCGGAGTTTGCCGAA
CAATTGCTCGAGATAGGAGAGGGATATGTTTTGGCGTTCGCTGATGGCACTGAGTTTGAC
GGCGCCGGTTTGCGCGTTCATCGCCAAATCCAGCATAGCGGTAACGGCGAAACGCCCTTT
GGTGGTCAGTCTCATGGTGGTGGTTGCCCATGTCGGTTTTTTTAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 29>:

gnm_29

GAAGACTTTGATTCTTTTTTTTCAGCATATGAAGGAATATCAATATGCTATTGACAATGAA
GACATTAAATCTGCATGTAGTTCACTATGTGAAGCTATGCTCTATGTTGGTAATATTAAA
AATTTTTTTGAGTTTCTCAAAAGCGATATGATTAGACTGTTGAGAGGTGAAAGTAAAACA
ACAGACTTTCAATGGCCGCAATTTGATGAATAGCAGCAAGCTGTAGCCTGCATGAAACCT
AAAATCCATGCGTAAGGTGTGTGCTTCAGCACGCACGCGTTCCATGATTTACGGCTCAAT
GCCGTCTGAAAAGCTCACAATTTTTCAGACGGCATTTGTTATGCAAGTAAATATTCAGAT
TCCCTATATACTGCCCAGATGCGTGCGTGCTGAAGACACCCCCTACGCTTGCTATTTGAA
ACAGCTCCAAGTCACCAAAGACGTCAACTGGAACCAGGTACAACTGGCGTACGACAAATG
GGACTATAAACAGGAAGGCTTAACCGGAGCCGGAGCAGCGATTATTGCGCTGGCTGTTAC
CGTGGTTACTGCGGGCGCGGGAGCCGGAGCCGCACTGGGCTTAAACGGCGCGGCCGCAGC
GGCAACCGATGCCGCATTCGCCTCGCTGGCCAGCCAGGCTTCCGTATCGCTCATCAACAA
CAAAGGCAATATCGGTAACACCCTGAAAGAGCTGGGCAGAAGCAGCACGGTGAAAAATCT
GATGGTTGCCGTCGCTACCGCAGGCGTAGCCGACAAAATCGGTGCTTCGGCACTGAACAA
TGTCAGCGATAAGCAGTGGATCAACAACCTGACCGTCAACCTGGCCAATGCGGGCAGTGC
CGCACTGATTAATACCGCTGTCAACGGCGGCAGCCTGAAAGACAATCTGGAAGCGAATAT
CCTTGCGGCTTTGGTGAATACTGCGCATGGAGAAGCAGCCAGTAAAATCAAACAGTTGGA
TCAGCACTACATTACCCACAAGATTGCCCATGCCATAGCGGGCTGTGCGGCTGCGGCGGC
GAATAAGGGCAAGTGTCAGGATGGCGCGATAGGAGCGGCGGTCGGTGAAATCCTCGGCGA
AGCCCTGCTGGACGGCAGAGACCCGGGCAGCCTGAATGTGAAAGACCGGGCAAAAATCAT
TGCTAAGGCGAAGCTGGCAGCAGGGACGGTTGCGGCGTTGAGTAAGGGGGATGTGAATGC
TGCGGCGAATGCGGCTGCTGTGGCGGTAGAGAGTAATGCGCTTAGCAAGGAAAGAATGGA
TAAATTGACAAAATGCCTTTCCGGTAAAACTTGTTCTACTACGATGGAAAAAGTAAATGC
CATCAAAAAGGATGAACAATTTAGCAAAGTAATTGATACGGAAATTCAAAAAGTCTGTTC
TAGGAACCCATTGGGCGATGGTTGCAGAAACGGCATTAATATGTCTATTAAATATATTGC
CATGCCTGCTGCGTGGAAGTATATGCCTACGGATGTATCACGGGTTGCCAAAGAAGTTTT
TGGCTATTTATATAACTCACAAGGGGCATCTACAAGATTTGACAAGTATTTCAACACCAT
TGACAATCGTGCAGATTTCTTTGCTGCCAGCAATCTTTATGAGCAAAATTTGGGTTCAAA
AGCACGATGGTTTGGTGGAGCTGATTTTGTATCGCGTGCTGCTATAACTGGGTTAGGGGC
AGACGGAGAAGCTTCTTATATAACTTTTGCGGCAGGTAAAGTTGTTGGTAATCCTCCAAT
TTATGAATGGAGGGCTGCGTCAGGCAATGCACTGATAGTAAATGGATTTTATAATTTTAG
AGACTTGTTCAATAAAAAAACTAATCCTAGGGAGTGGGATATTCAACAGTTGAAAAGCGA
GCAAAAGTTATTACAGCCTATTCACCAAAAATATTTGAGTAATGAGAAGGATTATTTGTC
ATTGATTAAAGGGGTAACATCAAATAAGATATTTTCAATAATTCCAAATCCTTTAGATGA
GAGGAAAAAAATAGAGGATGGAATTAATATGTTAGATTACAAATCTAGAATTAAATATGG
TTGTAAGCTTATGGGATATTCTGAGAAACAGGGATGCAAGCCATGAATAAAAATTATTTA
TTTTATCTTATTCAAAATATTAAATCTATTTTCTTAATAGGTGGAGTATTTTTTGGCCTT
TTAATTTTTTCAGGTTTATGGGGTAATGATTTTAAACTATCTTTTTTAGGGGTAATAGAT
TTTATATTTGGGATGGTAGGGGGTGGGTTTATAGTTATGTTATGGTTTCTAATTCCAGTG
ATATTATCAACTTTATTCAGATGGGTATTTCAAAATCAACTTGCTGTATCTGTCATATTA
ACCTTCATTGTTTTTTATACACATATGGGTACTTTTCTTTATTTAATTCATCTGAAAGAGTC
GGTAGTTTTTGGTATTTGGTAATCCCAACCATAATGTTTATTGGACTGTCTGAATGGTTT
ATCTATAAATCTAGCGTGCATAGTTTAGGTGAAAATGTAACTCCACGTTCCAATTGAAGA

```
     AAAAGATTGTCTGAAAACTAAATTTAATTTCAGATGACCTTAGATTCGGATTTCAAGTGC
     AACACTAGTGTATTAGTGGTTGGAACAGATTCAAGAATAAAACACTTGGCGTTTCGTAGC
     CAAGTGTTTTTCTTGGTCGGTGGTTCAACTCATCTTGAACCCTGCGTATCTCCCGATCAC
     TGATGTTACGGAAATCGGTTTGTTTGGGGAAGTATTGCCGGATGAGTCCGTTGGTGTTCT
5    CATTCAGCCCTTTCTCCCAAGAATGGTAAGGGCGACAAAAATAAGTCTCCGCTTTCAATG
     CTTTGGTTATTTTGGTGTGTTGGTAGAACTCTTTGCCGTTATCCATGGTAATGGTGTGCA
     CCCTGTCTTTATGTGCCTTTAATGCCCTAACAGCTGCCCGGGCAGTGTCTTCGGCTTTGA
     GGCTATCCAATTTGCAGATGATGGTGTAGCGGGTAACGCGTTCGACCAAGGTCAATAATG
     CGCTTTTCTGTCCTTTGCCGACAATGGTGTCGGCTTCCCAATCGCCGATACGGGATTTCT
10   GGTCGACGATAGCGGGTCGGTTTTCTATGCCGACACGGTGGGTACTTTGCCTCTGGTCC
     ATGTGCTGCCGTAGCGTTTGCGGTAGGGTTTGCTGCATATTCTGAGATGTTGCCACAACG
     TGCTGCCGTTGCTTTTGTCTTGGCGAAGGTAGCGGTAAATGGTGCTGTGGTGGAGCGTGA
     TCCGGTGGTGTTTGCACAGGTAGGCGCATACTTGTTCGGGACTGAGTTTGCGGCGGATAA
     GGGTGTCGATGTGCTGAATCAGCTGCGAATCGAGCTTATAGGGTTGTCGCTTACGCTGTT
15   TGATAGTCCGGCTTTGCCGCTGGGCTTTTTCGGCGCTGTATTGCTGCCCTTGGGTGCGGT
     GCCGTCTGATTTCGCGGCTGATGGTGCTTTTGTGGCGGTTCAGCTGTTTGGCGATTTCGG
     TGACGGTGCAGTGGCGGGACAGGTATTGGATGTGGTATCGTTCGCCTTGGGTCAGTTGCG
     TGTAGCTCATGGCAATCTTTCTTGCAGGAAAGGCCGTATGCTACCGCATACTGGCCTTTT
     TCTGTTAGGGAAAGTTGCACTTCAAATGCGAATCCGCCACCGTCCAAATGCTCTTTGGG
20   AATGCTATTGGATTATAGACCTTACAACAGAAAAAAAGGTCGGAAAGTAGAAAGACTGCT
     TTTTAAATTCAAACGGCCAAGCAAGTAAAGACTTGGCCAACAAATGGGACAAAATCCGAC
     TGTTTTAAATTGCCAGTCAAATACTGGAAAACTTGCGTAAATGGCTAAATTCACTGACAT
     CAAGTACATCATAACTACGAAAGGTATCCGTATACACAATGCCATCAGACTTAACTTTCT
     CTCGGATAATCGGCAATAATGTTGCTGATTGCGCATTAGGGACAACGACGGTATAAACCT
25   TGCCATTTCGTTCGAATGGGATTTTTAACCGTTATCTAGTAAAGTCCCTAATTTAATAAA
     CAAATGGCAGTAAAATGGCGGTAATTGACTCGCCAAAATCCTTGATCTAGAATGGTCAGA
     CTATCCAATTTTTTCTAATAACTCTATAAAAATCAAATAACTGAAATCATGAATAAAACt
     CTCTATCGTGTAATTTTCAACCGCAAACGTGGGGCTGTGGTAGCCGTTGCTGAAACTACC
     AAGCGCGAAGGTAAAAGCTGTGCCGATAGTGATTCAGGCAGCGCTCATGTGAAATCTGTT
30   CCTTTTGGTACTACTCATGCACCTGTTTGTCGTTCAAATATCTTTTCTTTTTCTTTATTG
     GGCTTTTCTTTATGTTTGGCTGTAGGTACGGCCAATATTGCTTTTGCTGATGGCATTATT
     GCTGATAAAGCTGCTCCTAAAACTCAACAAGCCACGATTCTGCAAACAGGTAACGGCATA
     CCGCAAGTCAATATTCAAACCCCTACTTCGGCAGGGGTTTCTGTTAATCAATACGCCCAG
     TTTGATGTGGGTAATCGCGGGGCGATTTTAAACAACAGCCGCAGCAACACCCAAACACAG
35   CTAGGCGGTTGGATTCAAGGTAATCCTTGGTTGGCAAGGGGCGAAGCACGTGTGGTTGTA
     AACCAAATCAACAGCAGCCATTCTTCACAAATGAATGGCTATATTGAAGTGGGCGGACGA
     CGTGCAGAAGTCGTTATTGCCAATCCGGCAGGGATTGCAGTCAATGGTGGTGGTTTTATC
     AATGCTTCCCGTGCCACTTTGACGACAGGCCAACCGCAATATCAAGCAGGAGACCTTAGC
     GGCTTTAAGATAAGGCAAGGCAATGTTGTAATCGCCGGACACGGTTTGGATGCCCGTGAT
40   ACCGATTTCACACGTATTCTCAGTTATCATTCCAAAATTGATGCACCCGTATGGGGACAA
     GATGTTCGTGTCGTCGCGGGACAAAACGATGTGGTCGCAACAGGTAATGCACATTCGCCT
     ATTCTCAATAATGCTGCTGCCAATACGTCAAACAATACAGCCAACAACGGCACACATATC
     CCTTTATTTGCGATTGATACAGGCAAATTAGGAGGTATGTATGCCAACAAAATCACCTTG
     ATCAGTACGGCCGAGCAAGCAGGCATTCGTAATCAAGGGCAGTTGTTTGCTTCTTCCGGT
45   AATGTGGCGATTGATGCAAATGGCCGTTTAGTCAATAGTGGCACGATGGCTGCCGCCAAT
     GCGAAAGATACGGATAATACAGCGGAACACAAAGTCAATATCCGCAGTCAGGGCGTTGAA
     AACAGCGGTACGGCGGTATCGCAACAAGGCACTCAAATTCACAGTCAGTCGATTCAAAAC
     ACTGGCACATTATTGTCCTCAGGCGAAATATTGATTCACAATTCGGGCAGCCTGAAAAAT
     GAAACATCAGGCACCATTGAAGCCGCTCGTTTGGCTATTGATACCGACACACTTAATAAT
50   CAAGGCAAACTCTCTCAAACAGGTTCACAAAAACTCCATATTGATGCACAAGGCAAAATG
     GATAACCGTGGCCGCATGGGTTTACAAGATACCGCACCAACCGCGTCAAATGGTTCAAGC
     AATCAAACCGGCAATAGTTACAATGCATCTTTCCATTCATCCACTACCACACCAACAACG
     GCAACAGGTACGGGTACTGCAACCGTTTCTATATCAAACATAACTGCGCCTACCTTTGCT
     GATGGGACAATTCGCACTCATGGTGCACTGGATAATTCAGGCAGTATTATTGCCAATGGT
55   CAAACAGATGTTAGTGCGCAACAAGGTTTAAATAATGCAGGACAAATAGACATTCATCAG
     TTAAATGCAAAAGGTTCGGCGTTTGACAATCACAATGGAACAATTATCAGTGATGCGGTC
     CACATTCAAGCCGGCAGCCTGAATAATCAAAATGGCAACATCACAACACGCCAACAGTTA
```

```
GAGATTGAAACCGATCAACTGGATAACGCTCATGGCAAGTTATTATCAGCAGAAATAGCG
GATTTAGCCGTTTCAGGCAGCCTGAACAATCAAAATGGCGAAATAGCGACCAATCAACAA
CTGATTATTCACGATGGTCAGCAATCTACCGCTGTCATTGATAATACGAATGGCACGATA
CAATCAGGCCGTGATGTTGCTATTCAGGCAAAATCGTTATCCAACAACGGCACACTTGCC
GCTGATAATAAACTGGATATTGCGTTACAAGATGATTTTTATGTAGAACGCAATATCGTG
GCGGGCAATGAATTGTCGCTCAGTACACGAGGCAGCCTGAAAAATTCACATACTTTGCAA
GCAGGAAAACGCATTCGGATTAAAGCAAATAACCTTGATAATGCAGCACAAGGCAACATT
CAATCCGGCGGTACGACAGACATTGGCACGCAGCACAATTTAACCAATAGAGGCTTGATT
GACGGACAACAAACCAAAATCCAAGCCGGGCAAATGAATAATATCGGTACAGGTCGGATT
TATGGCGACAATATCGCTATTGCGGCTACCCGCTTAGACAATCAAGATGAAAACGGTACA
GGTGCCGCCATTGCGGCACGTGAAAACCTGAATTTAGGCATCGGACAATTAAACAACCGT
GAAAACAGTCTGATTTACAGCGGTAACGATATGGCGGTTGGCGGCGCATTAGATACCAAT
GGCCAAGCCACAGGCAAAGCCCAAAGGATACACAATGCCGGCGCAACCATTGAAGCTGCA
GGCAAAATGCGTTTAGGTGTAGAAAAGCTGCACAATACCAATGAGCATTTGAAAACGCAG
TTGGTAGAAACAGGGCGCGAGCATATTGTTGATTACGAAGCATTTGGACGACACGAATTA
TTGCGAGAAGGCACGCAACATGAATTAGGCTGGTCTGTCTATAACGATGAATCAGACCAC
TTACGCACCCCTGATGGAGCGGCGCATGAAAATTGGCATAAATACGATTATGAAAAAGTC
ACCCAAAAAACCCAAGTTACCCAAACTGCGCCAGCCAAAATCATTTCAGGTAATGATTTA
ACCATTGATGGTAAAGAAGTATTTAATACCGATAGCCAAATCATTGCTGGTGGCAATCTC
ATTGTACAAACAGAAAAAGACGGTTTGCATAACGAGCAAACCTTTGGCGAAAAGAAAGTA
TTCAGTGAAAATGGCAAATTACACAGCTATTGGCGTGAGAAACATAAAGGACGAGACTCA
ACGGGACATAGCGAACAAAATTACACTTTGCCGGAGGAAATCACACGCAACATTTCACTG
GGTTCATTTGCCTATGAATCGCATCGCAAAGCATTAAGCCATCATGCGCCCAGCCAAGGC
ACTGAGTTGCCGCAAAGCAACGGTATTTCGCTACCCTATACGTCCAATTCTTTTACCCCA
TTACCCAGCAGCAGCTTATACATTATCAATCCTGTCAATAAAGGCTATCTTGTTGAAACC
GATCCACGCTTTGCCAACTACCGTCAATGGTTGGGTAGTGACTATATGCTGGACAGCCTC
AAACTAGACCCAAACAATTTACATAAACGTTTGGGTGATGGTTATTACGAGCAACGTTTA
ATCAATGAACAAATCGCAGAGCTGACAGGGCATCGTCGTTTAGACGGTTATCAAAACGAC
GAAGAACAATTTAAAGCCTTAATGGATAATGGCGCGACTGCGGCACGTTCGATGAATCTC
AGCGTTGGCATTGCATTAAGTGCCGAGCAAGTAGCGCAACTGACCAGCGATATTGTTTGG
TTGGTACAAAAAGAAGTTAAGCTTCCTGATGGCGGCACACAAACCGTATTGGTGCCACAG
GTTTATGTACGCGTTAAAAATGGCGACATAGACGGTAAAGGTGCATTGTTGTCAGGCAGC
AATACACAAATCAATGTTTCAGGCAGCCTGAAAAACTCAGGCACGATTGCAGGGCGCAAT
GCGCTTATTATCAATACCGATACGCTAGACAATATCGGTGGGCGTATTCATGCGCAAAAA
TCAGCGGTTACGGCCACACAAGACATCAATAATATTGGCGGCATGCTTTCTGCCGAACAG
ACATTATTGCTCAACGCAGGCAACAACATCAACAGCCAAAGCACCACCGCCAGCAGTCAA
AATACACAAGGCAGCAGCACCTACCTAGACAATATGGCAGGTATTTATATCACAGGCAAA
GAAAAAGGTGTTTTAGCAGCGCAGGCAGGAAAAGACATCAACATCATTGCCGGTCAAATC
AGCAATCAATCAGAGCAAGGGCAAACCCGGCTGCAAGCAGGGCGCGACATTAACCTAGAT
ACGGTACAAACCAGCAAACATCAAGCAACCCATTTTGATGCCGATAACCATGTTATTCGC
GGTTCAACGAACGAAGTCGGCAGCAGCATTCAAACAAAAGGCGATGTTACCCTATTGTCA
GGGAATAACCTCAATGCCAAAGCTGCCGAAGTCAGCAGCGCAAACGGTACACTCGCTGTG
TCTGCCAAAAATGACATCAACATCAGCGCAGGCATCAACACGACCCATGTTGATGATGCG
TCCAAACACACAGGCAGAAGCGGTGGTGGCAATAAATTAGTCATTACCGATAAAGCCCAA
AGTCATCACGAAACCGCCCAAAGCAGCACCTTTGAAGGCAAGCAAGTTGTATTGCAGGCA
GGAAACGATGCCAACATCCTTGGCAGCAATGTTATTTCCGATAATGGCACCCAGATTCAA
GCAGGCAATCATGTTCGCATTGGTACAACCCAAACTCAAAGCCAAAGCGAAACCTATCAT
CAAACCCAGAAATCAGGATTGATGAGTGCAGGTATCGGCTTCACTATTGGCAGCAAGACA
AACACACAAGAAAACCAATCCCAAAGCAACGAACATACAGGCAGTACCGTAGGCAGCTTG
AAAGGCGATACCACCATTGTTGCAGGCAAACACTACGAACAAATCGGCAGTACCGTTTCC
AGCCCGGAAGGCAACAATACCATCTATGCCCAAAGCATAGACATTCAAGCGGCACACAAC
AAATTAAACAGTAATACCACCCAAACCTATGAACAAAAAGGCCTAACGGTGGCATTCAGT
TCGCCCGTTACCGATTTGGCACAACAAGCGATTGCCGTAGCACAAAGCAGCAAACAAGTC
GGACAAAGCAAAAACGACCGCGTTAATGCCATGGCGGCTGCCAATGCAGGCTGGCAAGCC
TATCAAACAGGTAAGAGTGCACAAAACTTAGCCAATGGTACAACCAATGCCAAACAAGTC
AGCATCTCCATAACCTACGGCGAACAGCAAAACCGACAAACCACCCAAGTTCAAGCCAAT
CAAGCCCAAGCGAGTCAAATTCAAGCAGGTGGTAAAACCACATTAATCGCCACAGGCGCA
```

```
GCAGAACAATCCAATATCAACATCGCAGGCTCAGATGTTGCCGGCAAAGCAGGCACAATC
CTGATTGCCGATAACGACATCACACTCCAATCAGCCGAGCAAAGCAATACCGAACGCGGC
CAAAACAAATCGGCAGGCTGGAACGCAGGTGCTGCCGTATCATTCGGACAAGGAGGCTGG
TCATTAGGCGTTACCGCAGGCGGCAATGTCGGCAAAGGCTACGGCAATGGCGACAGCATC
ACCCACCGCCATAGCCATATCGGCGACAAAGGCAGCCAAACCCTTATCCAAAGCGGTGGC
GACACTACCATCAAAGGCGCGCAAGTACGCGGCAAAGGCGTACAAGTCAATGCCAAAAAC
CTAAGTATTCAAAGCGTACAAGATAGAGAAACCTATCAAAGCAAACAACAAAACGCCAGT
GCACAAGTTACCGTAGGTTATGGCTTCAGTGCCGGTGGCGATTACAGCCAAAGCAAAATC
CGAGCCGACCATGTTTCAGTAACCGAGCAAAGCGGTATTTATGCCGGAGAAGACGGCTAT
CAAATCAAGGTCGGAAACCATACAGACCTCAAAGGCGGCATCATCACCAGTACCCAAAGC
GCAGAAGACAAGGGTAAAAACCGCTTTCAGACGGCCACCCTCACCCATAGCGACATCAAA
AACCACAGCCAATACAAAGGCGAAAGTTTTGGATTGGGCGCAAGTGCGTCCATAAGCGGC
AAAACACTGGGACAGGGCGCACAAAATAAACCTCAAAACAAACACCTGACAAGCGTAGCC
GATAAAAACAGCGCAAGTTCATCAGTGGGTTATGGCAGCGACAGCGACAGTCAAAGCAGC
ATCACAAAAAGCGGCATCAACACCCGCAACATTCAAATCACCGACGAAGCCGCACAAATC
CGGCTGACAGGCAAAACAGCGGCACAAACCAAAGCCGATATTGATACAAACGTAACCACA
GACACCGCCGAACGACATTCGGGCAGCTTGAAGAACACCTTCAACAAAGAAGCGGTGCAA
AGTGAACTGGATTTACAAAGAACCGTCAGCCAAGATTTTAGTAAAAATGTTCAACAAGCC
AATACCGAGATTAACCAACATTTAGACAAACTCAAAGCAGACAAAGAAGCAGCCGAAACA
GCAGCAGCCGAGGCATTAGCCAATGGCGATATGGAAACTGCCAAACGCAAAGCCCATGAA
GCTCAAGATGCGGCAGCAAAAGCAGATAATTGGCAACAAGGCAAAGTCATTCTCAACATG
TTAGCCTCAGGTTTAGCTGCGCCGACCCAAAGCGGAGCGGGCATCGCTGCCGGCTACCGCA
TCGCCAGCCGTATCGTATGCGATTGGACAGCACTTTAAAGATTTAGCCGGTCAAAACGCG
AATGGTAAACTAACCGCCAGTCAAGAAACCGCACACGTTCTTGCCCACGCGGTATTAGGA
GCAGCGGTTGCCGCAGTAGGAGACAACAATGCTCTAGCAGGAGCATTGAGTGCGGGCGGG
TCGGAAGCGGCTGCGCCTTACATCAGCAAATGGTTATACGGCAAAGAAAAAGGAAGCGAC
TTAACGGCGGAAGAGAAAGAGACTGTAACAGCGATTACAAATGTATTGGGTACGGCTACG
GGTGCGGCAGTCGGCAACAGCGCAACAGATGCAGCGCAAGGCAGCCTGAATGCGCAAAGT
GCGGTGGAGAATAATGATACTGTAGAGCAAGTGAAATTTGCTCTTAGGCACCCTAGAATT
GCTATTGCAATTGGATCTGTACATAAAGATCCTGGCTCTACATTAGAGCCTAATATTTCA
ACAATTGCTTCAACTTTTCAATTAAATTTATTTCCTAATAGTGAATTTGGTGGTGAAGGT
GGAGTTGGCAATGCATTCAGGCACGTTTTATGGCAAGCAACCATCACACGAGAATTTGGC
AAAGATATTGCTGTTAAAGTAGGAAATAGTCATGAAAGTGGGGAAAAAATTAATTATTCT
ATAAGACGTAATCTTTCATTAGATAAAGCAGATGAAATGATTGATCAACTAAATAACGAA
ATAGGAAGAGAAATAGCATTAAATACCAATAGGTTAAACACAAAAGAGTTAGTTGGATTA
ATTCTGGAAACTTATAAAAATAATGGTTTTTATCAAGCAGAAAGAAACAGTAATGGAAAT
TATGATGTTGTAAGAAAAAGATTATCTGAAAAAGATTACCAGAATACAAGCAATATATTG
ATTCACTTAGATAATACTGGTGCCGGATTTAAAATTCAGCAGAGGAGAAAACAAATCAGA
GCACAAATTTCAGCCAGACAATGGAGAAGATAAAGATGAATAAAAATATACTTTATATA
TTTTCTTTATTAATCACTATTGTTATTTTCTTTATATTGAAAAGAATGTAATAAGAAAA
ATAAGTTTTAATTATAATAAAAAAGAATTCTTAATTAGTTAGTATAACGAATTTTAATTGG
GATTATGTAAAACTGTATATAATCAATTCAGATTTCCAAAAAATTGTTTTTTATCATAAA
AGTAAGATAGTTTTTGAGGAATTAATAGAACTAGATAAGGAAGGGAATGTTTTACCTCAA
TATCTATTTGATTCAGATTTGAAAAATGTTGAATATTACGAATGTGATTACAAGAATGGC
AAGATGCAACTTTTAAAAAAAGAAAAATCACATTTTTTTGATGGATATTTTATTATTAT
AAACCTATAAATTGTAGGCCGAAACTTTTGTAAAACTATCCTTCGTCATTACCGCCTAGG
ATTCAGGATTAGGACTCGTTTGGGGAGCAGGGAGTTCTGATATGGCTTGGAGTATGTTTG
CCACAACCCAAGCCGATAGAGCGGTAAGGTCTGCAACTGCACCTAAAGAAATGTGGTTCC
ATAAGAAGATAATAGATGAAAAAACAGGTAAAGTATCCTTTGATACCAGACAAATTTGGT
CATTGAATGATTTAAGCAAGGAAGAACTGGCAAGCATTCAAGACACAAATGGCAAAGTTA
TTACTGTGTCTAATCCTGGTATTTTCAATAATCGAGAAGATTCATTAAGCAACGCAGCAA
AACAAATCGTAATAGTACAAACGGTAGTGGTGTTATTGCAGTCATGAATCCTCCAACAG
GGAAATATAAATCTGATTCTAATAACAAAATAAAAGATTTTTTATGGCTCGGTTCAAGTC
TTGTTTCTGAACTGATGTATGTCGGTTACGACCAATTAAATAATAAAGTGTTCCAAGGCT
ATTTACCCAAAACCAATTCAGAAAAACTGAATCAAGATATTTATCGAGAGGTTCAAAAAA
TGGGTAACGGCTGGTCGGTTGATACCAGTAATCACAGTCGTGGGGGAATTACAGCAAGCG
TTTCCTTAAAAGATTGGGTAAACAATCAAAAACAAAATGGCATTGCCCCAATCAGAAAAG
```

```
CACGTTTCTATGGTACAGCCACAAATGTGCAGAATGATTACGCCGATGTTTTACAGAAAA
ACGGCTATACCTATACGGGTGCAGACGGCAAAACTTATAACAGCGGATCCTACTCAATCG
TGCATGATAAAGATTTTGTGGGGAACAAATGGATACCTTTCTTGCTAGGAACCAATGACA
CCACACAAGGTACATGTAAGGGGTTGTGCTATTCGCATAGCAGTTATTTTGCGGAGGTGC
CAAAAGCAGGTACAAAAGAATTTGATGACTATGTAAAAATATGGGGTGAAGTTGAATATG
ACGCTCAAGGTAAGCCAATTAACAAATCTAAACCCATACTGGTAGAACCAAACAAAACAA
AAGATAATGAAAAATATGAAAAAGAAGCTTTCTAAATATTCTCTGTTTCTTTCATCTGTT
TTTTGTCTAACAGCTTGCGCTACTACCTTATTAGGTACTGTCGTAGTCGGTACAGCCTTG
TACGGTACTAGTAGTAACTGGACAACTACTGATAAGGAACACCAAGAAATTATGAATTGC
CTTGATAAGGCATTAGTAAAACTGAATATCTATTTTGAGAATGATGAAGAAAAGTACAAA
AACAAAACAGTAATGGATATTTACTATCAGTGCATTAAAAATCCTAATTATGTTGTAACA
CACAATAACTTATAAAGGAGAGAGATATGAAGAAACCCTTTCTAATTTAGTGCTAATAT
CATTCTGCTCAACAATGCTAACAGCTTGCCCTTTTTGGGGTAGTTGTGCAGACTGGAATT
GCTCCAAACTTAATCCACGCTGGGAGAAAGCCGTTGACACATGTGAAACTGAAAATCTCA
CCTTTGTTTTGCATGAATTAGGCAATCAATTAGGATATAAATCTATTACCGAAGTCTCAT
TTAGTGAAATTGGGCAACATATTTCTTATCAGTGTATTCACCATGGCGGTGGATACAATA
TTCGTAAAGATAAGCAGTATGGTCATTTGTTTGTGCAATAACCAGCGTAGCCTGTGCAAT
TAATGCGAACTGTTACATGGTAGGGTGGGCAACTCGTTGCCCACGCAGTTCAGTCTCATG
TGCTAAAACTATGTTTTAACGTGAAATATTTCATTTCAGGCTGAAACCATTTTTTGTTTT
AACCAACACGAACCCTAACTTAAAATATGCCCATCACTCCACCCTTAAACATCATCTCTC
CTAAACTCTACCCCAATGAACAATGGAACGAAAGCGAAGCACTCGGTGCCATCACTTGGC
TATGGTATCAGTCGCCTACGCATCGCCAAGTACCTATTGTGGAGATGATGACGTATATAT
TGCCTGTGTTAAAAAACGGGCAGTTCGCTTTGTTTTGCAAGGGTACCCAACCAATCGGTT
ATATCTCATGGGCTTATTTTGATGAAGTGGCGCAGGCGCATTATTTAGAATCTGACCGCC
ATTTGCGTGACAACAGCGATTGGAACTGTGGCGACAATATTTGGCTGATTCAATGGTTTG
CGCCATTGGGACACAGTCATCAAATGCGCTCAGCTGTGCGCCAGTTATTTCCTAGTACGA
CAGTACGCGCCTTGTATCATAAAGGGAGCGATAAGGGTTTGAGAATTTTAACTTTTAAAA
CTTGATGCAATCGTGTATTGAATGCCCATTGATGATTTTATTGATTTTGCGACCATGCCA
TGAAACTTCCTTTATCCTATTTGCCTAATATTCGCTTTTTGTCTTGGTGCTGCTTATTGG
CAGGTATCATTGCTCCTGCTACTTTGTTGGCCTCCCCCAACCCTGCCGAAATCCGTATGC
AGCAAGATATTCAGCAACGCCAACGCGAAGAGCAGTTGCGCCAAACCATGCAGCCTGAAA
GCGATGTGCGTTTGCATCAAAAAAACACGGGGGAAACGGTTAATCAGTTGATGGGCGATG
ACAGCAGCCAACCGTGTTTTGCCATTAACGAAGTGGTGTTGGAAGGCGAACACCATGCTC
GGTTTCAGTTTGCCCTAAAACGTGCCTTGCGCGAAACGGGTTTTCAGGCTGGCAAGTGTC
TGCATGCGGGCAACATTAATCAAATCATGTCCTTAGCACAAAATGCTTTGATCGGCAGGG
GATATACCACGACCCGTATCTTGGCTGCGCCACAGGATTTGAATAGTGGCAAGCTTCAAT
TAACCCTGATACCGAGCTATCTGCGCTCCATACGAATCGATCGGTCTAACGATGATCAAA
CCCATGCAGGACGTATTGCAGCATTCCAGAACAAATTTCCCACCCGCTCGAACGATCTGT
TGAATCTGCGTGATTTGGAACAAGGACTGGAAAATCTCAAACGTCTCCCGACTGCGGAAG
CCGATCTCCAAATCGTTCCCGTAGAGGGAGAACCAAACCAAAGTGATGTCGTGGTGCAAT
GGCGGCAACGTCTGCTGCCCTACCGTGTGAGTGTGGGGATGGATAATTCGGGTAGTGAGG
CGACAGGAAAATACCAAGGAAATATCACTTTCTCTGCCGACAATCCTTTGGGACTGAGTG
ATATGTTCTATGTAAATTATGGACGTTCGATTGGCGGTACGCCCGATGAGGAAAGTTTTG
ACGGCCATCGCAAAGAAGGCGGATCAAACAATTACGCCGTACATTATTCAGCCCCTTTCG
GTAAATGGACATGGGCATTCAATCACAATGGCTACCGTTACCATCAGGCAGTTTCCGGAT
TATCGGAAGTCTATGACTATAATGGAAAAAGTTACAATACTGATTTCGGCTTCAACCGCC
TGTTGTATCGTGATGCCAAACGCAAAACCTATCTCGGTGTAAAACTGTGGATGAGGGAAA
CAAAAAGTTACATTGATGATGCCGAACTGACTGTACAACGGCGTAAAACTGCGGGTTGGT
TGGCAGAACTTTCCCACAAAGAATATATCGGTCGCAGTACGGCAGATTTTAAGTTGAAAT
ATAAACGCGGCACCGGCATGAAAGATGCTCTGCGCGCGCCTGAAGAAGCCTTTGGCGAAG
GCACGTCACGTATGAAAATTTGGACGGCCATCGGCTGATGTAAATACTCCTTTTCAAATCG
GTAAACAGCTATTTGCCTATGACACATCCGTTCATGCACAATGGAACAAAACCCCGCTAA
CATCGCAAGACAAACTGGCTATCGGCGGACACCACACCGTACGTGGCTTCGACGGTGAAA
TGAGTTTGTCTGCCGAGCGGGGATGGTATTGGCGCAACGATTTGAGCTGGCAATTTAAAC
CAGGCCATCAGCTTTATCTTGGGGCTGATGTAGGACATGTTTCAGGACAATCCGCCAAAT
GGTTATCGGGCCAAACTCTAGTCGGCACAGCAATTGGGATACGCGGGCAGATAAAGCTTG
GCGGCAACCTGCATTACGATATATTTACCGGCCGCGCATTGAAAAAGCCCGAATTTTTCC
```

```
AATCAAGGAAATGGGCAAGCGGTTTTCAGGTAGGCTATACGTTTTAAAACGGCATAGTCA
AATCAACGGTAACTATAGATATAGCTTTTCATAATAAAACACCTATCATGATTATGGTAA
GAGATGGCTGTGTTTTGATATTAGATTGACACAGGAATTTAAGAAGGAATCATGAAATAC
ATGATTCCTTCTCGTTTGCCTACATTAAACATATAGGCCGCCAACTCAATCAATAGAGTG
ATTTACCAGTTTTCCAATCTTCCCAGTATATCTCCTACCGAATACGATTCTTCTAATTTC
TCGGTTTCAAACACCATAAGATGAAGTGATTTTCAGGGTGAAAGTAGACCGGCCATCTCT
GACAGCGGCAGCTACCGGAATGTAAACGGTAGACCTTCTTCATTTTCATCCGGGATAAAA
TGCCACTTCTGCGCCAACCATTCATTCTCACGCAATACATCCGAGTATTTAACAAGAACC
TGTTCTTTAGCTTGAACGATTGTATCTATCATAAAGGATGCATCTTCTCTTCCCAAATCG
CAATATTTCTCAGCAAAATCCAACAATGTATTCTTGGAAGGATATGTTTTCTTACCGTGG
TTAGTCAGGTTTAATGCCAGCGTATCGTCATAAGCATCAAAAATTCCTTGTGTTCCAACC
CTGTATATTGATGTATCCAATACATCATAGACAGGTGCAAGACGAACATCGTATTCGTCA
TGATAGAGTACTGAAAAATTTTTGAGGTGTGCATCGCCGTTTTTCAATATGCAACTGGCA
GCAAGCTGATTAAAGAAATGGATTAAATCTTCATCTGGTCTGCCGGATATCTGTCGGATA
ATCTGTGCAATAGCCGCATAACTGCCTTTATATTTATCTTCTACCGAATACTGGCGCAGA
CTGGTAAAGTCTTCCATCCCTAAAAAATAACCCTGTTCACTGACATCAAACCGACGTACC
AATAAGACTGATGAATCTTCCGACAGGCTGGTCTGTGCAACGGCAATGCCGGCTTGTTTG
ATGGTCTGCATGCATAAAAATTCATTGGCAGCCAAGCAAGGATATTCGGATGCATCAAAA
CCTTTGGCAATATATGAGGCAGTTTGCTTGGTATTTCTGCGGATGGCATCTAAGGACATC
TTCTGCTGTATCCCGGATACACTGACGAAACGGCCGTGATGGAAGATTTCTGCCATATAT
TGCTGAAAAACCTGTCGGGCATTTATGCCCAGCAAATCCCGTTCAGTCAATATTCTTGGA
TTTTTCATCTCCAACCCGTCAATCCATTCATTAAAAAGCGGGTCATTACAGCGCACATGT
ATCCGACCCAAAGTCTCTCTGCACAGAATTGCCAAGCGCAGCATCTCATTGTCTTCAAAA
GGCGCATCATGAAAAGCATATTTGCTTGTGATGTGTGCATCCAAAAAGCCTTCCGGAAAA
TACTGTGCAAAGATATGCGGCATATTGTTGCTGATATATACCTTGCTTCTGTCTTGATAA
TGCAGGCCCAGCAACGAAGAATTGGGATTGTCGTATGCGAACCGATACATGGCCCCCTTT
TCCAAAGTACCGATTCTTTCATCGTTTGCCCAAACATCCAAATAGGTGATTCTGGGTTTA
CGCATACGATTTCCGGATACGGTGAGGATAGACTTCATCATGAAAAATTCTTTCAAACGG
GAACAGCGGTACGTTTAGACACATCTGCTGATTTAATTGTACATGGCGTATTGCGGATGA
AATTCAGTAATACCGCTTCTCGTGCCTTTTATCTCGTTCGGTTAGCATTACATTATTGGG
TTTTTGCGTTTCCATAGCTGTAAATTCTCCCATTCTTGAGTATTCAAGTGCGGTTCGATT
TGGTTAAGTAAGTCATAAACTGATTGCTTGTCTTCATCGCTTGGAAACCAATCATCTAAA
ATCACCCGACCGATTGAGCCAGTTTGTAACACTGCTGTGTAAAGATAATCCACGCAAGCA
CGGGGGTGATCTGCGAGCCAAACTGGGATGTTTTCAGGGAAATAACCCATTTTGTTCAGT
CGATCCGTCCCATCAATAATGCCATTATCACCAAATAAATGATTGGTATTTCGCTCTTGA
TTTTCACCGTAAATATAAAATTTTTCAGGGTAAGCCCGATCACTCAATGCCTTTGCACTA
TGCCAGTCGCCTGTACCGTTAGGACTATGCACGTTTAAGGCTACAATACTGCTAACATAT
CGAACAGGTTCCGTTGGGGGGTATATGTAACATAAAGATTCCTTAAAATTTAGCAGAGCA
AAAGTGGTTTCCACGTTTTAGGACATATTTACAGGATAGTCACCCCAATAATGTAAGGC
TGTGTTTTAGTAATCTGTTGATTTCAATTACTTGCAAGGGAAAAGACAATTATTTTCCGG
TTAGGAATAAACCTATCCTGTTGAATACCTTAAAGCCAAACACGCCTATCAACATCATAT
TAAAACACAGCCAATAATTAAAAGTATCGAATTTTCTAACCCTGCTTGCTTGGAAAGCAA
AATTGCTACAATCTTGGTTAAATCAGCTACAAAGATCATTTGTAGAGCAAAAAGCAAGCA
GTCCGCAGCTTCTTTTTGAAGGTGCGGACTGTATTGATTTTGACTCGGTTAAAGCTGCAT
TCTGGGCTAGCAAACTATTTTTTTTCTAACCTTTCCAATAAATCCTGAGGAGCAACATAC
TCTAAAGCATTTCCTGATTTGAACGGCACTAGGAATCTATATTCTCCCAGTTTACTCAAA
TCGCTACGGGCAGTATTCAGGGAGATGCCGTATTGGTTGGCAATTTCTTGTGCAGTAAAG
ATTTTTCCGCTTTCTTCCACTGCTTTTGCAGGATACCAATTTGCCGTTGGTTCAACTTT
CCTATCTTTTCAGTATATTGGGCAATCGCTGCTTTGAATTCCTGTTGGTGTTTTGTTTG
TCGGAAATGTAGTGCTCCAAATCGGCAACCGCCCGCTTGATAATATCGCATTGGTAATAG
ATGAAATAGGTTAAATCTAAATCGTCAGTTTCCGCATACAAATAGGATTTGGCGTATTGG
GCAGGAGCGTTTTTCAGAAGACGGCTGATGGATATGTATTCAAATAGCCAGTAGCCGTTT
TTGAGCATAAACCAATAGAACAAAGCCCGCGCTGTCCGCCCGTTGCCATCACCAAATGGG
TGGATGTAGCCGATGAGGAAATGCAAGATAATAGCTTGGACAACCGGATGGATAAACGGA
TTTTCCACGCCGTCATAGGTATTATTGGCAAACGCACACACCTCTTCCATCAGCGTATGA
ACCTGTCCGTGCGGCGGTGGTTGATACAGGCTGTTACCATTGATATCGGCGATAAAGATT
TCGTCATCCTGCCTGAATTGTCCGGGCTCGGCCTTGTTTTCAATAGCGTTACTGGTAGCA
```

```
     ATGCGGTGCAAATCCAAAATCATTTCAACACTTAACGGCGTATTTTTCAATTCTACCGCT
     TTTTTCATCAAGTGATAGTTGTTCACTATCATGATTTCGTCTTTTGTTTTGGGTTTACGC
     TGCGATTTGAGCATATCCTTGGCCACTTTACGCGTGGTAGCCGCACCTTCCAGTTGGGCG
     GATGTAATCGCTTCTTCCATAATCAGAGACTTGAGCAAGAATCTGTTTTGCTCGCTTCTG
  5  CCGAAGCCACCCAAGCTAGACGTGCCGATAGAACTGCCGCAGCTTTTGTCAATCAAATGA
     AGCCGTGCCTGCAAAGAGTCGGGAATGCAGAACCAAAACTGATGTTCAAACGGGAAATCA
     ATTGGTTTTTGGATTTTTTTGCGGCTTTCCTTAACGGCGCGCCATTTCATCCGCGTATCT
     TCCGTGTGAATCCGGCGGAATTTGTCCCAATGCAGGTAGGTTCCATTTTCATCTGTCACG
     GAAAATTCTGAATAATCTTTGATTTCAGTAAGAAATCGGGAATGTCTATATCAGGATTG
 10  TTTGCGGAAGAATTCAGCAGCTTGGCAATTTGCGTCATTCTTTCAGTGAGATGCTGCATA
     TATTCCTGTTGCAACAGGGTAAATTCCGGAGGTCTGGAAATTTTCATGATAAATACCAAA
     ATCGCGCAATTTTTTATAATTGAGCTATTCTAGTCAATTTTTATAGAAATAGAAAGCATT
     AAAATACGAATCTGAAAGAAACGATCACCTTCATAAATAGGGAAAGATTGTGTCTACTAT
     ATTAAAAAAGGCTGTGTTTTAATATGGTGTTGATAGGCGTATTTGGCTTTAAGGTATTCA
 15  ACAGGATAGGTTTATTCCTAACCGGAAAATAATTGTCTTTTCCCTTGCAAATAATTGAAA
     TCAATAGATTACTAAAACACAGCCTAATGTAAAAACAAATTGGTACAAATGGCGAAGATA
     ACATTGGCTCAAACGTACCGAGCGGCTACGCATTGAATGGTAAAATACCTACCGCAAAT
     TGAAAGCTGCAAGACGACAGCTCTACTATACGTTCGCAAACAGAATTGCCGAACAAAGCC
     GGATAATCTGTATCAAAAAATTGAATCTGCTCAACCTACAGTGCATACAGATTAAAGTCA
 20  ACAAACTCCACCAGAAGATAGTTGCCTCATCCCTACTGCTGCATATGCTGAAAGAAGGTG
     CAGCTAAAAATGGAGTTCATATCGAAGAGATTAAAGCCAATGCTACCAGCCAATCATGTT
     ACTCTTGTGGTCGCTTGAACAAACGGATAGGTGTTGCTGCCACAAGAACCAATATGGTTT
     GTGAGAGTTTTGGTCGGCATTACGACACTGATGAAAATGCCTCCTCCAATATTCGAAAT
     AGGGAGCTGAAAAGCTAGGCACATAGAGTAGCAGTTGACCGTAAAATCATAAACGCTTCG
 25  GAATAAAAAGATGTAGTGATCGCATCCTTGCATTCCTTTTATGTTTTGTTGCTTTAGCA
     GTTTTACAGTTTAGCAACTGTACATTTTGGCATTTTTAACTTTTCATATACGAACCAACA
     TTTTTAAATACTGCAAATATTTTGTACAAAATATATTCATTATGCCTTTTTGATTTCTCA
     TCATTAATATCTCGTTTATATTAATATTGCAAATAATTTAAACAAATTTTAGGAAAGGAA
     ACTAATTGCGGTAATATCTAAAATCCAAAGAACTGCTTCTTTCTTTTTTACCTTCTTGCT
 30  GGTTTTATGCTTCAACAGTTGTACAGTTTTACTCCATGCAAACCAAACAACAAAAAAGA
     CCGACGAAGAAGTCTTCTGCTTAGAATTTAAAGAATACTGGAGTAGGGGACTCCCGTTTT
     CCGCGACATCATTTCCAAATAGACACGGGGTACGCTCAGCATTTCATCTGAACCATATCC
     ATCTTTTTCCCCAGTTTTAACCTTGTGAAACATCCAGTCCTTTTTCAAATCTTCAGACAG
     AAAAGAAATACTTTCCTGTTTGATTGACTTGAAGAGAACCATCCTACCATCACTCTTGTA
 35  AGAAAAGGCAGTATCTAATACCTATCTTCTAGAGTCGATATACTCCCTTGACGAAAAAAA
     TGATGATATTACGGATACCAAACTAAGGTCGTATCCGCCCCCCCCTACTCTCCCTAAGC
     AAAGAGATGAAACAGCGTATCGACTCCCTGCCGGTTGAATTTTCCGAAAAAACGCGACGT
     AACCAGCATCAACATATATAAGAACAGCACAAATAGCATCAATACATCAGGCAACGAAAA
     TGCAGAATAATGCACTTAATGGTGTTTGGATATCTGTTGTTTGTGCTGTTAGTAATTCT
 40  TCTTTCTGTGTTTACAGTTTAGCAGTTGTACAGTTTTATAGTAATGTTTAAACAATGACT
     GATTTATTTTAAATGCAGATATTGTAGAGGATAAAAATGGCCAAAGTCCTTTCAGTAACA
     TTTTTGATTTTTTAGCGAGCCTTCTCATTTCCCCAGCGAGATCGGCAATGGCAGCGGTAC
     TTTGGCCGCCGATATGCTTAAGTTCAGTAACCTTAGTGCGTAAATCCAGTAACCTTAAGT
     TACGTAAACCATTAGCTGGCAGGGTGTGAGTTCGATTTGAGCAAGCATTATTTTGTCTCC
 45  TGTTGTACGGTTTCAGACGGCATCGGTTTGCCACGTTTGTACCAAGTGGCGCGGGAAATG
     CCGAGACTCTCCCACGGTTTATCGCAGCTGCAATTTTAAACTCCTAAAATAAGTTTGCCT
     TTTTTGTACTAATTACTGCTTGGATAGTTTAGATTAGACTTAAGTAAATTTCGAGTGAGT
     TGTTTCACACCCTACCCGAAGCTCTAAAACGCACAGAAATCGCCGCAGCGCGCCAAAAAC
     TGACAGAGCTGCGGCGGATGTTGGTGAGTAAAGGAGGTTAATTTAATTTCAGGTTAGGAC
 50  TTTCCAATTCAAATTTCTGTTTTTCCAGAACCTGATTGATTTGCTCATCAGACAATCCAG
     CTTCTGTTAGGGATATACGAAGTTGTTCAACACGTTGAAGGAAAGCCTGTTTGGCTTGAT
     ACACACCATCAGCGATAAATTGTGCGTTCAAATCACTTTCAAGGCGGTAAAACTTAATGT
     TTGAAATACAGGAGTAAAACCAATCAAACCGAGCGGTCAGTTCCTGAATGGCTATTGTTC
     CGTGTGCTTCACTGATGCCTTCACGGCCTAGATAAACACTGCCCTGAATGTTCTCAAATC
 55  CATGTCTAGCCAAGATGGTTTTAATATCGGAGTAGGCATTGGTATAGTTATTTCCGTGGT
     AATTGTCTTTCAGGCAGTTGGTATCCATATCAAAGGTAATCAGGTAACGGCTCATTATTT
     TTCTCCTGTTGCGTTTCAGACAGCATCGGTTTCCCGCGATAGTACCAAGTGCGGCGGCTG
```

```
ATAACGAGCTTTTCCCACGGTTTATCGCGGCTGATAGTGTTTTCGGCGAGGTAGTCGGCA
CGTGTTTGAGACCACCAGCGAGTGATTGTGCTTTCAGCTACAATAATTTTGCTGCTTGCC
CTATGTTTAAAAATCTATCCATATTGGATAGTTTAGATTAGACTTAAGTAGATTTCAAGT
GAGCTGTTTAACCCTTAGCTAGCAAGGGTTTTGGTGGCGTAAGGTTACTGAACTTAAGCA
TATCGGCGGCCAAAGTACCGCTGCCATTGCCGATCTCGCCGGGGAAATGAGAAGGCTCGC
TAAAAAATCAAAAATGTTACTGAAAGGACTTTGGCCATTTTTATCCTCTACAATATCTGC
ATTTAAAATAAATCAGTCATTGTTTAAACATTACTGTAAAACTGTACAACTGCTAAACTG
TAAACACAGAAAGAAGAATTACTAACAGCACAAAACAACAGATATCCAAACACCATTAAG
TGCATTATTCTGCATTTTCGTTGCCTGATGTATTGATGCTATTTGTGCTGTTCTTATATA
TGTTGATGCTGGTTACGTCGCGTTTTTTCGGAAAATTCAACCGGCAGGGAGCCGATACGC
TGTTTCATCTCTTTGCTTAGGGAGAGTAGGGGGGCGGATACGACCTTAGTTTTGGTATCC
GTAATATCATCATTTTTTTCGTCAAGGGAATATACACGGAGGATGATTCAAAACCGGCAG
GCAAAAAAAGACCGCTTCTGAACTGCATCCCAAAAGTTGGACACCTTACCGACTTTAGGG
GGTGCAGTTTTTTATGGCAAAATATTCAGATGAATTCCGACTTGCCGTCGTTCAATACTA
TTTGGCAGGGAACAGCAGACCATCTTTCTATTTCCGATTCATTGGTACGCAGATGGGTGA
CAAAATACAGATTACACGGAGAGAGTGGCATCAAACGTAGAAAGCATACGACAAAATATT
CGGTCGAATACAAACTTGAGGCAATCCGCCTGGTGGCGGGGTAGGGAATGTCCCAAAAAG
CTGCCGCAGACCAACTGAATTTGCCCGACTGCTCCATCTTGCTGCAATGGTTGCGCCTCT
ACCATTTGAATGGTATTAACGGTTTAAAGCCCAAACCCTAAACCCAAAGGAAGAAAGCCC
GTGAAAAAACAGCATCCGCCGGAAACGAAAAAGCCGACTATCTGAAAACCAAGGAAGAAC
TGCTTGCGGAATTGGCTTGCCTTAAAGCGGAAATGGCTGCCCTAAAAAAAGCTCGATGCCT
TAATCTATGGGAAAGAAGTGCGGTAGAAAGAACGCAACTCGTCGCAGGGTTAAGGCAATG
CCATCCGTTGAACTGCTGTTGGTGATTGTCGGACTGCCACGCGGCACCTTCTATTACCAA
TTGGTTGTCCAATCGGCAGAAGACAAATATGCCGATTTGAAACGGCATATCCATGATATT
TATCAAAAGCAGTTGAAAGACAACGGTCTGGTTCAGAGTATGTCCCGCAAGGGAAACTGC
TTGGACAATGCGGCAATGGAAAGTTTCTTCGGAACGTTGAAATCGGAATGTTTCCATACG
TGCAAATATGATTCCGTTACCGAATTGGAAGCTGTACTGCACGAATATATCCGTTACTAC
AACAACGATAGAATCAAGTTGAAATTAAAAGGACTGAGCCCTGTTCAGTACAGAATTCAG
TCCCTGAAAGCCGCTTGATTAAACTGTCCAACTTTTGGGGGTCAGTTAATATCGGTTCCA
CCAATAGTCGTCAGGGTTGTAGTTGGGGGTCTGCCTGTATGCCTATGCCGATAAGCTGAG
CACCTTTGAGGGTGGTATCCCCGCCGCTTCGGATGGTGGTTTGTCCGGCCGTACTGCCGA
CATGGGTGTGGCGGTGGGTTGCTTTTGTCTGATTGCTGTGGTGGCTTGTTGAAAAAAAGA
TAGTGTATTTCACGGTCAAATAACTTTACATTTCTTGAAGTTGCAAGAATGCGCACCCCG
ACTTTTCGGGATGTTTGTTTCGTTTTGAATGGATTTGATGTTTTAATTTATACTTTATT
TTCAATAAATTGAAAATCACCGGCGAAAGCCCAGTTTAATTTTTTATTTATATCTTTCCA
CTTGGAAATCTTGGCCGTTTTGCAAAATCGTAAACGCTATTACCGCCAGTTTCCGCATGA
TGGCAATTAATATCAATTTTATATGCTTCCCTTTATTTTTCAGACGCCCTACAAATTCAG
GGAAGGCATTACAACGATATGCAACAAGTGCAGGCATATAAAGGCTTTTCCTTATTTCCG
AACTTCCTATTTTTGATATTCTGCTTTTTCCGTTCACGCTTGTTCCTGATTGAAATTTTC
TAGGGTCTAGGCCTAGATAAGCCGTGAACTGTCTTGCATTTTTAAATTCATGTCTTTTAT
AGGTTGATAGCAATACTGCTGTCGCTTGCTCGCCTATGCCTGTTATTGTTTTCAGCCTTT
TGCGTAGATTGTTATAACTTGGATTGTCTTTGTAGAACTGGAGTAATTGCTTTTTGACTA
TCTGTATTTGTGCTGTCAGGTTTGAAATAGTTGTTTGAATATGGGATTTGATATAGTCGG
GTGCTTCGTGTTGTTTAGCTTTTTCTGTTGCGCGTTGCTGTTTCAGATAGTCTAAATATC
GGGCGATTTCCTGTAATTGCTTCTGTTCTTTTGTCGGCGGTTTCCATGCTTTTAATTTGT
GCTTTCGGTCTTGGCAATATTGGGCTATCAACTTTGCGTCTTGTGTATCTGTTTTTGATC
GTTGTAGTTCTGCTATCGCATATCCTTTATCTTTCGTGGATTCTCTACGGTAATTGTAT
ATCTTGAATAAAGATATTCGGCTAATGCTTCGTAATATGTGCCTGTTGCTTCGCACACGC
AATGGAGCTTATCGTTTACTTTATGACTTTGTAGCCAATTTATTAATTGTTCAAATCCTC
CTTTGTTGTTCTGAAACTTCTTTTGATAATTTTGACCGTCTACAATCAAACAGCAATCTA
TTGTGAGCTTTGAAACGTCTATTCCTAAGTACATGGTTTAACCTTATTAATTCGGGCTTT
TTGCCCTAGATAGTGTTCAAACTTAAGATGTACGAAAGCCCACGCTTCTATCTTTCTTAC
AAGCTGTACGCTTTGGCCGTACTTTCGAAGTCGTGGGCTTTACTTGGTGTTTCGTCAAAC
GCCAAGCCCTCAATGGGCTGATTTACTCATTCGAAGCTTGAAGCTTATCGCCTTTGCCGT
ATCTGATTTTATTGGGGTCGCAGGTTTTGGTAAAGGTTTCTGTTGCGACCCGAATGTCTG
ATTTTTTTTGGGCGTATCTCAGTCTGGAATCACTCCGTTCGGGGGTTTCCGGTATTGAAA
AACAGTTCATAAAAAAGGAAAAGGGGGTATTCATAAAGATTGGGTAAAAAGCGCGCCCAA
```

```
TCTTTACAAAGCTTCCCCCTTTTCCTTTTTTCTGCCCTATTTTCCTGCACCTACAACCCC
CGAACGAAGCGATTCCAGACTGAGACACTTTAAAAAAAACAGCCATTCTAGCAATTAACC
CCCTTCACTCAGCTCAAGCCATCCTGAGGGGTAGGGATTGAACTTTCTGCTTTACGACTC
CGCCGCCAATTCCTTCAAACGGTTTTCCGCGCTCTTCAGTTGTCGTACATGAGATTTTGC
TACGGCTTTCCGCCCATTACGAGAACTTGCGGCTTGTCCGCTTTCGCGGACTGTTCCACC
TGTTCCGTCCTTTGCTGTTCGTCCTTATAAGGATTGAAAGGCAACCCGTTTTTCACATAT
TCTTTACACATTATCTTTGTTATTTCTTTCAAGGGTGTTCCTTGATTTGAATAGCATGTG
CAATCTGATTTTCCGCCGTCTATACATCCGGCGATTTGCTCAAAGGTTTTTACTTGTCGG
ACTGTGTTATAAATAGGCTTGCTTTCGGGCTTTTCGGGTAAAGTCGGCACAAAGTCTTCA
GGTTTCAAATTGTCTGAATTTTTTAAAGGCATTTCCTCTGATGATGCAGGCTGCTCCGTC
ATCGTCTGCACAACGCTTTCTTTTTGCGCTTCCTGCTCAATCCGGCTGTCTGTGGCTTTG
CTGTAAACTTTAAAAATGCCGTAACTTTTCCAGCCTACAAACCCTACAATCGCAATCAAC
GCCCAAACCGCCCAAGGTACTTTTTTCTTGAACTTTTGGTGCTGGCTTGCTGATTTATAG
TATTTAAAGGCTTCTTTCGGCGGTTTCCAACTTGCGACTTCTACGCCGCTTACGCCTGCG
GGATTGTCCAACGAGGTTACGCATTTATACCAATAATACTGTTTCATTCCGATTGCCTTG
CGTTCAAGGTGTACATGCTTTGAAACAAGGTTGCGGACGAATATATCAAGTTGGCTCGGG
TGCTGCGTCATCAAAATAACGGTATGCCCGTGATGGCGGAGTTCTGTCAGTTCCTGAATA
TAAGGCGGAACGGGACGGCCTGCCGCGCGTACCGGATAAGTGTAGTGCGCTTCGTCAACA
ATCAGCACTGCGCCTTCCGGTATGACATCACGAAGCGGGGCGGACATGATTTGCTCTTCC
GTCAGTTCGTGGGCTTTAAACTGCCGTTTATCCAATCCGTCGATATGGCAGAAATAAAGC
GGTCTGTCTACCTCTGTGCCGTCTTCCAATTTCATTTTGAACAATCCGTCTTCGTTGTTC
AAAATCATAGAGACGACGCGGGAGGTTTTGCCTGTCCCCATGTTTCCTGTAAACAGATAA
ATCATGCTTCTACCTCATCCTGGAAAGACAAACGTCAGTTTTTGAATGCGTGCATACCA
ATGAAGAACGAGAATGCGCCGAACAGGTAGCCCAACCCCTGACCGAATCCCGAAATTAAA
AGAAGGTTCAGTATGTCGGAAGGCATGGAATTGATCGCATTTGACGTGTAGTCTTTGAAC
TTTTCCAGCGCGATGAGATACCCGGCATAGGTTACAAATGTCAGACCTGTTGCAAGGATT
ATTCTGACAATCAGCATTTTCAGAAGTATGCCTAAAAGTGGAATCAGACCGGCAAGTAAT
GGCATTTATTTCCCCTTCAACGAACCGAAAACGACAAAAGCCGACATAATGATAAAGGCG
AGCAGTACGGCAAAACGGATTTTTTCGGCAAACACGCATAACGGCTCATAGCTTGCCTGA
TATTGCCTACCGAAAACATGAAAGGTTTTCGGCTGCGGACATACGCCGTTAGACGGTAAA
AAGTTATGTGAAGACCATGTTTTATCGTCTATAACCTGCGGTATGCTTATATCGTGAAAC
ATGCCGTCTGAAGGTTTGCCCATCTCCTGACAGGCTAGGATTTCCGGAAAATAATCGCAC
AAAAGCCCGCCGTCTTCGCCTTCTTTCCTTTCTTTGCGATGCCTACCGTTTGGGCGGTCC
GGAACGGCGGGGGAATCGGGTCTTGTGCCGGGCTGTCCGTCCGTATCGGGATTTGCATCG
GGATTCAAATCGGGGTCGGGTTCGGGATTGGGGCTCGTGCCGGGGTTCTCATTGGGGTTC
GGGTTGTTTGCGGGGTTTTCGGCGGGCGATACTTCGGGCAGCGGCTGTGCGTTCGGTGCT
TCCGCGCTTCCGGGGGTCAAGTCGGGACGCGGGATTACTTGAACATCCACCGTGGTGTTG
CCTTGCGAATCCCTGCCGAATGTTGCGACAACCTGAACGGGATTCCCGTTCCTGTCCGTG
ACGGGACCCATATTCACTTTTGTTCCGGGTGCGACTTCTACTTTTCGGAATAACCGGGA
TAACCGGTTGCCTTTATGTATTTGTCGGGATTGGCATCGACTTTCAACGATAAAATCTCT
TCCAGCTTTTTGGCATCCATTTCTTCTTTGTATTTTGAATTGCGAATAAGGGAAAAATCA
GCCCCATTTCTGAAATCATCACCTTTATTGACCAAACAATCTCCGCCATTCCAATTAAAT
GTGCAACGATTTAAAACAAAATTATTCCAATCCAAAGAACTTAATTTATTCAGTTCTTCT
TTATGCCAATTCCAAAACGGACGTGCCAGCCTATACATTTGGCTTTCCATCAATTCTTTG
ACTTCGGGGAATCTGCTGTCATCGGACATAAGGCGCATAATCGAACTGTCAACGCCGTAG
CAGCCATAGGTTCTATTAATACGTCTTTTGTCTTCGTACCAAAGGCAATTACTATATTCG
TAGCCTTTTACAAATTTGTCGGTTTCGGGGTCGTATTGGTAGCCTTGTGCCTGTATGTCT
TCTTTGAAAGTTTCGTATACGTCATGGGCTAAAAGGGCTGTTCCGACATAAGGAACTGCC
CTTGTGCTTAATTTCGCGCCTAAGCGGGCAAGTTTGCCGACTCCTGACAAGACGGCGGCG
CGGGAAACTGATGCAGTTACTTTAACGGGGACTTTTTCAAGAGAGCGTGCGCCTGTTGAA
CTTTCTAATACATTCAAATTCAAACTTTTATCAAATTTGTAATTATATTCTGTATGAATT
CCTCCTCCCTCACCTAAAACTTTGTATGCCTTAAATCCATTATCGTTATATTTTTCCGAA
AGTGCATACATCAATTTCCCATTTTTAATTTCTAAATCTGCTGAAAAAGATTTAGCACTC
AAAAGAAACAGAAAGAAATTATTAGAATCCGAAACATCAATTTTTCCATTGCCAATAAT
GAAAAATGAATCATCCTTGAATTTAATTTCAAAGCAAGATTCATTAAAATTAATTCTATT
AAAAAAATTATGACATTTATCCATTGAGAAATTTTTCAATAGACCAGTTTCTTTCAAATA
ACAATAAAACACATAAGAAAGAGGCCTATCAGGATAAGATTCTGACAATTTATCTAAATC
```

```
AGAATTTGATATATAGAAAAAGTCACGTTCATTTTTATTCATGGTTTCAAGCCTCAAATG
TCTAATTAAAAGCCTGATTTTGACACCATAACTTCATGCGCTCAATTCTTAAACAGAACC
GCCCCGATTAATACGGGTACGGAAACGCCGAGATAAAAATAAAAATCCATCATTTCAAAA
CCTTTTTCAGCAGGGAAACAAAGTAAACGGACGCGAGGATGCCGAATACTATCCAGCCTG
TTTCAAGACCGCTTTGCAGGTTGTCTTTCGGACTGCATTCCGCCAATAAAAGCCTTAGCG
GCTGACCGTCCGACATCTTCCACAGGCTGCCGTTATATTCCGGCCTGACAATCTGTCCGT
TTTCTTTGATTCTTGGTACTACCAAGCTGAAATAAAGGTTTTCAGCCTGGTGCTTCTCAA
GACATTTATTTCCGACTTGGTAGTACATGCCGTCTTACTTCATCACTCTCTTAACGATGG
AAAATACAAAAGCGCGGCGAAAATGCCCACTACAATCCAACCGGCTTCCATACCGTCCG
CTTTTGCGGCTTCCAAAGCGTTTTTTGCCGTATCGGGCAACGTTGCATTTGCATGTGCGG
CCAAAGCCAGGGGAGCAGCTGTTACAACAGCCAGTTTTGCGCCGTATTTACGGCAGGTGT
TAATAAATTTCATGATATTTTCCTTCAAAAAGTGTTTGGCGGTAATGGATGGAGCGTTTT
TCAGACGACCGCCGAACATCCGAAAATCAGTCTTTCAAAAATCCGAATACGACAAATTCG
TATTGGTTGCCGATTTCTTCCAAACCTGCGTTAATCGCTTCTTCGAAGTCGTAGAAATAA
TCGGCATTGGTGATTAATTTGGTATGTCCGATGTCGCCCGTTTCAGGAGAGAGATACAGA
AAGTCCCCTGTTGATACGGACTGGACAACATAGACTTTCTGCATTCAATCAGCCTTTCTT
CACGAGTTGAAAACCGATGACTTTCAGTTTTTGGGTTTTGCCCGTAGTGACGATTTCTAC
GTTCAGGTTTGCTTCGATCGGAAATTGGGCGTTTCGGAACTGCTCGAAATTGGCAGAGCC
GCCGAAATCGTATTCAGTAGTAGAGCTGCCCAATGCGTTGCCTTGGGAGCTGTCTAAGGG
TGTGGCGACAATCAGGCAGCAATAGTCGAAGCTCTTGCCTTCGATTTGTCCGTTGATTTT
TTTAACGCCGACGATGTGGCCTTGAAGTTGGATGTTCATTTTTTGGTTTCCTTGTGTGAT
TAAACGTCTTTCGGGCAGACACTTTAAGCCCATGAAATCGGTAGTCTTGCGAATTTGTCG
TAAATGAAGTTGTTATAGCTTTCTTCATTGTTGACGTGTTTTTGCTGTTCAAGCTGTTTT
TCAAGATTCTCGTAATATTCGTACATATAGTAAGGGTCTTTGTACGGTTTGAATGCGGGC
TGTTCATGAATGGCTTGAGCTTTCAAAAAGGCGCAGTCGTAGGCTTCGGGAGCCAAAGAC
TTGGGCAGCTTGTGATGACTCGGCTCAATCAGTTCAAACAGTTTGGCTTTGTCCAATTCG
GGAAAAATGAATTTCAGACCGTTTGCCGCACGTCCGAACTGTTTTTTTACCCATTCAAGG
TAGCGGTCGGCTGAAATGACCTTATCTTCCTTAACCGCGTGTATGCGCGTTGCCTTTTGG
GCGAATCGTTCGCAAATCGGATATGCGCCGCCGAAATATTCGCCCGGATTCTGCAAAACT
TCGAAAGGGATAACGATGTCTTTTGCTTTGAATTCAATTTCAAATCGCGTCCATGTGCTT
GTTTTATCGCCCAACTGCTTGCCTTTTTCATAGACGCGGACATATTTGGACGATTCACGG
GAGCCGATACCATAGGTCTTGCCTTTGGTCATTTTGGCTTCATCGTCTTCTTCCCAATCT
GACCCCAAACATTCGCCTTTTGGTTTGACGTGATGACAGGTAAACATACCTTTATTTCGG
TCTTCACGGGCTTGGTTCGGGCTGTATTCGCCGTTGAAAAAGTCTTTTGCGATGTCAACG
CGTGTGATTTTTGGGCGGATTGCATTAGTCAGGAATGCGAAAAGTCGTGATTCCCAGCCT
TCTTTTGCGACGCCGCAACCGGTGCCGGTCAGTTCGAAAAGAATGGTATTTTGTTGGCCG
CCAAAATGGACGCGACCGTATAGGGCGTCTTCCGAACCCATCAACCACAGCGCTCATAG
AAACGACCGCCCGAACCTTTGGATTCTTTGTAGATACCGAAACCGAAACTTCTTCGGCG
AGCATGGACGCGGCGCGAATAAAATCTTCGTCTTCCAAAAGACTTACACGAACGCCGTAT
TTATCGAAAAAGGTTTTTCATGAAATGAAAAGCTAATTTGATCAATGAAAGCCGAATCT
GATACACCGCGCCGAAGAGGAACGCCTAACAGGTTTCCTTTACCGTCCGTTATGTACGTT
TCGTAACATTCGAAGACTTCCTGAACCCTGCCTGCCGTTTCGGTTTCTGTCCCCCCCTGT
TAGATAAGGGGGGAAGATTTGAAGCGGTTGTCGGCTTCCTGCCGTCCGCTAGCGCGTCCG
TCATCACGCCGGCAACCGCCTTTGTCATCCCTTGCTTATCTTCCATGGTGCGAATCCTCA
AAAACGGGCAAAAAAAGCCCTGTTACTTGTAGAAAGTAAAGGACGTTAATTTTTGTTAA
TCGTCCCTTCTTAGGGACGCAATATATAAGGTTTATACCGTCGTTGTTCCTAATGCGCAA
TCAGCGACATTGTTGCCAATTATCCGAAAGAAAGTTAAGCCTGATGGCATTGTATACACG
GATACCTTTCGTAGTTATGATGTGCTTGATATTAGTGAATTTAGCCATTTACGTAAGTTT
AACGGCATTCCCAAAGAGCATTTGGGGCTGCATTTAAAGAAATGCCAATGGCATTTTAAA
TAGAATCTCAAATTCAGATTTTAAGACAATTAGTTAATGGGAATTTGGTCTGGTTATCTA
GTACAGCCCCAAGTTTTTATATAAAAACAGTTTGGTAAGTTCTCTTCGTGAAGTGCTTAT
GTTTTGCCACAAAAGTTCCATAATCATGGCGGCATCACCCAAGCTCCATCTTTCCAAGAA
AATGGCATCTTTGTTGTGGTTGAAAACCGACAAACTCCTCTTTTTTCGATTTGGCCCTGC
CTGAATCGATGGCTTCCCGTGCGGCAGATATGCCGTCTGAAAGCGAAGCAGCGACATTTC
CGGCATACAGGGCGGCGGCGGTGTTGAGCAATACGATATCGCGCGCAGCCCCTTCTCTTC
CTTCCAGCACCTCATTCATTTTCAACAAAGATTCCTGAGTATTGGCAACTTTGATTTCAT
CCAAATTGCGGCGGGTTTCGATACCGAAATCTTCTGGGCGGATGTCGTATTCGCTGATTT
```

```
      TTCCGTCTTTGAGCTCGGCAACGCGTGTTTTGCCCGTCAGTGTAATTTCATCCAAACCGC
      CCTCCCCGCAAACAACCAAAACGTGTTTTGAACCAAGTTGTTGCAAGACCCGCGACAAAA
      TGCCGCACAAATCGGTGTGGAACACGCCCAAAAGCTGGTTCGGCGCGCCCGCAGGATTCG
      TTAACGGACCCAATATGTTGAAAATACTTCGGAAACCGAGCGAACGGCGTACAGGGGCGA
   5  CATGGCGCATGGCACTGTGGTGATTGGGCGCGAACATAAACCCGATGCCGGTCTGCCTGA
      TACTTTGGGCAACCTGTTCGGGGAGTCAGGTTGAGGTTTGCGCCCATCTGCTCCACCACGT
      CAGCCGCACCGCTGGAGGAAGAGACCGACCGGCCTCCGTGTTTGGCAACCTTCGCGCCTG
      CCGCTGCGGCAACAAACATCGAAGTCGTCGAAATATTGAAGGTTTTCGCGCCATCCCCGC
      CCGTACCGACGATATCGACCAGCCCTCTGCATTCTCCAGCGGCACTTTTGTCGCAAACT
   10 CGCGCATGACGGCTGCAGCTGCGGTAATTTCGGAAACGGTTTCAACCTTGATACGCAATC
      CTGTCAAAATGGCCGCTATCTGCTCCGGCAGAACCTGTCCTCTCATAATCTGACGCATCA
      AGTCGGTCATTTCATCGTAAAACAACTCGTTATTGCTGATTAATCGTTCGATGGCCTGTT
      GCGGTGTAATCATTTTTTGTCCTCCGTTCAATATTCGGACGAAAATGCCGTCTGAAGGGC
      TTCAGACGGCATCACGTCAGATTTTTTGCGGTTTGAAGTTTTGAAATTCGATTAAAAAAT
   15 TGTTTAACATATCATGTCCGTGCTCGGTCAAGAGGGCTTCGGGGTGGAACTGCACGCCCT
      CGACGGCATATTCCTTATGGCGCACACCCATAATCTCGCCGTCCTCAGTCCAAGCCGTTA
      CTTCCAAACATTCGGGCATCGTATTCCGATCGATAACGAGGCTGTGATAACGCGTACAGG
      TAACCGGATTGGGCAAACCCTTAAACATACCCTTGCCCGAATGGGACACGGGCGACACCT
      TACCGTGCATCAGCGTTTTGGCGCGGACTATCCTGCCGCCGAACGCCTCGCCTATCGTCT
   20 GATGCCCGAGGCACACGCCCATAATCGGCAGCCGGCCGGCGAAATGGCGCATCGCCGCCA
      CGGAAATCCCCGCTTCTTTGGGCGAACACGGGCCGGGGCCGATAACGAGATATTGCGGAT
      TCAATGCCTCGATTTCCTCCAACGTAATATCATCGTTGCGGCGCACGGCAACTTCCTGCC
      CCAATTCAGTGAAATACTGGACGATGTTGTAAGTAAAACTGTCGTAATTGTCGATAAACA
      AAAGCATTTTGTGATTAACCTATTGATTTATAATTTGTTTGTTATTAACTGCATTTCCGA
   25 TACCCCCATCCATACCCTCTTATATCTTAGCGTGCCCGATGCGCCCTCGTGAACCTGGCG
      CAGAGCCTCGCGTTCTGACAAGTACGC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 30>:

gnm_30

```
   30 CAAATCAGAGCCAGATACGCTTTCATAACAAATCTCCAATCGATAAAATAATATTCGGTT
      TTACAGAAATCAAAGTGCAACCGCCATTAACAAAACCTTGAAAAAGATTCCGCCGCGTTG
      CACAAACAGATGTTTCGGAGCGGCATTTTGCTACAAATTTCATTTGAAATCAAAGCCTGT
      TTGCAAGTTTACAATCGTTTACCCAAAAAAGGGCAATTTTACCCCGAACCTATTTCTTTA
      GTATTAGACCTATTATCCTTTACTTCTTAATATTAACGGATGTTTACACAAATTCCCGTA
   35 TACATTTTATGCGCCATGCCTTCTAACCAAGTTTGCCAATGCCTCCGCCAATTCGGGATG
      CCGTTTTTCCAACTTTGCCGCCGCCGAACCGAAACTCTCCAGCGCAGCCTTACTCAAATG
      CAGGGTATTGGTTTTCGGCGGTTTTTCCGGTTTCGGGACCAGCCTGACCGAAACAGAGCG
      TATCGAAGCATCAAGCCCTGCCAACTGCGGCAATACCGACGGTGCAATCATTTTCAAGCG
      CGATGCCGCCATATTGTTTGCCGCCAAAAGGACAAGCCTGCCGTCTTCGATACATGCCGT
   40 CTGAAAATGCGGGTGCAGGTTGGCAGGCAGCAGTTTTTTCACGGCGGCATCCAACCGCCG
      CCACTGTCCCGCCTGTTTCAAAAGTCCGGAAAGCAGCGCGTCCCGCCTGCCCAACTGTTC
      CAAATTCATAAAACATACACCCAAAAAGATTGAAATACCGCAAACGCGCCTTTATTTCAG
      ACGGCATTAGCACTTTGCACAAACGCTTGTGTTAAAATCGCGTTTTCGCCCACTATTATA
      TCAGGCGCAGGAATTATTCATGCTGACAAACATTGCCAAGAAATCTTCGGCAGCCGCAA
   45 CGACCGCTTGCTGAAACAATACCGTAAATCCGTTGCCAGAATCAACGCGCTCGAAGAACA
      GATGCAAGCCCTAAGCGATGCTGATCTGCAAGCCAAAACTGCCGAATTCAAACAACGCCT
      CGCCGACGGTCAGACTTTGGACGGCATTTTGCCCGAAGCCTTCGCCGTCTGCCGCGAAGC
      GTCCCGCCGCACCCTCGGTATGCGCCACTTCGACGTGCAGCTTATCGGCGGTATGGTGCT
      GCACGACGGCAAAATCGCCGAAATGCGTACCGGCGAAGGCAAAACCTTGGTCGCCACCCT
   50 CGCCGTCTATCTCAACGCGCTGGCCGGCAAAGGCGTACACGTCGTTACCGTCAACGACTA
      CCTCGCCTCACGCGATGCGGGCATTATGGAGCCGCTCTACAATTTCCTCGGCCTTACCGT
      GGGCGTGATTATTTCAGATATGCAGCCGTTCGACCGTCAAAACGCCTATGCCGCCGATAT
      CACCTACGGCACCAATAATGAATTCGGCTTCGACTACCTGCGCGACAATATGGTTACCGA
```

```
CCAATACGACAAAGTGCAGCGCGAATTGAATTTTGCCGTTGTCGATGAAGTGGATTCCAT
CTTGATTGACGAAGCGCGCACTCCGCTGATTATCTCCGGTCAGGCGGATGACAACATCCA
GTTGTACCAAATCATGAACACCGTTCCGCCCCACCTCGTCCGTCAAGAGACAGAAGAAGG
CGAAGGCGACTATTGGGTCGACGAAAAGGCACATCAGGTCATCCTGAGCGAAGCAGGTCA
CGAACACGCCGAGCAAATCCTGACCCAAATGGGATTGCTGGCAGAAAACGACTCCCTCTA
TTCCGCCGCCAATATCGCCCTGATGCACCACCTTATGGCGGCATTGCGCGCGCATTCCCT
CTTCCACAAAGACCAACATTACGTCATCCAAGACGGCGAAATCGTCATCGTGGACGAATT
CACCGGCCGGCTGATGTCCGGCCGCCGCTGGTCGGAGGGTCTGCATCAAGCCGTCGAAGC
CAAAGAAGGCGTGGAAATCAAACGCGAAACCAAACGCTTGCATCTATTACCTTCCAAAA
CTATTTCCGCCTGTACACCAAGCTCTCCGGCATGACCGGCACAGCCGATACCGAAGCCTT
CGAGTTCCAAAGCATCTACAACCTCGAAACCGTCATCATTCCGACCAACCGCCCCGTACA
GCGCAAAGACTTCAACGACCAGATTTTCCGTTCCGCCGAAGAAAAATTCGAAGCCGTCGT
TAAAGACATTGAGGAATGCCACAAACGCGGGCAGCCCGTCCTCGTCGGCACCACCAGCAT
TGAAAACTCCGAACTGGTATCCAAGCTGCTGACCCAAGCCGGACTGCCGCACAACGTCCT
CAACGCCAAAGAACACGAACGCGAAGCCCTGATTGTCGCCCAAGCCGGCAAAGTCGGCGC
GATTACCGTTGCCACCAATATGGCGGGACGCGGTACGGACATCGTTTTAGGCGGCAACCT
GAAGCACCAAACCGATGCCATCCGCGCCGACGAAACCTTGAGCGACGAAGAGAAACAGGC
ACAAATCGCCGCACTCGAAGACGGCTGGCAGGCGGAACACGACAAAGTGATGGAAGCAGG
CGGTTTGCACATCATCGGTACGGAACGCCACGAAAGCCGCCGCATCGACAACCAATTGCG
CGGACGTTCCGGCCGTCAGGGCGACCCCGGATCCAGCCGCTTCTATCTCTCCTTTGAAGA
CCCATTGCTGCGCGCTTATTCGCACTCGACCGCGCCGCCGCCATCCTCAACCGCCTCGCCCC
CGAACGCGGCGTCGCCATCGAACACAACCTGCTGACGCGCCAAATCGAAGGGGCGCAACG
CAAAGTCGAAGGCAGAAACTTCGATATGCGCAAACAGGTTTTGGAATACGACGACGTTGC
CAACGAACAGCGCAAAGTCATTTACAGCCAGCGCAACGAAATTCTGACCAGCAAAGACAT
CAGCGACCTGATGCAGGAAATCCGTTCTGATGTCGTCAGCGACCTCGTGGATACCTATAT
GCCGCCCGACAGCATGGAAGAACAATGGGACATCCCGACTTTGGAGAACCGTCTGGCTGC
CGAATTCAGACTGCACGAAGACATCCAATCCTGGCTGAAGGCGGACAATGCGATTGACGG
TCAAGACATCAAAGAACGCCTGATCGAACGCATCGAAAACGAATATGCCGCCAAAACCGA
ACTGGTCGGCAAGCAGGCAATGGCCGATTTCGAGCGCAACGTGATGTTGCAGGTCATCGA
CAACCAATGGCGCGAACACCTCGCCGCTATGGACTACCTGCGACAAGGCATACACCTGCG
CAGCTATGCCCAAAAAAATCCGAAGCAGGAATACAAACGTGAAGCCTTTACCATGTTCCA
AGACCTGTGGAACGGCATCAAATTCCATATTGCCTCCCTGCTTACCTCGGTTCAAATCGA
ACAAAACCCTGTCGCGGTGGTTGAAGAGCAACCCATCGGCAACATCCAGTCCATCCATTC
CGAATCGCCCGATATGGAAGAACTTTTGGGTCAGTCGCAAACCGATCTGGTTACCGAAGC
CTTTAATCCCGATGGGACAGATTTCAGCCCCGAAGCCTTGGAAGCGCGGGGGCAAATCGT
CCACCGCAACGACCCCTGCCCCTGCGGCAGCGGTTTGAAATACAAACAATGCCACGGCAA
ACTGGCTTAAGCGTTTGAACGCAAATGCCGTCTGAACATCCCGCTCCCGTTTCAGACGGC
ATTTTGCCTGAACCGCCACATCCGACTGCCATTCCGAAAAATCCCGATTTCGTACCGTCC
GTACCAAAAACAGACATCCCGTCCGCCCCACATCATGATTCCATCCGACTTCATTGACGA
GCTTTTAGCCAAAACCGATATTGTCGATATTATCGACGAGCAGGTTCCGCTGAAAAAAGG
CGGGGCGAACTATATGGCGTGTTGCCCGTTCCACAAGGAAAAAACGCCGTCGTTTTCGGT
CAGTCCAACCAAGCAGTTTTACCATTGTTTCAGTTGCGGGGCACACGGCTCAGCGATTGG
TTTTGTGATGGAACATCAGGGACTGTCGTTTCCGGAGGCGGTTCAGTTCCTTGCCGACCG
CGTGGGTATGGTCGTGCCGAAAGTGCACGGGCAAAACGATAATCCCGAAGTCCGTGCCGA
ACGTAAGAAAAAACAGCAGACACTGGAGGAAACGACGGCTGCGGCAGCTGATTTTTACGC
GCAACAGCTAAAATTCAATCCAGCGGCAAAAGCTTATTTGGACAAGCGCGGCTTGAGTGC
AGAAGTTATCGCGCATTATGGTTTGGGCTATGCGCCCGACGGCTGGCAGCCTTTGACGCA
AGTGTTCCAACCGTATCCTAATACCGCGTTAGTGGATACGGGGATGGTGATTGACAATGA
GGGACGGCATTACGACCGCTTCCGCCATCGGATTATGTTCCCCATCCGCAATCCGCGCGG
GCAGGTTATCGGTTTCGGCGGCAGGGTGCTGGACGACTCGAAGCCGAAATATTTAAATTC
TCCCGATACGCCTTTGTTCGATAAGGGGAAAAACCTTTACGGACTGTATGAAGGGCGTGC
CGCTGTCAAGGAAGCGGGGCGGATTTTGGTGGTCGAAGGCTATATGGACGTGGTCGCGCT
GGCACAGTTCGGCGTGGGCTACGGCGTGGCGGCTTTGGGTACGGCGACGACGGCGGAACA
CGTCAAAATCCTGATGCGTCAGGCAGACAGTATTTATTTCTGTTTCGACGGCGACAGCGC
GGGGCGAAAAGCGGCTTGGCGCGCGCTGGAAAACGCGCTGCCGCAGTTGAAGGACGACAA
ATCGCTGCATTTTTTGTTCCTGCCGGAAGAACACGACCCCGACAGCTACATCCGCGCCTA
CGGCAAAGCGCAATTTGAAGACGCGCTTCTGAATCAAAGCAAGCCTTTGTCGGAGTATTT
```

```
CTGGGAACACCTTTCAGACGGCATTCATCTCAATACGCAGGAAGGCAAGGCGGAATTGGT
AAAAACCAGTTCGCCGCTTTTGGCGCAGATTACCGCGCCGGCATTGGCTTATTTGTTAAA
ACAACGGCTTAGCGAGCTGGTCGGCATCGACCCCGACAACCTCGCGCAACTGCTAGGACA
GGAAGCGCCGAAGCGGCACGTCAAACAAAAAAACTACAAACTGCCTCCGATTTCCGTCAA
ACAGCCCGTCATGCTGACGCTGGTACAGCGGCAAATCCGCAGCCTCTTGATAAATCCGGA
TTGGGCTGCATATATAGACCTGCCCGATTATCTGGCGTTGGACGGTGATTTCGCCTGCCT
TGCCAATCTTGCCGAATCGATTAAAAACCATGCCGCCGTACCCGAAACCGCTCAGGTTTT
AGAGTATATGCGCGGCTCGCCTTACGAAGAAACGATAACCCGAATCTTCCATTCAACGCA
CCAATCGGAAGAAATGAACAGCAGCAGTGAAGAAGATTGCGAGAATTTCCAAATCGGCAT
GAAAAAACTGCTCAATGAGTTAAAATACAGCCAAATCGAAACATTAAAACAAAAAGCCT
GCAATCCGGCTTAAATGAAAGCGAGAAAAAACTTTTGCTGTCGCTGCTGACCGCAAAACA
AAATTGACCGGCGGATTCCGCCATCCGTAAACCGTTATGCCGTCTGAAAAGCATTCACCC
CGGCTGCAACAACGACACCTGCAGAACACCCATCCCCAAAAGCCTTCAGACGGCATCAGA
GTACCCTACTCTGCCACGCCTTCAGGTGCGTCCAAACGCAAACCGTCGGCATCTTACCAA
CAGAAAGCAGACAATGTCCAGAAACCAAAATCACGAAGAATATCAAGACGACACCCGTCC
GTTAAGCATTGAAGAGCAACGCGCGCGCCTGCGTCAGCTCATCATCATGGGTAAAGAACG
CGGCTACATCACCTACTCCGAAATCAACGACGCCCTGCCAGACGATATGTCTGATGCCGA
CCAAATAGACAATATCGTCAGCATGATTTCCGGTTTGGGCATCCAAGTTACCGAACACGC
CCCCGATGCGGAAGACATATTGTTAAGCGACAATGCCGCCGTTACCGACGATGATGCCGT
CGAAGAAGCCGAGGCCGCCCTTTCCAGTGCAGATTCCGAGTTCGGCAGAACCACCGACCC
CGTCCGTATGTATATGCGCGAAATGGGACAGGTCGACCTGCTGACCCGCGAAGACGAAAT
CATCATCGCAAAAAAAATTGAAAACGCCCTGAAAAATATGGTTCAGGCCATCTCCGCCTG
CCCGGGATCCATTGCTGAAATCTTAGAACTCATCGAAAAAAATCCGCAAAGACGAAATCCG
CGTCGACGAAGTCGTAGAAGCCATTATCGACCCGAATGAAGTATTGCTCAACGAATTGGG
CTTGGGGCACTTGGAAACCACAGCGCCCGAGAAACCTTCCAACGACAATTCGGACGAAAA
CGAAGACGACGAAGAATCGGAAGAAGATGCGGATGAAATCTCGGCAGCCAATCTCGCCGA
ATTGAAACAAAAAGTCATCGGCCACTTTGCCCAAATCGAAAAAGACTACAAAAAAATGAT
TGGCCGTTTGGAAAAACACCACAGCCGGCACAAAGACTATCTCGCCTACCGCGACGCGAT
TGCCAACAAACTGCTGGAAGTCCGTTTCGCCACCCGGCAAATCGACAGCCTCAGCAGCAG
CCTGCGCGGGAAAGTAGAAAACATCCGCAAACTCGAACGCGAAATCCGCGACATCTGCCT
CGACCGCGTCCATATGGAACGCGACTACTTCATCCAAAACTTCCTGCCCGAAATCACCAA
TCTAGAATGGATTGAAGAAGAAATCGCCAAAGGCAGGGTTTGGAGCGACGCGCTCGACCG
CTTCCGCCACGCCATCCTCGAAAAAACAAACCGAGTTGGCGGATATGGAAAAAGAAACCCG
CATTTCCATCGAAGAGTTGAAAGAAATCAACAAAAATATGGTGTCGAGCGAAAAAGAAAC
CGCAGCCGCCAAACAGGAAATGATTCAGGCAAACTTGCCGCCTCGTGATTTCCATCGCCAA
AAAATATACCAACCGGGGCTTACAATTCCTTGATCTGATTCAGGAAGGCAACATCGGTTT
GATGAAAGCGGTCGATAAGTTCGAATACCGCAGAGGCTATAAATTCTCCACCTACGCAAC
CTGGTGGATCCGCCAGGCAATTACACGCTCGATTGCCGATCAGGCGCGTACCATCCGCAT
TCCGGTACATATGATTGAAACCATCAACAAGATGAACCGCATCTCGCGCCAACACCTTCA
AGAAACCGGCGAAGAACCCGATTCCGCCAAACTTGCCGAACTGATGCAGATGCCCGAAGA
CAAAATCCGCAAAATCATGAAAATCGCCAAAGAGCCGATTTCGATGGAAACCCCCCATCGG
CGACGACGACGATTCGCACTTGGGCGACTTCATCGAAGATGCCAACAATGTTGCGCCGGC
CGATGCGGCAATGTACACCAGCCTGCACGAAGTAACCAAAGAAATCCTCGAAAGCCTGAC
ACCGCGTGAGGCAAAAGTCCTGCGTATGCGTTTCGGCATCGATATGAACACCGACCACAC
GCTGGAAGAAGTCGGCAGACAGTTTGACGTAACGCGCGAACGCATCCGACAAATCGAGGC
AAAAGCACTCCGCAAGCTGCGGCATCCGACAAGAAGCGACCGTTTGAGAAGTTTCTTGGA
CAGCGAAGACAGCAAGCTGTAAACCAAAAAACCGCAGGTTTCAAATACCTGCGGTTTTTT
CTTACACAATAAACAACGCTTCCACATATCCCACACTCCTATCCCGAGACCTTTGCAAAA
TTCCCCAAAATCCCCTAAATTCCCACCAAGACATTTAGGGGATTTTCCATGAGCACCTTC
TTTCAGCAAACCGCACAAGCCATGATTGCCAAACACATCGACCGTTTCCCACTATTGAAG
TTGGATCAGGTAATTGATTGGCAACCGATCGAACAGTACCTGAACCGTCAAAGAACCCGT
TACCTTCGAGACCACCGCGGCCGTCCCGCCTATCCCCTGCTGTCCATGTTCAAAGCCGTC
CTGCTCGGACAATGGCACAGCCTCTCCGATCCCGAACTCGAACACAGCCTCATCACCCGC
ATCGATTTCAACCTGTTTTGCCGTTTTGACGAACTGAGCATCCCCGATTACAGCACCTTA
TGCCGCTACCGCAACTGGCTGGCGCAAGACGACACCCTGTCCGAACTGTTGGAACTGATT
AACTGCCAACTGACCGAAAAAGGCTTAAAAGTAGAGAAAGCATCCGCCGCCGTCGTTGAT
GCCACCATTATTCAGACCGCTGGCAGCAAACAGCGTCAGGCCATAGAAGTCGATGAAGAA
```

GGACAAGTCAGCGGCCAAACCACACCGAGTAAGGACAGCGATGCCCGTTGGATCAAGAAA
AACGGCCTCTACAAACTCGGTTACAAACAACATACCCGTACCGATGCGGAAGGCTATATC
GAGAAACTGCACATTACCCCCGCCAATGCCCATGAGTGCAAACACCTGTCGCCGTTGTTG
GAAGGGTTACCCGAAGGTACGACCGTCTATGCCGACAAAGGCTATGACAGTGCGGAAAAC
CGGCAACATCTGGAAGAACATCAGTTGCAGGACGGCATTATGCGCAAAGCCTGCCGCAAC
CGCCCGCTGTCGGAAGTGCAAACCAAGCGTAACCGATATTTATCGAAGACCCGTTATGTG
GTCGAACAAAGCTTCGGTACGCTGCACCGTAAATTCCGCTACGCCCGGGCAGCCTATTTC
GGACTGATTAAAGTGAGTGTGCAAAGCCATCTGAAGGCGATGTGTTTGAACCTGTTGAAA
GCCGCCAACAGGCTAAGTGCGCCTGTTGCCGCCTAAAAGGCAGCACGGATGCCTGATTAT
CGGGTATCCGGGGAGGATTAAGGGGGCGTTTGGGTAGAATTAGGAGATATTTGGGGCGAA
AACAGCCGAAAACCTGTGTTTGGGTTTCGGCTGTCGGGAGGGAAAGGAATTTTGCAAAGG
TCTCATCCTGTTATTTTCACAAAAACAGAAAACCAAAAACAGCAACCTGAAATTCGTCAT
TCCCACGAAAGTGGGAATCCAGTGCGTTGAGTTTCAGCTATTTAGAATAAATTTTGAAAC
TCTAATCGCGTCATTCCCACGAAAGTGGGAATCCAGGACGCAAAATCTCAAGAAACCGTT
TTACCCGATAAGTTTCCGCACCGACAACTCTAGATTCTCGCCTGCGCGGGAATGACGAAT
CCATCCATACGGAAACCTGCATCCCGTCATTCCCACGAACCTGCATCCCGTCATTCCCAC
GAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTCCCGATAAATTGCCTTAGCATTGA
ATGTCTAGATTCCCGCCTGCGCGGGAATGACGGGATTTGAGATTGCGGCATTTATCAGGA
GCAACAGAAGCCGCTCTGCCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTC
AGTCATTCCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATG
ACGAATCCATCCATACGGAAACCTGCACCACGTCATTCCCACGAACCTACATTCCGTCAT
TCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTCCCGATAAATTGCCTTAG
CATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATCCGTACGGAAACCTG
CATCCCGTCATTCCCACGAACCTACATTCCGTCATTCCCACGAAAGTGGGAATCCAGTTT
TTTGAGTTTCAGTCATTTCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTG
CGCGGGAATGACGAATCCATCCGTACGAAAACCTGCACCACGTCATTCCCACGAAAGTGG
GAATCCAGTTGCTTGAGTTTCAGTCATTTCCGATAAATTGCCTTAGCATTGAATGTCTAG
ATTCCCGCCTGCGCGGGAATGACGAATTCATCCGTACGGAAACCTGCACCACGTCATTCC
CACGAACCTACATTCCGTCATTCCCACGAAAGTGGGAATCCAGTGCGTTGAGTTTCAGTC
ATTTCCAATAAATTGCCTTAGTATTGAATGTCTGGATTCCCGCCTGCGCGGGAATGACGA
ATTCATCCGTACGGAAACCTGCATCCCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTT
GAGTTTCAGTCATTCCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGC
GGGAATGACGGCGGAAATCTTGTTTATATTGAATCAAAAAAAACCTGCACCTTAATCAGT
TGGCGGTTTAGTCCGACTTTTGGGGTGCAGATCAAGCTTTCAGACGGTATTTCCTTTAAA
ACTTCATTTCGAGCGCGAGACTGAAGTTCCTGCCCGGTGCGGCATACCTTCCATAGTTGC
TGTCGCCGCCGTGCCGGTTTGCCGTGCTTTCCGCAGTCTGGCGCAAGGATTCCCAAGTAA
CGTAGCGGTAGTTGCCGATATTGTAGATAGCCGCCCTCAAGGTCAGCCGTTTTTTCAGAT
TCAGATAGGCGGAAACGTCTGCCGTCGACCAAGAAGACGACGCTCTTTTTGTCGAATATC
GTTTTTGATCGCCTGCCAGATAAGCAAGCTCGTCAGGGTTTTTCCCTTTGGAATAGGTCA
GCATAATGTTTGCGCCCCATTTCCCCTCAGGCTGGTCGTATCCGAACCCCAAAACATAAC
GCGACGGCTGTACCGCATCCAAAGCATAGCTGCGGAGGGACAGTCCCGGCCGGTTGGATA
CCGATTTCGGTTTGATGCGGTTGTACGCCAATGTGGTGTACAAACCTTCGGGCAGTTTGC
CATACACGCCGTTCCAGTCGATTTTTCCCAATATATTAACGCCTTGAAGCGACATATTTT
GGGCATTGTAATAATCGCGTATATCAATCTCTGTCAATTGTCCTGCCTGATTCGGCAATT
TGGTTTTGTGATCGGCAACGGCAATCATATCGGTATAACGGTTGCGGAAGCTGCTGATTT
CCAAAAAGCCGAAATCGCCCTTCCACTGCAAACCGATTTCCCGGTTGGCTGCCTTTTCCG
ATTTCAGGCGGGACGCTGCCAGCCTTTCGGATAATCGTGATAAATGTCTATCCCGAAAA
GTTCTTGGAATGAGGGCGTTCTGAAGCCGCTGGAGGCACGGTAAGACACGGAAAAATGCC
GGTTCGGTTTGAACAAGATGCCGCTGTTCCACGAACGGTCAACATACCGCCCGCTGCGGA
CGAGTTCTTCCGACGTGGTGAAGTTTTTCCGGTCGTACCTGCCGCCCAAGCTGAAATCGA
AATATTTGCCGATTGAAAAACGGTCGTTCAAAGAAATATGGATATTGCTGCCGTTGATTT
TTCTTGGCACGCATTTGCGGGAACGCAGGGTTTCGATGTAGCCGCAGACCGACCCTTCGA
CGACTTCGGGCTTACCCAAAAGATACTTATCTTGATTGTTTTCATCGAATCCCGTGGATT
CCGAAATCCTTGCCGCATTGTGGGAAAGCTGTTCGGGGCGGGAAATCGCTTTGGAAGCAT
CGTAACCGAAGCCCAAAGTCAGATGGTGTTTCGTCCATTTGTTTTTCAGCGATTTCTCAA
ACGAGGCATTCAAAACATTGTGCTGTTCGCGGTAGTGGAAACGGTCGCTGCTGTCGTAGG
AATACGGTTTGTCCGCCGACGCGCGGCAGGATTTGTCCACAGCAGGATACACGGCGCAAT

```
    TCAGCTTCAGCGTGTTGTTATCGGTTGCCACGCCCTGTTTGTCAAACGACAACACCGCCT
    TATCCGCCCAATTGTCAGAATACGCTTCGTTTTCATAACGATACAGCAAACCCATACGGC
    GGCGGCGGTGATGTTCGTCAATAAATTTGGTGCGGGAATATTTCAAACCTATGCCCCTGA
    CCAAATTTTTATCGCCCTTCCACTCTTCTATATTCGGCACAAAATACAAGCCGTCGCGGA
5   AATCGTCGCCGTCGTACACCCCGCTCTTGTCTCTAAACTTTTCCGCCTCGTCCGTACCGT
    AATACTGTTTTTCCGTCATATCGCGGATATCGTAACGCTGTTTGGTATCCTCAAACACGC
    CGCCGACATAATGCCTGCCGCCGAAGCGGTAGCCCAGCTTGGCAAGCCAAGAGCCGCTGC
    GGTAATCCATCGGATCGGGCAATATCCTGCCGCCGCCCGTGTAAGCTTGGGCGGACAGAT
    TTTCGTGGCGCGCCTGCGCCTCCCGCACCTGCGCCTCTTCTTCAGCACTTAAAGGCTGAT
10  TTTGTTCAATACGTTCTTTTACCCAGCGGTTGAGCTGGTTGTTCAAATATTTCCCGTAGC
    CCGCCAATTTTGCCACGGGCTTGGATTCACGCTCGCCCTCTACTGAGAAAAATGGCTCTC
    TTGTCTTGCGTTTAATATCGTATGTCTGACGGAACGCGTCCAAACGGTCTATGCCGTATT
    CCACCCCGTCCGCAATATCGCCGTGCGGGCGCGTTTCCCGCCCTTGGCGTTCGGTTCGGA
    TTAACAGCCCTTCCCAACCGTCTTTGCTGAACCCCGCGCCGAGCGACTTCATAAATTGGC
15  GGTTTTTACTGCCGTAGGCGGTTTTTGCCTGTATCCCCCAACTTTTGCCGTCTGAAATCA
    GGTCTGCCGCCTCTTTGGTGCGGAAGGCGACCGCGCCGCCGAGTGCGCCGCTGCCGTGAT
    CGGACGAACCGGCACCTTTGTCGATTTCCACCGTGCTGATGTTTTCATATTCGATTTCGT
    TGATTGCACCGCTGCCGCCGCGTCCGCCGTATCCGCTCAACGATCCCTGCACGGTAAACG
    CCTGTATTTGGGCAACACCGTCGACCGAAACCGCCACACGGTTTTTATCCACGCCGCGTA
20  TCGAGTAGCCGCCGCTCGCGCCGTTGCCCTGTTCGACAACCGCCACGCCCGGATCGTAGC
    GCGTCAGGTCGCGGATACCGAGTACCTGTTCTTTGTTCAACGTTTCCGACGTTTTGACGA
    TTTTGCCCAAACCGGTCGCCTCTTTCGATCGCCGTCCCACTTTGGCGGCACGGACGGTAA
    TCTCTTTCAGGGATTGGGTCTGCGCGGCATCAGGTGTCGCCCCCCCCGCTTGGGCAGCAT
    AAGCCGGAAAAGCGGTTGCAATGGCCAAGGCAGTCAGAGTCAGCGGAAAACCGTGTTTCT
25  TATTCATTTTTCCACCTCCTGCATATCTTTCTTCGCACCGAATACCACGCCGAATTGGTG
    TTTAACTTCAGATTCTAACTGTTTGCCAACATCAACTTCAGCATCAACTTCAGCTTCAAC
    ATCAACTTTATTTTCAGTACCTTCAGTTATACCAAGAGATTTCCCATCATTATTGAAAAT
    AATACCGCCCAATTCCTCCGCCTGCGGGCCGTAAAATCCCCCTTCTACACGAAGATTACT
    AGCTTGGAAGGTTTTGGGGTCGGTCGAACCATTTCCCGAAAGATTGATGCCGTTCTCCCG
30  AGTGCGTGCTGTCGCGTAGAAACCGTTGCCCTCAATCTTGCCGTTTTCAATATGGAAAGC
    AGGTTCTACACCGTTTTCCTCCGTCAGCGTTCCGGAAATCGATTTCTTGCCGAAATCAAC
    GGTAAATACTGCTTTTGCCGCTTCTTTATCCGCCTGATTGTCCCATTGAATGGGTTTGCC
    GATACGCGCTTCCCAAGTGCCGGTATAGTGTGCTTCTCCAGTTTTCGGAATATCCGTTTC
    CGCCGTGCGGATACCTTTCAGGAAAAGGTCGATGTTCCTGCCTTTAGGGGCTTCCGGAGC
35  GGGCAGGATGCCGTCTGAACCGCTGCCGCCTTCTTCGTCGGCGATTCTTCTTCGGGTTC
    TTCAGCTTCATCTTCACCTTCTACGGCTTCGTCTTCTTCGCTGCCTTCGTCTTTTACGGC
    TGCGTCTTCGGTGCCTTCTTCATCGTCGATTTCGTCTTCGCCTTCTTCGACGCTATCAAC
    GCCTGTATCCTCTTCGTCCCTCTCTTCGTCCTGCGCCTTCGGTTTGGCGGCGGGACGTTC
    GGTTTGCATCCGTCCGATTTTCACATAGGTCAGAAAATCGCAGCAGGTTCGGATTGTCGT
40  TTTCCTACCATCGGCAAGCTCGATGGTTTGTTCTTTGTTTACCAAAGGAATTTCACGCCC
    TTCGACAAGAAGTTTGTCGGGATGACCAAAATCGGGCATAGAGGAAATGGCAAACTCACG
    GGGATTTTTATCACTTGCCTCGTCAACGGAAATTTTCAGAGAATCCAAGATTTTGGTGTG
    TTTTCCAGACGACAGGGCAGGTTTTGTATCTGCTGCGTTTTCTGTCTCTGTTTTTTGTTT
    GCCTGCGAATACGCCGAATACGCTGTTGTCGTTGCTGATAAACCGTCCGGCAAGCTCTTC
45  TCCGTTATCGCCGAAAAAACCGCCCTCAAGCCGCTGATCGGCATCGGTATGGAAAAACAA
    ATATTCTTTATCAGCGTGTTGCGTCTTCACCTCGGTGCTAACTTTGGCACTGCCGGTAAA
    GCGGTTGCCGTCCAATGTTGCGGTAATGTCGTAAATGGTCAGCGGTTTTTGGGCTCATT
    TGGATTACTTTTATTTTGCACATACTGATTTTTAATCAGCTTGCCATTCAGGGTTTTGTT
    ATCAAAATCAACCGTATATTCGGCAGGATGCTTTTCCCTGTCGTCGGCATCCCTAGCCTC
50  ATAAGAAGTTGC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 31>:

gnm_31

```
TTTTTGGATAGCGTGCCAAATGCTGCTGAATTTGCTCAACCGAGATGGCAAGCCTTGGCG
ACACCTCAAAGCCTTGTTTTGCCAAGCGGATCGGTGTATCAAATAATTTTCCCCAAGGCA
ATACACCGTATCGCTGATGTATTGTCTCCATCAGTTTAGGGATAGCAGGCGTACCCACCG
AGCGACCACCGGCCACCGGTTCCATAAATTTCAATGGTTGACCATCTTTATCCAAAAATA
ATTCCGGCGTCGCACGCATCGGTGCCGTCTCACGCCCATCAAATGTGGTCAATGTTTTGG
CGGTATTATCCCAATACAACACAAATGCACCACCGCCCAAGCCTGACGACTGTGGCTCTA
CCAAGCTTAGTGTCGTCTGCACCGCCACCATCGCATCTGCAGCGCTACCGCCTTGCTTTA
AGATATCATAGCCAGCTTGTGTTGCTAATGGATTGGCTGACGCTACCATAAATCACTTG
CAAGACCAGGTAAGGTTCTTCGCGTTGCATCGAATTAATCCACATCATCCACCGCTTGTG
CGGGTCCCCGTCAATTCCTTTGAGTTTTAATCTTGCGACCGTACTCCCCAGGCGGTCAAT
TTCACGCGTTAGCTACGCTACCAAGCAATCAGGTTGCCCAACAGCTAATTGACATCGTTT
AGGGCGTGGACTACCAGGGTATCTAATCCTGTTTGCTACCCACGCTTTCGGGCATGAACG
TCAGTGTTGTCCCAGGAGGCTGCCTTCGCCATCGGTATTCCTCCACATCTCTACGCATTT
CACTGCTACACGTGGAATTCTACCTCCCTCTGACACACTCGAGTCACCCAGTTCAGAACG
CAGTTCCCGGGTTGAGCCCGGGGATTTCACATCCTGCTTAAGTAACCGTCTGCGCCCGCT
TTACGCCCAGTAATTCCGATTAACGCTCGCACCCTACGTATTACCGCGGCTGCTGGCACG
TAGTTAGCCGGTGCTTATTCTTCAGGTACCGTCATCAGCCGCTGATATTAGCAACAGCCT
TTTCTTCCCTGACAAAAGTCCTTTACAACCCGAAGGCCTTCTTCAGACACGCGGCATGGC
TGGATCAGGCTTGCGCCCATTGTCCAAAATTCCCCACTGCTGCCTCCCGTAGGAGTCTGG
GCCGTGTCTCAGTCCCAGTGTGGCGGATCATCCTCTCAGACCCGCTACTGATCGTCGCCT
TGGTAGGCCTTTACCCCACCAACTAGCTAATCAGATATCGGCCGCTCGAATAGCGCAAGG
CCCGAAGGTCCCCTGCTTTCTCTCAAGACGTATGCGGTATTAGCTGATCTTTCGATCA
GTTATCCCCCACTACTCGGTACGTTCCGATATGTTACTCACCCGTTCGCCACTCGCCACC
CGAGAAGCAAGCTTCTCTGTGCTGCCGTCCGACTTGCATGTGTAAAGCATGCCGCCAGCG
TTCAATCTGAGCCAGGATCAAACTCTTATGTTCAATCTCTAACTTTTTAACTTCTGGTCT
GCTTCAAAGAAACCAACAGGACAATGTTCAAAACATTATCTTGTCTGTCTTTCAAACAGT
GTGAGACTCAAGGCACTCACACTTATCGGTAATCTGTTATGTTAAAGAGCGTTGCGAATT
ATAAAGTATTCCTTCCGCCTGTCAAGATATCTCTCGATATCCCCAACATTCTGTGCTATA
CTTTTCAGTTCGTCCGCCACTTCTGCAGCAGCGAAGAACCGAACTATACGCCCACAGGGA
AAAACGGTCAATGCTTTCAGCGGGATTTTTTGGGGAAATTCGTCATGTCGCTGTCGGAT
AAGGTTTTTTATTTCTGCTAAATACTGCGCCGCCTCCAACAATCCTTTCCTCTCCCTCCT
CCGGCTGGTGCGCCTTTGTGAATATGCTGTCTGAAACTCGGGGACTCAGACGGCATCTGT
TGGCTCTTCTTATCTTTTCAGAATGATTTCCAATACGAACTTGCTGCCCATATAGGCAAT
CATAAGGCTGACAAATCCGATGATGGTCCACACGGCGGCTTTTTTGCCGCGCCCATGCGGT
CATGCTGTGCTTGAGCAGCAGTCCGCCGTAAATCAGCCATGACAATATGCCGAATACGGT
TTTATGGGTAAAGGTCATGGGTTTGCCGAATACGCTTCGGCAAAAAATGTTCCACTGAC
GACGGAATAGGTCAGCAGGATGAAACCTGCCCACATGGCCTGGAACATGAGTTTTTCCAA
ACTGAGCAGCGACGGCAGGAATCCTGCGAGCTTGGAGAAGCTCCTGCGGTGCAGGCTCCG
ATTCAGCAGCAGGGTCAAAACGGACAATAATGTTGCGATGCCGAACAGCCCGTATGCGAG
CAGCGAAGTTCCGATATGCAGCATAAAGGGAAGGTCGGTAATTTCATATCCCGAGAATTT
TCCAGGAAAAACCAAACCTGACAGCAGCATCAGTGCGGCGCAAGGATACAGCAGCAACTG
CACTCCGCGCAGCGGATAAAAGAAGCTGCCGGCAAAATAAATAAACAGCATCATCCAAAC
AATCAGGCTGCCGGAATACCCGAAGCCCATAATGATGATTTTGTCTTGAATGACCGGCAT
AAGCAGTGCCGCGCCGTGGACGGTCAATGCCGCACCCAAAACCGGCAATTCCGTCTTCCA
CGGGTAATCCCGGCCGCACCCCTGCTGTTGGCAGTGCCATGCAAATGCACCCAATCCTGC
GTAAACCGCCGTCAAAAAGATGAAACTGTCGGCATGGTGGACTTTCTCTATCTATACTG
TTGCGCCGTATGCGGCCGCTTATGAAATATTGGAACTTTTAACGTTGGAATTGTAAAATC
CCCATTTCGGTCAAGCCTTGACGGATTTGCCGATATGCTGTCCGGCACACAAGCCGCATC
AAATTATTTTGATTTTATTTTAACAAAGAATGCCCCTGATGGGGCAAGCTATTCTTATTC
AGACCAAGGACCAGTATGTTAGACAATTTAACCGGCCGCTTCAGCAATGTCTTCAAAAAC
ATCCGGGGGCAGGCCAAACTGACCGAAGACAATATTAAAGAGGCCTTGCGCGAAGTCCGC
CTCGCCCTGCTTGAGGCGGATGTCGCCCTGCCTGTCGTCAAAGAGTTCATCAACAACGTC
AAAGAAAAGGCCCTCGGTCAGGAAGTAGCGGGCAGCCTGACGCCGGATCAGGCATTTATC
GGCGTGGTCAACAAAGCCCTGACCGAACTGATGGGCAGGGAAAACAAAACGCTGGATTTG
TCGGTTGCGCCGCCCGCCGTCGTGTTGATGGCAGGTTTGCAGGGCGCAGGCAAGACGACG
```

```
ACCGTCGGCAAACTCGCCCGCCTGTTGAAAAACGATCAGAAGAAAAAGGTTTTGGTGGTA
TCCGCCGACGTTTACCGTCCTGCCGCGATTGAACAGCTGCGTCTGTTGGCCGAACAGGTC
GGCGTGGATTTTTTCCCGTCCGATACCAACCAAAAACCGGTTGAAATTGCAACTGCCGCC
GTCGATTACGCCAAAAAACATTTTTACGATGTATTGATGGTCGATACCGCCGGCCGTTTG
GCAATCGATGAAGAGATGATGAACGAAATCAAAGCCCTTCACGCGGCGGTTAACCCGGTG
GAAACTTTGTTCGTCATCGATGCGATGCTGGGTCAGGATGCGGTGAACACTGCTCAGGCA
TTTAATGAAGCCCTGCCGCTGACCGGAGTCGTATTGACCAAGATGGACGGCGACTCGCGC
GGCGGTGCGGCATTGTCCGTACGCCACGTAACCGGCAAACCGATTAAATTTATCGGTGTC
GGCGAAAAAATCAACGGCCTCGAACCTTTCCACCCCGACCGTCTTGCCGGCCGCATTTTG
GGTATGGGCGACGTATTGACCCTGATTGAAGACGTTCAAAAAGGTATAGACGAAGAAGCC
GCCGCTAAAATGGCGAAAAAGCTGCACAAAGGCAAAGGCTTCGACCTCAACGACTTTAAA
GAACAAATCCAGCAAATGCGCAATATGGGCGGTTTGGAAAACCTGATGTCGAAAATGCCG
GGCGAACTGGGTCAAATCTCGAAACAAATCCCCGAAGGAACGGCTGAAAAAGCGATGGGC
AAAGTAGAAGCCATCATCAACTCGATGACCCCTAAAGAACGCGCCAACCCTGCCCTGCTC
AAAGCCAGCCGCAAACGCCGTATTGCAATGGGTGCGGGCACAACCGTGCAGGAAGTGAAC
AAATTGCTCAAACAGTTTGAACAAATGCAACAAATGATGAAGATGTTCAGCGGCAACGGC
TTGGGCAAACTGATGCGTATGGCGAAAGGAATGAGGGGGATAAAAGGGATGTTCCCGGGT
TTGTAAGCCGATTTAACAGAAAACGCCGTCTGAAATTTCAGACGGCGTTTTTGTTTATA
TTCTGATTTATAGTGGATTAACAAAAATCAGGACAAGGCGGCGAGCCGCAGACAGTACAG
ATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCT
AAGGCGAGCCAACGCCGTACTGGTTTTTGTTAATCCGCTATATATTCTGATTTAAAACCA
TAAGGCTTTAAGCAATCATCTCTTCTATAAAGCCTAAATACAAAAGGCCGTCTGAAATCC
TATTTTCAGATGGCCTTTACTCATTCAATCCTCAACTTATTGCGGCTTTTTCTGCTCTTC
GCGTACTTTATCCACCAACTGGTCAATCGTGGTCATACCGGACTGCCAGTCTTTAAATTC
AACTTGGTATTTGCCGCCGACAATCACAGTCGGTGTGCCGCTGATTTGGAATTTATTGGT
CAACTCTTCCATTTGAGCCGCACGCGCTTGGCTTTCAGGAGCCTCAAATGCAGCCAATAC
TTTTTTGCCGTCAAACGCTGTTTGCTCGGACAGCCATTTTTTCAGGGTATCGGTATCGGC
CAGATTGATTTTTTGATTAACCATCGCATCGAAAATATGGCTGTTGGCTTTATCTGATTC
ACCGGCCATTTCCACTGCGGCCGCCAAACGTGCCAAAGGTTTCATTTCATCACCCCACAC
GACATGCTCCCGGCGCATATAGGTATCGTCTTTAAACGTTTTGATGTGCTCGCTCAAGAC
CGGCTCAAGATGGGCGCAATGCGGGCAGAAGTAGCCGAAAAATTCCAATACTTCGATTTT
ACCGGCCTGCTGTTGCGGAATAGGCGTAGACAATACAGTGTAGTTCACACCTTCGTTCAA
CTCAGCAGGGGCTGCCGGAGCAGATGAGCTGCTTGGGCGCTGTCTGCCGGAACACTGGT
TTCAGCCTGTTTGCTACAAGCGGCCAATGCCAACAGGGTCAATGAAGTCAAAGCTAAGGT
TTTCAGTTTCATAGGTATCTCTTGTGTGTCAGATTAATGTGCGGATTTTATGGCATTTTA
TTGAAGGCGTGTTCGATTTGAGTGAAAAAATGTGTTTAGTTTTATTTCAGCCTTTGCCTG
ATTTCATCAGAAACGGTAATTTACCCGGGCAGTATAGCCGCGCGGATTACCCGGCATAGA
GTCCGAACGCCAATATTTTTGATTGAGCAGATTGGCTGCGGCAAAGGTAACGTTAACATT
TTTATGGTTCCAGCCAAGCATGGCATCAACTCGGGCAAAGCCTGGAAGCGTAGTCACTTC
TTTATTTCTTGAGTTGTAACCGTAGCGTTTGCCTGTACCGGTTACGCCGATTTCGCCGTA
GAGGTTTTCGGTCGGGGTATAACGGAAAAACAGGTTGCCGGTAACGTTGCTGGTATTATT
CAAATGGATGCCCACTCGGTCGGGATTTTCTTTGTCTTCAACGACTTTCGCCTGCATCAC
GCCCAACGAACCGCGCAGATAGAGTTTTTTGGGGATGATTGCCCGATGGCGGACAATTC
CACGCCGCGCGAACGGTGTTTGCCGCTAACCGCATAAATATAAGGGTTGTTTTTTGGATC
GGGGCGGTAGCGGATATTGAAGCGTTCGATTTGGTAGGCAGACAACGTAGTGCTGAGGCG
GTCGTCCAGCCAACTGCTTTTCACGCCGGTTTCGTATTGGCGGGTGTACTCGGGGTCGGC
GTTGAACACGGCGGAAGACAACGTATCGATGCTCAAATAGCCGCCGCGTCCGCCATAAGG
CGCGAAGCCTTTGTTATACGAGGCGTAAAGTGTGTGGACGGGATTGATGTTCCACACTGC
GCCGATGTTGGGGCTGAACGAGTGTCCGCTGTATTGGCGGCTGCTGCCGGTGAGTTTGTT
TTCGGAATTAAAGGTGTATTTGTCGTAACGGCCGCCGAGGACGAATTTCAAATCGGGCGT
GGCGGAGAAGATGTTTTGCACAAAGATGCCGTAGGAGTCGGCTTTGTGGCGGTTTTGGGT
CAGAATAGGCTGCAATCTGCCCGAAGCCGGCCAGCTTGCGCGGTCGTAGGGGTTGATGGA
GGCGGAAAAGGCGCTGCTGAAACCCAATGTCGGGTTGCGGTGTTCGCGGCTGTAATCCAT
GCCTACGGTCAGGTGGTTTTCAAAACGGCCGATGGTGTAGTCGCCGTTGAGCGTTAAGTT
GGACGACAGGGTTTTGTTGTCGGTCTGCTGCCAGGCGTAGTTACGTTTGATTAAGTTGCC
ATTTTCGCTGCCTGCATAGAAATGATCAAATCCTGCGCCGCCGTGCGGTGGGCGAGCTG
CCATTGGGCACGCCATTTGTCGTTGAAGGCGTATTCAAGGTCGGAACGCCAAACTTGCAG
```

```
    CTTGTCTTTGACAAAATCGTTCCGGTGGGCGAACCCCATGCGGTAAGGCAGTCCGAAGCG
    GTCGTACACGGACTTGGTCGGACTGCGGTCGGGCGTGCGCTCCACATTGTCGTAGGTGTA
    TTGCCCCGTCCACTTCAAGCCGTTGTCGAGTTTGACGGTAATGCTGGGCGAAACCATGAC
    ATTTTTGCTGTCTATGCCGCTGCGGAACGAATTGGCGCGCCCGACTTCGCCGGTGAGACG
5   GATGGCGACGTTTTTGTTCAGCACTTCGTTAATGTCCATATTCAGGCTGCGGTTTGCCCA
    TGAGCCGTAAACCGCTCCGATGTTGCGGCTTTGTTTGAAGTTGGCGTATTTGCTGACCAT
    GTTGATGACGCCGCCGCCGTTGGTGCGGCCGTAAAGCACGGAAGACGGGCCTTTCAGGAT
    TTCCACGCGCTCGATGTTGGCAGTACTGCGGCGCACTTGTCCGCTTTCGCGCACGCCGTC
    GCGGTAAATATCGGATGCGTCGGCTTGAAAACCGCGCAGGAAAATGCTTTCACCGCGCAT
10  ATCGTAGGCAGCGTCGATGCCGGCATTGCCTTCGAGGATGGAACTCAAATCGTTCGTACC
    GTAATTTTTGTTTTTCTGGATATTGAGCGTATCGATGGTTTGCGGCGTTTCTTTGATGAG
    CTGTCCGTTGCGGGTAACGGCGGCTTCGTCGTAGTTGATGTAGCCTTTGAGTACGCTGGT
    GTCGGACTGTCCGACCACGGAAACGGTGGGCAGAGTGGCGGTGTAATGTTCACCATTGTC
    CTGCGTATCGGCGGCAGCAACAGGGAAGGAAGCAATAATCAGCGTGGGTAATAAAGCTAA
15  ATGAAATGATATTTTCATTTTTATACTCAATTTAACAAAACAACCGAATTATATTGCCTC
    ACGGAGGAAATGAGAATAATTTCTTTTAACTATATTGAACATGATATTTGTAAACAAAGG
    TCTCAGAATGCGGAAAACTCGCCGCCTGATACTGAAAAATGCCGTCTGAACAGGGTTCAG
    ACGGCATTTTTTGACCGCGAAATTATGCGCCGAACACTTTCAAACGTTCTGCAACGGGT
    TCAAAGGTCTTTTCACCTGCCGCCCCTTCAATACCGCCGATAACCATTTGTGCGCGCAAC
20  AACCAGTTTTCGGGGATATTCCACGCTTTGGCAATCGCCGCATCGGGCAAGGGATTGTAA
    TGTTGCAGGTTTGCACCTACGCCGACCGCGGCAAGTGTCGTCCAAACGGCATACTGCACC
    ATCGCGTTTGCCTGATCCGCCCAAACGGGGAAGTTAGCGGCATAAGCAGGGAACTGCTCC
    TGCAAACCTTTGACGACATTTTGATCTTCATAAAACAAAATGGTTGCCGCACCCGCCTTA
    AACAGGTTCAATTTTTGCGCGGTCGGTTCAAAACTGTCGGCAGGCACGACGGCACGCAGC
25  GcGTCTTCGACAAATTGCCACACCTTATCATGCTCTTCGCCAAACAGCACGACCACGCGG
    GCAGATTGGGAATTGAACGAAGAAGGTGTGTGCAAAACGGCGTGTTCGACGATTTGGACA
    ACTTCATCTTTGCCGACGGGCAGATTTTTATTTAACGAATAAnTGGAACGGCGGCTTTCG
    GCAGCCTGTTGCAGAGATTGACGGGTC
```

30   The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 32>:

gnm_32

```
    CAGCGCGCCGCCCTCGGCATTCCCGCCCTCCCTTTGAACGCGCAGCAAACCGCCGATTTG
    GTTGAGCTGCTGAAAAGCCCGCCCGCAGGCGAAGGCGAGTTCTTGGTCGAACTGCTTGCC
    CACCGTGTTCCGCCCGGTGTGGACGATGCCGCCAAAGTCAAAGCCTCATTCCTGGCTGCC
35  GTTGCCGAAGGCAGCGCGTCCAGCCCGCTGATCTCCCCCGAATATGCGACCGAACTCTTA
    GGTACAATGCTCGGCGGTTACAATATTCACGCCTTAATCGAACTCTTGGACGACGACAAA
    CTCGCGTCCATTGCTGCCAAAGGCTTGAAACATACGCTTCTGATGTTCGATTCCTTCCAC
    GACGTTCAAGAAAAAGCCGAAAAAGGCAACAAATACGCGCAAGAAGTTTTGCAATCTTGG
    GCAGATGCCGAATGGTTCGCCTCACGCGCCAAAGTTCCCGAAAAAATCACCGTTACCGTT
40  TTCAAAGTTGACGGCGAAACCAATACAGACGACCTCTCCCCCGCGCCCGACGCGTGGAGT
    CGTCCCGATATTCCGCTGCACGCGCTGGCCATGCTGAAAAACCCGCGCGACGGCATCACG
    CCCGACAAACCGGGCGAAGTCGGTCCGATTAAATTGTTGGAAGAACTCAAAGCCAAAGGC
    CATCCGGTTGCTTACGTCGGCGACGTGGTCGGTACTGGTTCTTCACGCAAATCCGCGACC
    AACTCCGTCATTTGGCATACCGGCGAAGACATTCCGTTCGTGCCGAACAAACGCTTCGGC
45  GGCGTATGTTTGGGCGGCAAAATCGCGCCGATTTTCTTCAATACCCAAGAAGATTCCGGC
    GCGCTGCCGATTGAAGTCGATGTATCTGCTCTAAAAATGGGCGATGTCGTCGATATCCTG
    CCTTATGAAGGCAAATCGTGAAAAACGGCGAGACTGTTGCCGAGTTTGAATTGAAATCA
    CAAGTATTGCTGGACGAAGTGCAAGCCGGCGGCCGTATCAACCTGATTATCGGCCGAGGT
    CTGACCGCCAAAGCGCGCGAAGCCCTGAAACTGCCTGCCTCTACTGCATTCCGCCTGCCG
50  CAAGCGCCTGCCGAAAGCAAAGCCGGTTTCACCTTGGCGCAAAAAATGGTCGGCCGCGCC
    TGCGGTCTGCCCGAAGGACAAGGCGTGCGCCCGGGTACTTACTGCGAACCGCGTATGACG
    ACGGTCGGCTCGCAAGACACGACCGGCCCGATGACCCGCGACGAGTTGAAAGACTTGGCT
    TGTTTGGGCTTCTCCGCCGATATGGTGATGCAGTCTTTCTGCCACACCGCCGCCTATCCG
```

```
AAACCTGTCGATGTAAAAACCCATAAAGAACTGCCCGCCTTTATTTCCACCCGTGGCGGC
GTGTCACTGCGTCCGGGCGACGGCGTCATCCACTCGTGGCTCAACCGCCTGCTGCTGCCC
GATACCGTCGGCACCGGCGGCGACAGCCATACCCGTTTCCCCATCGGTATTTCCTTCCCC
GCCGGCTCCGGCTTGGTTGCCTTTGCCGCCGCAACGGGCGTAATGCCGCTCGATATGCCC
GAGTCTGTATTGGTACGCTTCAGCGGCAAGCTGCAACCGGGCGTAACCCTGCGCGATTTG
GTGAACGCCATCCCGCTGTACGCAATCAAACAAGGTTTGCTGACCGTTGCCAAAGCCGGT
AAGAAAAACATCTTCTCCGGCCGCATCCTCGAAATCGAAGGCCTGCCTGATTTGAAAGTG
GAACAAGCCTTTGAATTGACCGACGCATCCGCCGAACGCTCCGCCGCCGGCTGTACCGTG
AAGCTCAACAAAGAGCCGATTATCGAGTACATGAAATCCAACGTCGTGTTGATGAAAAAC
ATGATTGCCAACGGCTATCAAGACCCGCGCACTTTGGAACGCCGCATCAAAGCTATGGAA
AAATGGCTGGCAAATCCCGAGTTGCTCGAAGCGGATAAAGATGCCGAATACGCCGCCGTG
ATTGAAATCAACATGGACGACATCAAAGAGCCGATTATCGCCTGCCCGAACGACCCGGAC
GACGTGTGCTTCATGTCCGAACGCTCCGGCACCAAAATCGACGAAGTATTCATCGGTTCG
TGTATGACCAACATCGGCCACTTCCGCGCCGCCTCCAAACTTTTGGAAGGCAAGGCAGAC
ACCCCGTCCGCCTGTGGATTGCGCCGCCGACCAAAATGGACGCGAAACAATTGTCCGAC
GAAGGACACTACGGCGTACTCGGACGTGCCGGCGCGCGTATGGAAATGCCGGGTTGCTCC
TTATGTATGGGTAATCAGGCGCAAGTACGCGAAGGTGCGACCGTTATGTCCACCTCCACC
CGCAACTTCCCGAACCGTTTGGGTAAAAACACCTTTGTTTACCTCGGTTCGGCGGAATTG
GCAGCGATTTGCTCCAAACTGGGTAAAATCCCGACCGTTGAAGAATATCAAGCCAATATC
GGCATCATCAACGAACAGGGCGATAAAATCTACCGCTATATGAACTTCAACGAAATCGAC
AGCTACAACGAAGTAGCCGAGACCGTGAACGTTTAATCCCCGTCATCCGTATGAAGTAAG
GGATTGACCGCAATGCCGTCTGAACAACCTTCAGACGGCATTGCAACATTCCGCTAACCC
TTCTTTCCGCAAACGCTGCAAATACGGCGTTCACGCCCCCACATAAAGGAAACGACAGTG
AACCTGAAAAACCGCCATTTTCTGAAACTTTTAGACTTCACGCCGGAAGAAATCACCGCC
TACCTCGACCTTGCCGCCGAATTGAAAGCCGCCAAAAAGCAGGGCGCGAGATTCAGCGG
ATGAAAGGGAAAAACATCGCCCTGATTTTTGAAAAAACCTCTACTCGGACGCGCTGCGCG
TTTGAAGTCGCCGCGCGCGATCAAGGCGCGGGAGTGACTTATTTAGAGCCGTCCGCCAGC
CAAATCGGGCATAAGGAAAGCATCAAAGACACCGCCCGCGTGTTGGGCAGGATGTACGAT
GCCATCGAATATCGCGGTTTCGGTCAGGAAGTTGTTGAAGAATTGGCGAAATACGCGGGC
GTACCCGTGTTCAACGGGCTGACCAACGAGTTCCATCCCACACAAATGCTTGCCGACGCA
CTGACTATGCGCGAACACAGCGGCAAACCTTTGAACCAAACCGCGTTTGCCTACGTCGGC
GACGCGCGTTACAACATGGGCAATTCCCTGCTGATTTTAGGGGCAAAATTGGGGATGGAC
GTGCGTATCGGCGCACCGCAAAGCCTGTGGCCGTCTGAAGGCATTATTGCCGCCGCCACAC
GCCGCCGCCAAAGAAAACCGGCGCAAAAATTACCCTGACCGAAAACGCGCATGAAGCCGTG
AAGAATGTTGATTTTATTCATACCGATGTGTGGGTCAGCATGGGCGAGCCGAAAGAAGTC
TGGCAGGAACGCATCGATTTGCTGAAAGATTACCGCGTTACGCCCGAACTGATGGCGGCA
TCGGGCAATCCGCAAGTCAAATTCATGCACTGCCTGCCCGCCTTCCACAACCGCGAAACC
AAAGTCGGCGAATGGATTTACGAAACCTTCGGGCTGAACGGTGTGGAAGTTACAGAAGAA
ATATTCGAAAGCCCCGCCAGCATCGTGTTCGATCAGGCGGAAAACCGTATGCACACGATT
AAAGCGGTAATGGTCGCGGCTCTGGGCGACTGACAGAACTGTGCCTGTTTAAATTCATCC
GCAACACAGATACCGTCTGAACACGATGTTCAGACGGTATCCATATATAGTGGATTAAAT
TTAAACCAGTACGGCGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTC
GCCTTGTCCTGATTTTTGTTAATCCACTATAAAAAAACTGCCTACACGATGTGTAGGTAG
TCCCGTTTGAAAACAATCAGTTTTTGTCTTGGTCAACCAATTTGTTGGCAGTAATCCAAG
GCATCATGGCACGCAGTTGTGCGCCGACTTTTTCAACTTGGTGGTCGGCATTCAGACGGC
GGCGGGCAGTCATAGACGCATAGTTGACATTACCCTCTTGGATAAACATTTTTGCGTATT
CGCCGGTTTGAATGCGTTTCAGGGCATTGCGCATGGCTTCTTTGCTGGAAGCATTGACCA
CTTCAGGGCCGGTAACGTATTCGCCGTACTCCGCATTGTTGGAAATGGAGTAGTTCATAT
TGGCAATACCGCCTTCGAAAATCAGGTCAACGATCAGTTTCATTTCGTGCAGACATTCGA
AGTAAGCCATTTCAGGCGCGTAACCGGCTTCGGTCAGGGTTTCAAAACCCGCCTTGATCA
ACTCGACCACGCCGCCGCACAATACGGCTTGTTCGCCGAACAGATCGGTTTCGGTTTCTT
CGCGGAAAGTGGTTTCAATACACACCGCCTTTGGTGCCGCCGTTGGCAGCCGCATAAGACA
GGGCGATGTCTTTGGCTTTGCCGGAATTGTCTTGGTAAACGGCAATCAGAGAAGGCACGC
CGCCGCCGCGTTTGTATTCACTGCGTACGGTATGGCCCGGACCTTTGGGGGCAACCATAA
TCACGTCCAAGTCGGCACGCGGAACGATTTGGTTGTAGTGCACGTTGAAGCCGTGTGCAA
ATGCCAGCGTTGCGCCTTCTTTCAAATTGGCTGTAACTTCGGCGTGATAGACGGCAGGCA
TGGTTTCGTCAGGCAGCAGCAGCATAACGACATCGGCTTCTTTGGTCGCTTCAGCAACGG
```

```
TTTTGACGACATGACCGGCTGCTTCGGCTTTTTTCCAAGAAGAACCTTGGCGCAGACCAA
TCACCACGTTTACACCCGAATCTTTCAGGTTGGCGGCATGGGCATGACCTTGCGAACCGT
AACCGATGATGGCAACGGTTTTGCCTTTGATTAGGGACAGATCGGCATCTTTATCGTAAT
AGACTTGCATTTGATTTCCTTTAAGGTAAATGGTTGTCGAAGCCTTAAAATGTTGAGCGG
CTTCGGACGGGTTAAACAGAGTGTGCCGCTTAATCGGCAACTTCATTCATCAATACGATT
TCCAACGCTTCGGTTTTGCCGTCGACGGACTGGACGAAGGCTTGGAAATGCGCGCTGGCG
TTATGTTCGTCAATAGCTGCTTGAGATTTCCAATTTTCCACGAAAACAAAACGGTTCGGT
TTGCCGATTTCCTGATGGAGATCGTAGCTGATGTTGCCCTCTTCTGCACGGCTGGCTTTG
ACCAGTTCTTTAAACTGTGCTGCCAGTGTTTCTGTGTATTCCGGTTTGACGGTAACCAGT
GCGACAATTTTAATGTTCGACATAAATCTCTCCTGCCGTTCGTTTTTCAGACGACATTCA
AATACCGTGCCGTCTGAAAGGTTACGGCGTTAAATTTTCAAAATACGCTCACCGCGACCG
ATGCCGGCCGCGCCTGTGCGTACGGTTTCCAAAATTTGGGCGCGTCCGACCGTTTCCAAA
AAGGAATCCAGCTTGTCTGTCGAGCCGGTAATTTCAATCGTATAGCTGCGGTCGGTTACG
TCGATGATGCTGCCCCGGTAGATTTCGGTCAAGCGTAAAAATTCGTCGCGGTCTTTGCCG
GCGGCACGGACTTTTACCAACATCAGTTCGCGTTCGACAAAACGGCTTTCATTCAAATCG
ACCACTTTAATCACTTCAATCAATTTATTGAGTTGCTTGGTAATTTGTTCGATGACCTGC
TCGTCGCCGTGGGTAACGATGGTCATCCGTGACAGGGTTTTGTCTTCGGTCGGCGCAACC
GCCAAAGAATCGATATTGTAATCGCGTGCAGAGAACAAACCGACCACGCGGCTCATCGCA
CCTGATTCGTTTTCAATCAGAACAGATAAGATATGTCGCATTTGTCTCTCCTTACGCCTT
TCCGTCCGCACGCATATGCGGCGGAAGTACCATTTCGTCCAAACCTTTGCCGTTGCCGAC
CATGGGCATCACATTCTGTTTCTGGTCGGTCAGGAAGTCGATAAACACCAGCCTGTCTTT
TTGGTTCAATGCTTCCAACAACGCACCTTCCACATCAGACTTCTTGTCCACGCGGATACC
GATATGGCCGTATGCCTCGGCAAGTTTGACGAAATCGGGCAAAGAATCGAAATAGGTTTC
CGACTCTCGTCCGCCGTAATATATTTCCTGCCACTGGCGTACCATACCGAGATAACCGTT
GTTCAGCGTAATGACGTTAACCGGAATCCGATATTGGAAACAGGTGGACAGCTCTTGGAT
GTTCATCTGGATCGAGCCGTCGCCGGTGATACAGAATACGTCTTGATCCGGGGCGGCAAG
TTTTGCACCAATCGCATAAGGCAGACCCACGCCCATCGTACCCAAACCGCCGGAATTGAG
CCATTGGCGCGGACGTTCGAAGGGATAATATTGAGCCGCAAACATTTGATGCTGCCCTAC
ATCCGATGTGATGATTGCCGAATTGCCGGTAATCTCGGCAAGCTTCTGAATCACATATTG
TGGCTTGATAATTTCGCTGCCGTTGTCAAACCACAAGCAATCTCGGGAACGCCATTCCTC
TATGGTTTTCCACCATTTGCCCAAAGCATCTTCAGACGGCACGGACTCTTGTTTTTGCCA
CAGCGCAACCATCTCGGACAAAACGTTTTTCACGTCGCCGACAATCGGAATGTCCACCTT
CACGCGTTTGGCGATGCTGGAAGGATCGACATCGATATGGATAACCTTCTTCGCCTTCTC
GAAAAATTTGGACGGTACGGAAACCACACGGTCGTCAAAACGCGCACCTACGGCAAGAAC
GACATCCGCATTCTGCATGGCAAGGTTTGCCTCGTAAGTACCGTGCATACCGAGCATACC
GAGGAATTGGCGGTCGCCGGAAGGATAAGCGCCCAAGCCCATCAGCGTACCCGTGCACGG
AGCACCCGTCATTCGGACAAATCGGGTCAGCTCTTCAGAAGCATTACCCAACACCACGCC
GCCGCCAAAATAGACGACCGGACGTTTGGCAGATGCCAACATCTGCACGGCCTTTTTAAT
CTGACCGATATGTCCTTGAACAACCGGTTGATACGAACGGATAAAAATGTCTTCCTGAGG
ATAGCTGAATTTCGCCATCGCCTGCGTAACATCTTTCGGGACATCAACCACCACGGGCCC
CGGTCGGCCGCTTGCGGCAATTTGGAACGCCTTTTTAATGGTTTCCGCCAACTCATTGAT
GTCCGTAACCAGGAAATTGTGTTTGACGCACGGACGGGTAATACCCACCGTATCAACTTC
TTGGAACGCATCCGTACCAATCAGGGAATTGCCTACCTGCCCGCTGATGACCACCATCGG
AATCGAATCCGTATAGGCAGTAGCAATACCGGTCAGTGCATTGGTAACGCCCGGGCCGGA
TGTAACCAATGCCACGCCCACCTTACCGCTGACGCGCGCATACGCATCTGCCGCGTGTAC
TGCCGCCTGCTCATGGCGGGTAAGAATGTGTTTGAATTATTGAGTTGGAAAAGGGCATC
GTAGATTTCGATAACCGCACCGCCGGGATAACCGAAAACGTACTCGACACCTTCGGCTTT
GAGACTCTGCACTATGATTTGCGCGCCTGATAACTGCATAACGACCTCTTTTATACGGTT
TCAAACCAATAGGGACAAACCGCTTTGCCACAGCACCTGTAATGCAATTCCACCAAGCAG
CGATTTAGGGTACGCGCATTGGGGGAACACGGCAACAGACGGATTATCCAATCAATTGGA
AAGGAACACAGAGTTTGTGAAAAAGAGTAGAAACGATAACGCAAACCGACAGTTCAATCA
AGAAAAATCTTTCATCTTTTAATATTTTTTGAAAGCAGAGAAATTATTGATTGATTTTAA
AAGAATAAAATCAGGAGTACCTTTTTTGAAAGATGGAAATTGTTGACAGTTTGTGTAGGA
GGGGCAGATGTGAAAAACCCTTCTTCGATATCAAGAATTGTAAAATTTACAGGGTTTCAT
CCCAATAAAGACTCGGGATATTGATTGAACTTGATTTTATTTTTGATATATCAAAAATAT
TCCCAACCATACTTCCTGAAAATGGCTCATTGCACCGGACTGTATTGGACGGCATTGACA
GAACCAAGAGGGCTAACAACGACTTAATATATTGATTGTATAGTGGATTAACAAAAATCA
```

```
GGACAAGGCGACGAAGCTGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTT
CAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTAAA
TTTAATCCACTATATTTAGTTTTATCTATTTCATTAAACAGCAATAGACAAAAAAATAA
CCGCTCTAAAAGCGGTTGTGGTGCCCAGGGTCGGACTCGAACCGACACACCTTGCGGCGG
GGGATTTGAGTCCCCTGCGTCTACCAATTTCGCCACCTGGGCTGGTGAAGAAGTCGTCA
TTATAATGGCTTTTGAAATTCTGTAAACCTTTTTTTTGAAATTATTTTATCTGTTTTTAT
TTTATTTTTGATTTTAAATAGAATTTTTATTATTTTAATCTTACTGTTCTTTCCGCTCCA
AAGATTCTGTATGATTCGGCAATTCCTGCCGTGCAGACAACGTAAAAAATACTACATTA
AATCTGCCAAACGCGTTAAGATGGAAATATTCAAATTCCGTACGAATCAGGTTTTGCTAT
TTATTCTTGGGAGATTGTCATGTTTTCCGTACCGCGTTCCTTTTTGCCGGGCGTTTTCGT
ACTTGCCGCGCTTGCCGCCTGCAAACCTCAAGACAACAGTGCGGCGCAAGTCGCTTCTTC
AAGTGCATCCGCGTCGGCTGCGGAAAATGCGGCAAAGCCGCAAACGCGCGGTACGGATAT
GCGTAAGGAAGACATCGGCGGCGATTTCACGCTGACCGACGGCGAAGGCAAGCCTTTCAA
CCTGAGCGATTTGAAAGGCAAGGTCGTGATTCTGTCTTTCGGCTTTACGCACTGTCCCGA
TGTCTGCCCGACAGAGCTTTTGACGTACAGCGACACGTTGAAGCAGTTGGGCGGGCAGGC
TAAGGACGTGAAAGTGGTGTTCGTCAGCATCGATCCGGAACGCGACACGCCTGAAATCAT
CGGCAAGTATGCCAAACAGTTCAATCCGGACTTTATCGGTCTGACGGCAACGGGCGGCCA
AAACCTGCCGGTCATCAAGCAGCAATACCGCGTGGTTTCTGCCAAAGTCAATCAAAAAGA
CGACAGCGAAAACTATTTGGTCGACCACTCTTCCGGTGCGTATCTCATCGACAAAAACGG
TGAGGTTGCCATTTTCTCGCCTTACGGAAGCGAGCCGGAAACGATTGCTGCCGATGTAAG
GACCCTGCTCTGATAAAACCGTATGCCGTCTGCACCGTCGGCGCCTATTCAGACGGCATT
ATTGTTTCAACCGACAAAGGACATCCACACCATGCAGGATAATGCTTTGACCATCGCCTT
ATCCAAGGGGCGCATTTTTGAGGAGACGCTGCCGCTGCTTGCCGCTGCCGGCATTGTTCC
GACTGAAGAGCCTGAAAAATCGCGCAAGCTGATTATCGGGACGAACCATGAAAACATCCG
CCTTGTCATTGTCCGCGCAACCGATGTGCCGACTTATGTCCGCTACGGCGCGGCGGACTT
CGGCATTGCGGGCAAAGACGTGCTGATCGAACACGGCGGCACGGGGCTTTACCGGCCTTT
GGATTTGGAGATTGCCAAGTGCCGCATGATGGTTGCTGTGCGTAAAGGGTTTGATTACGA
AGCAGCTTCGCAACCCGGATGCCGTCTGAAGATTGCCACAAAGTATCCTGAAATCGCGGC
ATCTCATTTTGCCGGCAAGGGTGTCCATGTGGACATTATCAAACTGTACGGCTCGATGGA
ACTTGCGCCGCTGGTCGGCTTGAGCGATGCGATTGTGGACTTGGTTTCGACGGGCAACAC
CTTGAAGGCAAACGGCTTGGAAGCAGTCGAACACATCGTCGACATTTCCAGCCGCCTGGT
GGTCAACAAGGCTGCTTTGAAAACGAAATACGCGCTGCTGGAGCCGATTATTCAGGCGTT
CGGCGGCGCAGTGAAGGCGAAGTAAGCATCCATTTGAATAAAGATGCGTTTTCAGACGAC
CCTATCCGTTCCCGCCGACAGGTCGTCTGAAAATATCACCGGCAGTAAACTGTATAGGAG
AAGTTAAAATGGTTGCAAAAATAAAAAAATTCTCAGATTCAACCCTTTCCGTTTTGAATA
ACGGCGAGCGTCGGTTTTATGTCTATTGTCTGACCGACCTGAAAAAAGACAAAATCCTCT
ACATCGGCAAAGGCTGCGGTAATCGTATCTTCGAGCATGAATGGGTTGCTAGTCGTTCAC
AAGATCCAGTCTCCGGCGAGATTATCGATCGGAAACTCAAAGCCATCTCCAAATGCAAGA
AACTCGGTCGCTATATCATCAGCTATCATCTGACTGAAGTCGAAGCACTCGCCGCCGAAT
CTGCCTTAATTCATTTTGTTAAATCTGTCTTGGGTAAAAAACTCAAAAATAAAATTGCCG
GGCATGGTCCGGGTGGTATTAGCGTAGAAGAACTAGATCGCCGCTTTGGATTCTCTTCTC
TCCCACTTAACGAGATTAACCCCGACGGGCTGATTCTCGCCATCAAAATCCACAATGCTT
TCGATTTAGATACTGACGAAGAATTAGACTACCTTTTCGACAACCAAGACGATGCCAACC
TCAAATCGCGTACGTTGGGCAACTGGGTTATCGGTAAAGATGTTGCTTCAAAAGTGAAAT
ACGTTATCGGCGTTCACACCGGTCTGCAAAACGCTGTTGTCAGTGCATACGAAGTGGACG
GTTTTGAAACAATGGTTGAGGAAACCAAAAACGGTAGAAAACAATCCCGTTACCGTTTCC
GCACTACCTCTCGTAGCGAAGAGGTATTAGCCAAACTCGGTCTGCAACAAAAATGCCTGC
CCGAATTGAAGTTTGGTAGCGGGGGAGAAAAAGCGTATATCAGACCCAAAACAGAGACAG
AAACTGAACAAGAGAATATTCAGACGACCCCCAATCCAAAAATAAAAAGGAAAAACCA
AATCATGAAAAAACTCAACACCCAATCGCCCGATTTCCAAGCCGGACTCAAAGCCCTGCT
GGCTTTTGAAACCGCGCAAAACCCCGAAACCGAACGCATCGTCGCCGACATTTGCGCCGA
CGTGCAAAAGCGCGGCGATGCGGCTTTGATTGAATACACCAACAAATTCGATCAGACAAA
CGCTAAAAGCATCGATGATTTAATACTCACGCAAGCCGATTTGAACGCGGCGTTCGAGCG
CATTCCGAACGACGTTCAGACGGCATTGCAGACCGCCGCCCGCCGTGTCGAAAGCTACCA
CCAACGCCAAAAAATGGAATCGTGGAGCTACACCGATGAAGACGGCACGCTGTTGGGACA
ACAAATCACACCGCTTGACCGCGTCGGCATTTACGTCCCCGGCGGCAAGGCGGCGTATCC
GAGTTCCGTCATCATGAACGCCATGCCCGCCCACGTCGCAGGTGTCAAAGAAATCATCAT
```

-362-

```
GGTCGTGCCGACACCAAAAGGCGAACGCAACGACATCGTACTTGCCGCCGCATACGTCGC
CGGCGTAACCAAAGTCTTCACCGTCGGCGGCGCGCAGGCGGTTGCCGCCCTCGCCTACGG
CACGGAAACCATCCCCCAAGTCGATAAAATCACCGGTCCGGGCAACGCCTTCGTCGCCGC
CGCCAAACGCCGCGTGTTCGGCGTGGTCGGCATCGACATGGTGGCGGGGCCGTCTGAAAT
CCTGGTCATCGCCGACGGCACGACACCTGCCGATTGGGTGGCGATGGATTTGTTCAGCCA
GGCCGAACACGACGAAATTGCCCAAGCCATCCTCATCGGCACGTCGCAAGCGTATCTCGA
CGAAGTAGAAGCCGCTATGGACCGCCTGATCGAAACTATGCCGCGCCGCGACATCATCGA
AGCCTCGCTCGGCAACAGGGGCGCGATGATACTCGCCAAAGACTTGGACGAAGCCTGCGA
AATCGCCAACTACATTTCCCCCGAACACTTGGAACTGTCAGTCGAAAACCCGCAGGAATG
GGCGAAAAAAATCCGCCACGCCGGTGCGATTTTCATGGGACGCTACACCGGCGAAAGCCT
CGGCGACTACTGCGCCGGTCCAAACCATGTGTTGCCCACCAGCCGAACCGCCCGCTTTTC
CTCGCCTTTGGGGACATATGATTTCCAAAAACGCTCCAGCCTGATTCAGGTTTCGGAACA
GGGCGCGCAAAAATTAGGCGAAACCGCCAGCGTGCTGGCACACGGCGAAAGCCTGACCGC
CCACGCCCGCGCGGCAGAGTTCCGTATGAAATAATGCCGAAACGGCGTACAGGCATATTC
CAACCATTAAGGAAACACGATGAAATCCGTCCGCTCCTTCATCCGCGACGACATACAAGC
TATGTCGGCATATCAGATTGCCGACGTTCCGCCCGGCTTTGCCAAACTCGATTCGATGGA
AAGTCCCGTCCACCCTTTTGCCGGACATGAAACGCTGTTGCAGGAATGGCAGGCACGGCT
TGCCGCCGCGCCCATCCATCTTTACCCCAATCCCTCCGGCAGCGGTTTACAGGAAGCATT
ACGTTCGGCGTTCGACATTCCCGACTGCGCCGACATCGCGCTGGGCAACGGTTCGGACGA
ACTGATACAGTTCATCACGATGCTGACCGCCAAACCGGGCGCGGCAATGTTGGCAGCCGA
ACCCAGTTTCGTCATGTACCGCCACAACGCCGCGCTGTACGGCATGGATTATGTCGGCGT
TCCACTGAACGGAGATTTCACCCTCAACCTGCCCGCCGTCCTCGAAGCCGTCAGGAAACA
CCGCCCTGCCCTGACCTTTATCGCCTACCCCAACAACCCCACCGGCGTATGCTTCACGCG
TGCCGAAATCGAAGCCGTCATCGAAGCTTCAGACGGCATCGTCGTCGTCGATGAAGCCTA
CGGCGCATTCAACGGCGACAGCTTCCTGCCGCAGGCAGGCAGGATTCCCAACCTGATAGT
CTTACGCACCCTCAGCAAAATCGGTTTTGCCGGACTGCGTATCGGTTATGCGGCAGGCTG
CCCCGAAGTCATCGGCGAACTGCAAAAAATCCTGCCGCGCCCTACAATATGAACCAATTGAG
CCTGACCACTGCCAAACTCGCCCTGCGGCACTACGGCATTATCTCTGCCAACATCGACAG
CCTGAAAAACGAACGCGAACGGATGTTCGCCGAATTGGGCAAAATATGCCGTCTGAACAC
CTTTTCAAGTCAGGCAAACTTCATTACCATACGCGTACCCGATGCCGATTTGTTGTTTGA
CACGCTCAAACAAAACCGCATCTTGGTTAAAAAACTGCATGGCGCGCACCCGCTTTTGGA
ACACTGCCTGCGCATTACCGTAGGCAGCCCCGCACAAACGATGCCGTTCTCAACATCAT
TCGCCAACTTTACTGCCAACCAACGGATTTCCTATGAATTTGACTAAAACACAACGCCAA
CTGCACAACTTTCTGACCCTCGCCCAAGAAGCAGGTTCGCTGTCCAAGCTCGCCAAACTC
TGCGGCTACCGTACCCCCGTCGCACTCTACAAACTCAAACAACGCCTTGAAAAGCAGGCA
GAAGACCCAGATGCACGCGGCATCCGTCCCAGCCTGTTGGCAAAACTCGAAG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 33>:

gnm_33

```
ATAAGTCGGACAAAGTTATTGATTGATTCTCTTTTTTCTGGAATAGAAGAATTAAACATG
ATATTTGGCTAATCTCATTTTCTGATAATTCAGAAATGGTAATTAAAGAATCCCTGAAAG
ATGGTCATAAAATATACAAATTTGAATTTTGCGAAATTGTCGATAATTGCAATTTTGATG
ATGTATTCGTTTGAAGCGAATGCAAATGCAGTAAAAATATCTGAAACTGTTTCAGTTGAT
ACCGGACAAGGTGCGAAAATTCATAAGTTTGTACCTAAAAATAGTAAAACTTATTCATCT
GATTTAATAAAAACGGTAGATTTAACACACATCCCTACGGGCGCAAAAGCCCGAATCAAC
GCCAAAATAACCGCCAGCGTATCCCGCGCCGGCGTATTGGCGGGGGTCGGCAAACTTGCC
CGCTTAGGCGCGAAATTCAGCACAAGGGCGGTTCCCTATGTCGGAACAGCCCTTTTAGCC
CACGACGTATACGAAACTTTCAAAGAAGACATACAGGCACGAGGCTACCAATACGACCCC
GAAACCGACAAATTTGCAAAGGTCTCAGGCTAAGTGCGCCTGTTGCCGCCTAAAAGGTAC
CCCGGATGCmTGATTATCGGGTATCCGGGGAGGATTAAGGGGGTATTTGGGTAGAATTAG
GGAGTGATTGGTAGCGGAAATAGACGAAAACCTGTGTTTGGGTTTCGGCTGTCGGGAGGG
AAAGGAATTTTGCAAAGGTCTCAATTAGTATAGTGGATTAACAAAAATCAGGACAAGGCG
ACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTCGGTGCTTCAGCACCTTA
```

-363-

GAGAATCGTTCTCTTTGAGCTAAGGCGAGCCAATGCCGTACTGGTkTTTGTTAATCCACT
ATAAAATCGAGTTTATCCTAGCTGTCCAGGACAGCCCCTATTTTTTCATAACCATCACGA
AAGGAATTTTGCAAAGATTTTATTCCATCTCAAAACAATCATCTCAAAAATGCGTTTCTG
ACCGCCGGTAAAACAAAACCCTCTAAGAAAATACTTAGAGGGTTTTGAAATTTGGCTCCC
5   CGACCTGGGCTCGAACCAGGGACCTGCGGATTAACAGTCCGTCGCTCTACCGACTGAGCT
ATCGGGGAACAAGCGCGAATAATAAAACAGAAATACCGAACGTGTCAATATAAATTGACA
ATCGATTGCACTTTATCTGCAAGCCCGCAATCTTTATATGTTATATGGCTTCCGCAATAT
GCCTTGCCGCACGTTTGGCATCCAATAGGATTAAACCAAGTCTGCCGGTTCTTTTGCCA
CCAGCACCAACACGGCATCTTTACCCGCCTGACTTAAAAGGATATAGCCTGATTTTCCTT
10   TAATCATCACTTGTTCCAATTCCCCGCAGGCGAGTTCCTGCACCGAGCGACTCCCCAAAG
CAAGCAAAGTGGCAGAAATCGCCCCTACCCTGTCCGAATTCAAATGTGAAGGAAGCATTG
TCGCCATCGGCAATCCGTCGGTTGAGATAACGGCAGACGCGATAATATCCGTAGATGTAT
TGTTTAAATCTTCAAGGATTGAAATCAATAATTGCTGCATAACCCCTCCTCTCTCCCAAG
TTTTACACGCGGTTGCTGTAACGGCGGTATAAAATCCTTACCAAAGTAACAAATGCCTCT
15   TTGCCCAAATCGGGAATGCCGCCGATAACCAAAATAAATTTGGTTGAACCGATATACAAT
GGGAAAAATGTCAATTCGCTCTGACCGGAAGGATCGCAAACGCCCCAAGCGTTATTGTTG
ATATACAGGTTGTTCTTAATCAGCAGCCGGTATTTCTTTTCCATCTGTGCGACTTCTGCC
GCCAACAACCCCAACTCTTCCGCCGCCTCATGATGGAAATTGGCGTTGGCAAGATACAGA
CCGTTCCGATCGACCAATAACGCCTTACCGCTGCCGGACAATTGTTCCATCAGCAACGGC
20   AATTGCTCGTCCGACAAATTGATGCCGTCTGAATGACCGTTTTCATCGCCATAGAGGAAT
TCGAGTTTTTGCAAACGGTACAACAGGTTCAAAGCGGTATCGATGTCGGCGGTGTCCGCC
CAAGTAAGCAGCTTCTCACTGCTGACCATTTCGTCCGCATCTGCTTTCAACAGGCTGTGC
AACAAAGTTTTACCGGCACTGGGGGCATCGCTGGATACGGCATAAAATGCACCGGCAGGA
GTCAGGCGGGGATATAAATTTGCTTGTAGTGAAAGTGTTGATTCCATATTAAACCTCCAG
25   TCCCGGATCAATAGAAAATAACATTGCGCTAACCAATTGTTTTACGTCATCTTCCTTACG
GGCATCAATTTCAAAAACCGGAACATTAAGATTATGTTTTGCAAGATATTTGTGATACAC
GTCGATACCGGGCTGAGAGCGTATATCCATCTTGGTAATACCGACAACGACGGGTGCCTT
CTCCAGCAGCCCTCGAAACGAATGTAAAAAGAATTCCAAATCTTTCAACGGATTGGTTCG
GGCATTATCTAAAAGCAAGACCAAACCCATACTGCCTTGGCTTAAGATTTCCCACATAAA
30   GTTGAACCGTTCCTGACCGGGCGTACCATATAAATGGACTTTGGTATCCTCATCCAAGCT
GATGGCCCCGTAGTCCATCGCCACTGTCGTATTCCTTTTCCTATCCAAAGTCATATCGGA
TGCGGAAGCATCGGTCTGAACGAGTGCTTCGTCCGAAATAGCCGCAATGGCAGTGGTTTT
CCCTACGCCGACAGGTCCTGTGAAAATAATTTTATTTTCTCTCATCTCTCCGCCTCTTAG
CTGCCCAACAGTTTTTTCATCAGCCTTTGCAGAAGGCCGCGCGACTGGGATTGGGATGGT
35   GTTGTGATTTTTTCCGCTTTTTTCATCATTTCACTATCAGAGGCAGAATCGGCTCCGATA
TTTATTTTATCCGCCATATCGGAGTATGCCTGTTGTGAAACCGTTTTTAAATCTACCGAC
AAAAACCCGGTTGTATAGGTTGCCGCAAGATAATTCAGAATATCATTGAGGTTTAAAGGC
ATCACTTTATACAACACGTTAAGGTTGACGGATGCCTTGGTCAGAAATGCCGACAAGCGT
ATCGACCCCGGCACATTTGCCAACCGGGTCAGGTTTGGCCAAGATTTCAACGTAAACGGA
40   GTATCGGGAGAAATCGGATAAATCAACCTGCCCTGCGCTGTCCAAATGGAAAACTGCCAC
ATACAGGACATAATGCCTACTTTAGCCTTTTGCCGCCATTGCGGGTTATCGGGAACAGTC
TTGCAGCTGACCTGCAAATTTTCGTCTTTGCACAATTCTTCGAGTTTTTGCACACTTTCT
GTCAGCAAAACCCGTTGTATCGAGGGGAAAACAATAAGGACCGGCTTATTTCCATGCAAG
ATAGCGATGTCCTGCCTGTTCTTTTCCGCAAACCGCAACGCCCCCAATAATCCTTTATTC
45   GGGTTAAACTGGCGTATCGTAACCGTACGCTGCACATTCCCGTTATTTTTCGCCGACCGG
TCTGCGGGTGCAATAAACGATTTCCCATAAACATTCTCGCCCTGCAACAATTTGCGGAGC
ATAGGAAACAATGTTTCAAACCGAATCGGTTTGGGCAGGTAGGGAACTTCAGAATCGGGA
ACTTTCTCCGAACAGACGGCGACGGGTATATCCTTATAACGCTCGGCAAGCTCTTTCCAA
AGTTCAAAACCGCCCTCGGCATCGGTATCCGCCAAAACCAAATCGGGCACGGCACTGCCG
50   TCTGAAGGGGATACTGTTTCATAACGGGTGGTATTGTGCATTTTGAATGCCATTTTGAAA
ACGGATTCCTGCTGCGCCGTCATCCCCGCCAACATTACGCGTACTGTTTTAATTTTCGGC
AGTTGAACTTCCATTTTTATTTTCCGTACCGTTTTATTTTTTAATATTTTGATTCATAC
GCTGCAGCAGCCGGCTCATCAGCATAACGACCTCTTCAGGAAGCCTGTCCGCACGTTCCC
TCAATACCCTTAAAAACTGCCCCAACCTATCCCAATCTTCAGTACGTTCATAAATATCGA
55   TCAACGTAATATAAAGCTGGGACTCGTCGGGATATTTCAATACCGCCTGCTCCAACACAT
CCATTGCCGCTTCAATCTGACCATACATCAGCAACGACTCTACTTCCTTAACCGCATCGT
CTGCCGGAGACGAACCGGTGTTAATCAACGAAGAATCTTGAAGCACCAAATCCCGATGTT

```
GCGATTTGAATTTCTGTATATTTTTCGGCAGATACCCGTGCCCCATACCGATGTCTTTGA
TTTGCCGGTCGTTCGGCCCTTTTTCCAAATCATCGAAAACTTCATGGTAACCCAAGCTGT
ACCCCCACCCCAGCATCCGCTCTTTAACCTGCCTGCCGTAGTTGCCCAACGTTTGGTAAA
GTTTCCACAAATGTCCGGCAAAACGGTCTATGTCCGCGTGTTGGTAATCGAGTTTCAACG
CATCGATAATCAGGTTTGCAGGTTTTTCGGAAGTTTGGATGGCACGGTCGTATTGTTTCG
ATGCCGTTTCATAGCTGACTTTGTCTTTAAGGATTTTCGCACCTTGATCGGCACGGACCA
AACCGGCAATCGCACCGATTTCCTCTTGACTGATTCCGGACACGTCTTTTTTGCCCCGCA
CAATCGGGATGCGCTTGATTTCTTCGGCTTCATAAGCCTTACCGCCGGCATCCGGCGGGG
GCGATGCGGAAGCTGCCGTCGCAGAACCGCCTTCCGCACGTTTTTCAATCTCCTGAGTAC
CCCATCCCAAACCTTCTTCCGCCAAGACGCGGATACGCAAATGGTTTGAATCGCGCTGTA
ATGCCTGTTCGATATATTTTGCCAAAAGTTCGGAAAGAATCAGTTTGCCGTATTTTTGCA
GATTGTCTGCCAAAACATCGACATCCCCCACTTCGAGATTGATATCGAGCAGCTCGCGGA
TAAGGTTTTCAGGTTTCGCTTCACCATCCGGAATGCCGTCCAGATAGGCAGCCAAAGATT
CGGCAGCCTTGCCCTGATAACCGAATTGCTTATAAACCTGATACTCCGTAAGCGGATCGA
CTTCTTGCGCGGATACGGCGGCGGATGCGGTCTCGGCACTTTCGTTCCAAGACCAGTCGG
GTTGCGTGCCGTCTGAAACCGATTGTCCAATCTGATCGACCCAGTCCGAATCATTGCTTC
CGGGTGTCTGCCCCTGCGTATTGCCGACACCTTGGGATTTGCGCTTCGGTGTTTTCTTAC
CCTGCTTCGCACGCATAACCAAAAGCATCAGCAATACCGCCAGTGCCAAACCGATAATTA
ATGAGTTTTCCAAAGGATACTCCCGATACCGTAACGAGCGGATAGCTGACCGCCTGCAAC
GGCCATTGTCCGCTTTTATTATTAACGATTTACTGAAATAGACTTGTAAGTTTTAAATCA
TACCATAATTTAACGTTTAACAATATGCCTTCTGCACAAGCCTCGCCATATTACCTTTTA
CCCACATCAGTATCAATACCCGATATAAAAATAACTTTGCCCATAAGCTGCCTTATTGCC
TGCCCGCCGCAGAGTAGCGCGCGATAAAAAATAACGGATGATAAGTCAGGCGCACTTTGC
CCGACGGCATACCGAACGCCGACAAGTAATCGCCAATAAATCCATTGAGATTTTTTCTTG
TCCAATTTTTTTGGTTCGTGGCTGTTACGCCTGTATATTTAAGGTGTTTGAGTACATCTG
ACGGCGTATCAAAGTCTAGTATTACCGTAAAATCCTCACACCATAAAAGCTCAAAATCTT
TGGCTAACCAAGCCTGCCATTGGGATAAAGTCGGGTAATTTAAGCCTATATTTGTAATTT
GGCGGACTTCTTTTAAATTGTCTTTGCCAAAGGTTGCAACCGCCAATAATCCGTTTGTTT
TCAAGCCTGTTTTGCAATGGGTGATAAAAGCGTCGGGTTGATGAAACCATTGCACGGCAG
ATGCGCTTGCGATTAAGTCAAATTGTCGTTGAAAAGGAAAGTTTTCCGCATCGCCGCAAT
AAAAATCAAAGGATTGCGGCAGTTTTTCAGCCAGTTGGGGCTGCACATTGCACAAATCAT
TAAATAACCAATAATTCGCTGAAATCTGTTTTTGCAGCAAGGCACTCAACATTCCTGAGC
CGCAGCCCAATTCCAACACGTTTTCCAATGGCATATCCGGCAAATAATCTTGCAAATGCG
TCATTAAATTAATCGTCATTTTTTGTTGGATTAAGGCGTGCCGGTCATAATCGTTTAATG
CTTTTTGGAAAGCCTGCCGAATGCGCGATTTATTTATGGCAGTCAGTGATTCCATAGTGC
CGACCAATGGGTGAATCTTGAAAACAGGTAATGTCCGACGTCAATTTCCCGAACGGTGCA
ACGCGGTGTCCAATATCGGTGCTGATTGGCAGGCATAAAAATTTTATCGCCCGATCCGAC
CAAGGCATTTGTCCAGCGGATAAGATCTGTACGTCTATCTTGCCCGATCATCGCAAAAAG
TGCGATAAGTTCTTGATGAATTTCGCCAAACGGGCGTGCGGGAAATTGTTGGTAATCTTC
AAAAGATGCTTTATCGCCACACATTCTGCGTTCAAATTTTAAACGGGTGTTTTCCGTGAG
GTTCTCCAATGTGCCTTTAAAAACGGTGCAAGGGATACCGAAATTATCATCGCAAGGCAA
ACCTGTGCCATTCACTGCCGTTGCGGATTTTAATCTTATTCCTTGCAATGCCCTCTCTGC
CGCCCAAACGCCCATTGACCACGCCACCAAACGGATGTGCCGATAGGCGGAAAAATCAAA
ATCCAAATTTAAATCTTGATAATCATAGCAAATCAATAAATCGTGATTTTCCGGCAAAAT
CAAATGATTTACAGCATCGGGCGGCGTTCCCCAACCTGCAAAATACAGGATTAAATGTCC
GCCTTGATGATTGTAAAATTTTGTTTCCATATCATATCCTTACAGGCACGCCGCAAACTG
CCGCACTTCATCCGTTGTCATATCTGCCGTTAAAGACAGGCGGATTCTGGATGTGTTTTT
GGGTACTGTCGACGGTCTGATGGGCAGGCAATAATAACCCTGCCTTTGCAGGTATTCCGC
TTTGGCAAGGGTGGCTTCATTCCCGCCTAAAATATAGGGGACGATACAGGTTTGGCTCGG
CATTATTTGCGTCCGATGCGCCACTTCCCGCCGTAAAAATGCGCTTAACTGCTCAAGATG
GCTTCTTTCTTTTGAGAATTGCGGCAATCGTTCAAAAATAAAATAAGTCCAAGCCACATT
AAACGGCGGCAATGCGGTTGAAAAAATCAATGGGCGCATTTGATTAATCAAACATTCTTT
CAATACTTGGTTGCAGACGGCATACGCCCCCACCGAGGCTAAGGCTTTACCGAAAGTGCC
AACCAATAAATCAATCTCGGCAATCAAATTATCCCGTTCGGCAATCCCCAATCCGTTTTG
CCCATAAACACCGATTGCGTGGGCTTCATCCACATAAAGATAAGTATTGGGAAACTGTTT
TTTTAATTGGACAAGCTGTTTCAAATCCGCCACATCGCCGTCCATACTGAAAACAGATTC
GGTAACGATAAAAGTGCGGTCAAATTTTCCGACGTTTTTTTTCAAGCAGATTTTTCAAATG
```

-365-

```
TTCATAATCATTATGACGATAACGGAAAAACGCACACCGGCTCAAACGGATGCCGTCAAT
CATACTGGCGTGAACAAATTTATCTGCCAAAATCAAACTTTTCGTCGTCGTCAAAGCAGG
CAAAATACCGAGATTGGCGTGATAGCCGCTGTTGAACAATAACGCGCTTTCCCGTTGGAA
ACGTTGTGCGACAAGCTCTTCCAAATCGGTATAAATAGGAAAGTTGCCCGTTAATAAACG
CGATGAAGAACTGGTAAAAGAGGGAAAATTACCGCCGTATTGCTGCAAAAAAGACCGGCG
CAAGTTTTCATCTGATGCCAAACCCAAATAATCATTAGACGACATATTCAGCATTTTGCG
GTTTTCCCGCGTAATATACCGCCCTTGATGAATCAAATCCGGAATCGAACGATATTGGTT
TTGCGCGCCGAGTTGTTCAAGCTGTTGTTTAAAAACCTTCATTATGATGTAAATATTCCT
GAGTTAAAGCCTGAACCAACCCAGCATCAAACAATCAAGTAATGCCCTTTTAATAAAAAC
CGTTTTGCCGCCGACCTTTGCCACACCCCTGCCTTCATAATCCAAGGCGGAAATTTCCGC
GACATTTGTTTCCGTTGCCATTACCCAATCCGTCCGCACTGTACCGAAGCGCATATTTTC
GCACAAATTGGTACGGTTTCAGGTATGATTTGCCGAAAACCTATCGGACACACACCATAT
TTTGATATGAATAAAACAATCTGCCGCACTGCTGCACTATTGATAAGCGGTTTTTCATAC
GCAAACACCATCATTCCCGATGTCTCCCCCGTCGCACAAGGTCAACATGTCTTCATTAAC
ATCCCTCAGCAACGCCTGTTCCTCTACACCGACGGCAAACTGACCAAGGTTTATCCCGTT
GCAGTAGGTCGGGCGATGACGCAAACCAATCTAGGCGAACATAAAATCGGTGCGAAAGCC
TATAACCCTGTTTGGTACATCCCCAAATCCATACAGAAAGAACGCGGCGACGGCGTAAAA
ACCATAGCCGCCGGCCCGGACAACCCTTTGGGGCCGGTTTTTGTCCGCTTAGGCGACCCC
AAACTCGGTTTGGGCATACACGGGACCAATGCGCCGGCCAGCGTCCCGGGGTTCGGAGT
CACGGCTGCGTCCGCATGAAATCGCCCGACGCGCTCGAGTTTGCCAAAACCATCGCCAGC
GGCTCGCCCGCCTCCGTCATCTATCAAATGGCGGGTCTCAATGAAGATGCGGATCGCAAC
CTGTGGCTTGCCGCCTTCCGCGACCCTTACGGTAAGAACAACCTTGACATCGCCTCTCTG
AAAAAAAGTATTGCGCAATGGGCAAAAACACAGGGTAAAACCATCGCGCCCGAGAAAGTC
GATGCTGTACTCAAAGACCGCACCGGATCGGCCGTCTGCCTGACCTGCGGCAAAAACGGC
AAGATGAAGATGCCGCTCAAATCGCTGGCGTGGATACAGGGTTCTTCCTCATACAGCCAA
GCTGAAGTCATTGAACAAACTGAGGAAACCAACTCTGCCGAAATATCCGAGACACGCACG
CCCGAAGTGCCTGATGTACACACGCCCGAGGCACAACCGCATTTAAATACCCAATCCGAC
GGCACGCCGACTGCCTATACCGAACCGGCTGCCGATTCATCGCCGCAAGTAGAAACACCT
GATCAGGCTGCTTCCGAGCCGGTTGATGTATTATTTTCAATAGATGTGATACGGCAGGGA
AATTTGCGTTTAGGTAATTGAATAACCTTCTGATTATTTAATGCTTATGTTTATCAGAAG
TTGATAGGCGGTTTGGTTTTTGTTTGGCTTTTCCTACACCGCCGCCTGCCGCTTTCTGCA
ACATTCAAGCGCACAAATATGCCATCTGAAGGCTTTAGACGGCATATTTCACGATAATAG
TCGCCCAATCAAATAAACACAGATTGGAAATTTATTTTATTTTTCCCTTACCAATACCCC
AGAACTTTCCACCAAATGCTGCCGATAACGAAAAAAATCAGAAAATTGACTACGCTCATG
ATAAAACCCGCCTTCCACCATTCTCCCATTGTGGTGTAGCCCGAACCGAAAATCACAGGC
GAAGTACCGGTCGCATAATGAGTGAGGGTCATCATAATGTTGGATGCGGCCGCCATCATC
AGCGCGGTCGGCATCGCCGGGGCATTCAGTGAAACGGCAGCAGCGAAAATGCGCCGAAC
ATAGCGGTAATATGTGCAGTAGTACTGGCAAACATATAATGCGCATACATATAAGCAAGC
ACGAGGATTACGCCCGCAGCCGTGCCGCTAACGCCCAAACCGCCGACACTTTCCGCCAAC
ACTCCGGAGAACCATTTAATCAGTCCGAGTTTATTTAAAAATGCGGCCATCATAATCAAT
GCGCCAAACCAAATAATCGTATCCCACGCGCTTTTTTCTTTCAAAACATCGTCCCAAGTC
AATACACCGGAAAGCAAAAGCAGGCTTAATCCGATAAATGCGGTGGCGGTGGCGTTGATA
CTAAAAGCGTGATTGCCGGTAATAAGGGCGGGAACATCTGCCCACAACAGCAGCAAGATA
CCGAAAATGACCGCCATAATGATTTCGTCTGCCGACATTTTACCCATCTCCCTCAGACGG
TCTTTGGCAAATTGAACGGCATTGGGCGTTTCTTTAATTTCAGGCGGATACAAAAAAATAT
AAAATCAAAGGCATAACGAAAAAGGCGATAACGCCGGGAACAGCCATTGCCCACGCCCAC
GCCCCCCAAGAAAGACGGAAACTACTGCCTAAATTTTCGGCAATCAAGTTGACGATTAAA
GGGTTGGGGGCAGTTGCAGTAATAAACATAGCCGACGAAATGGGATTGGAATGATAGTTG
ACCAAAGCCAAATATTTACCCATCTTGCCTTCTGTGCCTTTTGCGGGATTGGAGCCGTAA
CTGCCGGCAATCGACTGCATAATCGGATGTATAATGCCGCCGCCGCGCGGTATTGGAA
GGGGTAACGGGAGCCAGCAGCAGTTCGGAAAGAGCGAGACTGTAACCGATGCCCAGCGTT
TTTCTTCCAAAAACGGCGATAAACAAATATCCGATACGCATCCCCAGCCCTGTTTTGAGC
AAACCGCGCGAAATCATAACTGCGATGGCAATCAGCCAAATCAACGGATTGGCGAACGCA
CTCAACGCATCGCTCATCGCCGCGCCCGGTTTGTCGGCGGTTACGCCGGTTACTGCGACC
AACCCGACGGCAATAATCGACAGCGCGCCCAACGGCATGGCCTTGCCGATAATGGCGGCA
ATCACACCGACAAACATGGCCAGCAGCGTCCAAGCCTGAGGCTTGACCCCGTCGGGTACG
GGCAGTGCCAAAACCAGGGCGCACAATACTGCGGCAATGGCGAGGGGTATCGGTTTGAAA
```

CCCAATTTCATCATATTGACCTCCGTAAAAAAGACCGTCCCGAAAAATCGGAAAAATAAT
ATTTAACTAATTGTTTTATAAGATATATTCTGATATTTCACCGTCTTTCCGATATGCGGC
TCCGGGCAACTTTTGTTTCAGTATTTGAATTTTCATTAGACTGAATACGCCGTTTGAACG
GCACGGCGAAAACCCGGGGGATGCCGGACGTTCAGTCCTTTTTCGCACCTTGAAGGTAAA
GCATTTCCAAGGCAATTGTGGCACCGGCCAAAGCGGTAATGTCGGATTGGTCGTAAGAGG
GGGCAACTTCTACAACATCCATACCGACGATGTCGAGATCCGTCAGCCCACGTAGGATTT
TTAATGCCCTGTCGCTGCTCAAGCCGCCGCATACGGGCGTACCGGTCCCAGGGGCGAACG
ACGGGTCCAGGCAGTCTATGTCGAAAGTCAGGTAAACGGGCATATTGCCGACGGTTTCTT
TGATTTTACGGACGGTCTCTTCAACACTGTCTTCATTGACTTTAGGGGCGGACAACACAG
TAAAAGGCAATTTTTTACTGTGTTCGGTGCGTATGCCGATTTGTACGGAACGGGACGGGT
CGATGAGGCCTTCCTTGGGGGCGGTATAGAACATCGTACCGTGGTCGTATTCGCTGCCGT
TGTCGTAGGTGTCGGTGTGCGCGTCAAAATGAATCAGTGCGAGTTTGCCGAAATAGCGGG
CGTGGGCGCGCAACAACGGTAGGGTAATGAAATGGTCGCCGCCCAAACTCAAACAGCGTT
TGCCGGAAGAAAGTAATTTGCCGGCGTGCGCTTCCATTTTTTCGACAAAATCCCTGCTGT
CGCCAAAAGAAAAAACCAAGTCGCCGCAATCAATAATGTTCAGGCGTTCGCGCACATCAA
ATGTCCATGGAAACCTGCGGTGCTCCCAAGCGAGGTTGACGGAGGCGCGCCGGATGGCTT
CAGGACCGAAACGCGCGCCGGAACGCCCTGAAACCGCCATATCATAAGGCACGCCGGTAA
TAACCCAATCGGCATGACTTTCATACGGCATAAAATTAAGCGGCAGGCGCAAAAACCCGA
AATTATTGGAAACGAGGGAGTTGTCGGTTTGTCCTGCCAGTGTGCTGTATTGCATCGTAA
TGATTCCTTGTAATTGGTTTCAATCGGTCGTGATGATTGGTGTTTGAGTAAGAAAATCGG
GCTTCAGACGACATATCCGATGCCTTGATGCGTCTATTCGTCTTCCAAATAGGTATAACC
ATTAAGCCCCGCTTCGAGTTCTTTTAAGAAAGACATAGCCTGCGAGGCAGGAAGGTCTGA
ATGTTCGATTTGTTCGCGATAGCGTTTCATCAGCTCTTTCGGATCTTGATAAACGTATTC
GAGCATATCGGCAACGGTGTTTCCTTCATCGTAATCGATGACGGTAAATTGTCCGTCTTC
CCCTACAACAACATCGGCAGTGGCAGTGTCGCCGAAAGATTGTGCATATTGCCGAGTAT
TTCCTGATATGCTCCCACCATAAAAAAGCCTAAAAGCGGCGGCTCTTCTTCGGGATAATC
AGGCATAGGCATCGTACCGGCGATGCCGTCTCCGTCGATGTAGTGGTCAATCGTACCGTC
TGAATCGCAGGTAATGTCCAACAACACGGCGCGGCGCGCAATCGGTTCATTCAAACCGGT
AATGGGACAAACAGGGAAAAGTTGATCTATGCCCCAAGCATCGGGCAAAGATTGGAAGAG
TGAGAAATTGACATACAGCTTATCGGCAAAACGTTCTTGCAATTCGTCAATAATGGTTCG
GTGAGACCGGTGTTTTTCATTAAACAATTCGCCGACTTCATGACAGATATTTAAATACAG
TTGCTCCGCCCACGCACGTTGCGCCAAACTCAACAGCCCGACATTATACTGATTATGCAC
ATCAGCAAGATCAAACTGCCCTTCGTGTATCCAGCTGCGTAAGGAACGTTTTTCCCGCGA
GGCGGAAATATCCGTCCAAGTTTCCCACATACTGTGCAACACACGCGGTGCTTCGGGCGA
TGGCGCATCCAGCCGGCGCGGTTTGTAACGTTCAACGCCTATAACATTAGCAACCAAAAC
GGCGTGATGTGCGGTAATGCCGCGCCCGCTCTCGGTGATGATTGTCGGATGCGGCAGCCC
GTGTTCGAGACAAGCCTGACTGATGCCCCATACGACTGTGGCGGCATATTCGTTGAGGCT
GTAATTAACGGAACAATCCGATTGTGTGCGGTTTCCTTCGTAATCCACGCCAAGCCCGCC
GCCTACATCAAAACAGCGGATATTTACCCCCAGTTTGTGCAACTCAACATAAAACCGAGC
CGATTCGTGTACACCTGTGGCAACATCACGGATGTTCCCAAGCTGCGAGCCCAAATGGAA
ATGCAAAAGCTGCAGGCAATCCAGCCTGTTTTTTTGTTTCAAAATATCGACCAGTTGCAA
AACTTGGGAAGCCGACAAGCCGAATTTTGATTTTTCCCCACCCGAAGACTGCCATTTTCC
CGAACCTTGGGAAGCCAGTCTGGCGCGCACACCCAAACGGGGCTTGATGCCGAGTTTTTC
CGCCTCTTCCAATACCATTTGTATTTCGGACAGCTTCTCAATCACCAAATAAACCTGATG
CCCCAGTTTTTCGCCCATCAAGGCGAAACGGATATATTCACGGTCTTTATAGCCGTTGCA
GACGATTAATGTTTGCCGGTTGCCGGCGTGTGCCAAAACCGCCATCAGTTCGGCTTTAGA
ACCAGCTTCCAAACCATGCGGTTGTCCGCTTGACATAAGCGATTCGATGACGCGGCGGTG
TTGGTTGACCTTGATAGGGTAAACCAAACAATAACCGCCCTTATAGCCGCACTCTTCCCG
TGCCGTCTGAAAGGCGCGGTTAATGTCGCGGAGGCGGTGTTCGAGGATTTGCGGAAAACA
AAACAAAACAGGCAGGCGCGCCTGATGTTTTTGTTGCACGGCTTCAGTCAGTTTTTGCAG
TGAAACAGTTTGATTGTGTTGCGAGGGATTGGGGCGGACGATGATTTCGCCGGAATCGTC
AACATCATAATAACCTATGCCCCAATGATTAATGTTGCACACTTCACGGATGGTAAGGAT
AGGCATAATAAACCTGCTCCGTCTGTCGTGTTGAAAAGGAATGATTATAACAAATCAGCG
TGAAATGTCATTTTTTTAATAAGAAAGCCTGCCTCATACCTGATGAGGAACAGGCAAAA
TGCCGTCTGAACGCTTCAGACGGCATTTTGGTTCATCTTTCCATCAAAGGAGTCAGCGAT
CGAGCTGCTCTTTGATGATTTTCAGGTCGGGGTAAGACAACACGATGTCGTATTCGCGGC
CGTCTTTATAGGCTTCCACTTCCAGCACAGGCTTACCCCAATGGTCGTCGGCATCGACAT

```
     CGTAAACCTGATAACCGCGCTGCTCCAACATTTTCACAGCTTTTGTGCGGTTTTGTTCAA
     AATGGGGATCGCCGTAAATCTGACGCTCGGCAGAGTCGCCGGCAAATGCGGCAGCGGCAC
     TCAGAGAAACAACGGCAGCCAATAACAGTTTTTTCATTTTCAGTCCTTTTTTTATCGGTT
     GATTGAACAAGATGTGTTTTTCAATACCGCCATTAAAACACAGCAAAATTAGGTTTGAAT
 5   TAGAGGGAAGTCAAGAAGCGTAAATGCCGTCTGAAAAAAACAGAGCCGTCAAACGGCTCC
     GTTTTCCTTATACTTCTTTAGTTTCGGTTGCCTTCTGGCGCAAACGCAAACTTAATTCAC
     GCAACTGCTTGTCGTCCACGCTGTTGGGCGCGTTGGTCAGCAGGCATTGGGCGCGTTGTG
     TTTTCGGGAAGGCAATCACGTCGCGGATGGATTCGGCACCGGTCATCAGCGTTACCAGAC
     GGTCGAGGCCGAATGCAAGACCGCCGTGAGGAGGTGCGCCGAATTTCAGGTTGTCCAAGA
10   GGAAGCCGAATTTCTCTTGTTGCTCTTCAGGGCTGATTTTCAGCGCGGCAAACACTTTCT
     CTTGTACGTCTGCGCGGTGAATACGGATAGAGCCGCCGCCGATTTCCCAGCCGTTCAATA
     CCATATCGTAGGCGCGTGCCAAACAATTTGCCGGGTCGGAAACCATCAGGTCTTCATGAC
     CTTCTTTTGGCGCGGTAAACGGATGGTGTACGGCAACGTAGCGGTCGGCTTCTTCGTCGT
     ATTCGAACATTGGGAAATCAACGACCCACAAAGGTTTCCATTCGTCTGTGAAATAGCCGT
15   TGTCTTTGCCGTGCTCCAAGCCGACTTTGATACGCAGTGCGCCGATGGCTTCGTTCACGA
     CTTTGGCTTTGTCTGCGCCGAAGAAGATGATGTCGCCGTTTTGCGCGCCGGTACGCGCGA
     TAATTTCTTTCAGGGCGTTTTCGGACAGGTATTTCACGATTGGAGATTGCAGGCCGCTGT
     CTTCGCCGTTGGAAAGGTTGCTGACATCGTTTACTTTGATGTATGCCAGACCTTTCGCGC
     CGTAGATGCCGACAAATTTGGTGTATTCGTCGATTTCTTTGCGGCTGAATTCTGCGCCGT
20   TCGGCACGCGCAGAGCGACCACGCGGCCGCCTTTCATGTCGGCTGCGCCACGGAAGACTT
     TGAATTCTTCCGTTTTCATCAGGTCGGTCAACTCGGTAAATTTCAAGTTGATGCGCATAT
     CCGGTTTGTCAGAGCCGTAGTAGAACATGGCTTCAGAGTAAGGCATGCGTGGGAAGTCGC
     CCAAATCTACATTTAAAGCATCTTTGAAGACTTGTTTGGCCATGCCTTCAGTGATGTCCA
     TGATTTCATCCTCGTTTAAGAACGAGGTTTCCAAGTCGATTTGGGTAAₐTTCGGGCTGGC
25   GGTCGGCACGCAGGTCTTCGTCGCGGAAGCACTTGGTGATTTGGTAGTAACGGTCGAAAC
     CCGCCACCATCAACAGTTGTTTGAATAATTGCGGCGATTGCGGTAGCGCGAAAAACTCGC
     CCGGATGAACGCGGCTCGGCACGAGGTAGTCGCGCGCGCCTTCAGGCGTGGAGCGGGTCA
     GCATCGGGGTTTCAATGTCGATGAAACCTTGCGCGTCCAAGTAGCGGCGAACGCCCATAG .
     CAACTTGGTAACGCAGGCGCAGGTTGCGTTGCATCACCGGACGGCGCAAGTCGATAACGC
30   GGTTGGTCAGGCGAACGTTTTCGCTGATGTTTTCATCGTCGATTTGGAACGGCGGCGTGG
     CGGCGGCGTTCAAGACTTCGATTTCTTTGGCAAGGATTTCGATTTTGCCGGAAATCATTT
     TATCGTTGGTCGTGCCTTCGGGACGGTTGCGTACGCGGCCGGTAATGCTCAAAACGTATT
     CGTTGCGGGAGGAATCGGCAGCGGCAAACGCTTCGGGCGTGTCGGGATCGATCACGACTT
     GGACGATGCCTTCGCGGTCGCGCAGGTCGATAAAAATCACACCGCCGTGGTCGCGTCGAC
35   GGTGTACCCAGCCTTTGACGGTAACGGTTTGGTCTAAGTATTGCTCACTGATCAGGCCGC
     AATAGTTGGTACGCATAAAATCACCTTTTATTGATTTAAACTGAAAACAGAAAATGCCGT
     CTGAACGGCGGCTTTATTGTTGTTCGGGCAAATCCGCCTTTTCAGACGGCCATAGGTCCTG
     CCAATGTTTTGACGGGCAGGTCGTCAGGGATGACCATACCCAGCGAAATCACATATTTCA
     ATGCTTCGTCCACGCTCATATCGAGTTCGCGCACATCGCTTTTCTTTACCATAATATAGT
40   AACCGCCGGTCGGATTCGGCGTGGTCGGAACATACACGGAAAGATAATCGCCGTCCTTCG
     GCAATGCGGCCTTAACCGCATTCGACACCTGCCCTGACACGAAAGCAATCGTCCAAATAC
     CGGGCTGGGGAAACGGCACGAGTACCGGCGTTTTAAACGAACGGCTGCTGTCGGACAGCA
     GCGATTCGGATACTTTTTTCACACTCGAATAGATGGATTTCACAACCGGAATCCGCCCCA
     ACAGGCTGTCCCACGCGGCGAGGATCTGCCGACCCAATACGTTGGCGGCAAACAATCCGG
45   TTACAAACAATACGGCAATGGCAACGATAACGCCCAGCCCCGGGATATTAAACCCCAAAA
     CATATTGCGGCCGCCATTGCTTCGGCAGCAGGTTGACGAGCTGATCGGACGCGGAAACGA
     TATAGGAAACCACCCAAACCGTTACCGCAATCGGCAGCCAGACCAAAATGCCCGTAATCA
     GATATTTTTTTAACGCyTTGGCAGCTTTGCCGCCTTCGGCCGCAGGTTCCGTCATCTTGC
     TTGATTCCGACAAAGTCCGTACAAACCGCACATTATACGCGTTTGCCCGGATTCAAACGA
50   AATTTTTATCCCGCCCCGCCAAACCGCCGGCGGCTTCAGACGGCACGGCAACTTGATATA
     CCGTCTGAACACGCGGTTCAGATGCCGTCCAAGTCGTTGAACATCAACCCGATACCGATA
     CCGTTCTGCTTGTGGTTGTAGTCGATCAGGCTCTCGCCGTAACCGTGGAATCCGCGTACC
     ACGCCTTTGAGTTTGCCCTTAATCGGAAACGTGTAGGCGGCTTCAATCGCGCCGTAGCCC
     GTTTTGGGGTTGTAGCGCAATACGGAATACACATTCTGCCTGTCGTTCAGGCGGTACTGC
55   AGCTTCACGTCGCCATACCCCATATAGTCGGCAATATCGGGATTGTCGTTTTTATCGCCG
     CTCTGATCGAACGCACGCACCCACACGCGCGGAATCACCGTCAATTTGCCCCATTCCATG
     CCTGCCATGGCGTAAATCCTGTTCCACGAACGCGATTCGGGACGGCTCTGTCCGTTGGAC
```

TGGTGGACAAAACCCGCACCGAGCATACGCAGCCTGCCGCCGAACGGCAAATCCGCCTTC
ACAGGCTGGGTCAGGAAAATTTCAGGTTTGTAATCCGTATTGCGGAACGGCGCGGATTTC
CTGCCTTGGTTGTAAATCTGCCAATCGGATCTTTGGGTGTAGCCGAACCACAGATCCGCG
CGGGTTTTAAACAAATCTTCGGCAATTTTGCTTTTGAACGAAACCTGCAATTGGTTTCC
5   GCACGTTTCTGCTGTCCGAATTTTTCCTGTACAGTCGTACCGCGCGTCGGCGAACCCGGG
GCATAGTTGGGCGAATTGTTGTACCAGAGCGGCATAAGGTACATCGGATTGTGTTCGCGT
ACGCCCAACAGCCCGCGCAAATCGTTTTTGTCCAAGTCGTACATCAGGCTCAAAGGCGTA
TAGATGTCGGCGGTTTCGCCCGCACTGTCGGCAGGAAGCGCATCCCCGCCTTTTTCAACA
ACAATGACCGCCTCGCCCTTATCCAGGCTGCTGCGGACGGTTTCCGTCAGATTGAGTACG
10 GCTTTCGACTCCTGCCCTTCCTGCCCTGCCGAAGACGGAAGCTGTGCCGCAAAAATCCTG
TCGTAACACGCCAAACGCGTAACATTGTCCGTCAAAGCGGCGCATTGCAGCGCGGTCTCT
CCAAAAGCGGATGCCATCGGCAACAGTCCTGTCAAAAGAATATAGCGCATATTCCGTGTA
TTCATCTCCGCCCCCATTGTCGGCATATTGGTTTTCAAACGGCATTTTATAGCGGATTCG
GATAAAAAATCGCACCCTTTCCGCCATTTCGGGATTTTGCCCCCGCAATACAGAAAACCC
15 CGAAACCGTCGGGCTTCAGGGTTTTCCGCTTATCGCGTATCAACCGCCTTGGCGGTTTTG
CAAAAATCAAGCCAAGGCTTTTACTTTTGCAGACAGACGGCTTTTGTGGCGTGCCGCTTT
GTTTTTGTGGAaCACGCCCTTGTCGGCGATGCGGTCGATGACTTTGACGGACTCTTGGTA
AACCGCTTGTGCGG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 34>:

gnm_34

CAAATGGTCGTCATTCATATAATCGTCTTCCGGCCCGCTCCAATTCAAAATATCTTGTTC
TGTCAGCTTTGCCATAATGTATATCCTCTCGGTTCACCGCAAAAAACAAAGCACCACAAA
GTGGCTTTATTCCTTTGATTTTTATAAGGCTTATTGCCTAAGGCGTTTTTGAAAACGCGC
25 ATCATAACACGTTTTGGATTGGTTTTTTTATTTTCTTTACATTATTGATATTGCCGTTCC
ATTTCCTGCGAACGGCGCACACAGGCACAAACGCCCTCGCTTATGGCTTCGGCGACACGA
TGCCGCCTGAAAGCTTCCACGGCTTCGTGGGTTGTCCCGCCTTTTGACGTTACATTTTTT
TGAAGCTTCTCGAAATCTTCACCCGTCTGCTCGGCAAGGGCAACCGCTCCTTTAAACGTT
GCCAGACTGAGCGCGCGTGCTTCTGCCATATCAAACCCTTGTCGGATGGCGGCATTTTGC
30 AATGCGTCCAGCAGATAAAACACATAAGCCGGTCCGCTGCCGCTGATGCCGGTAATGCCG
TGCATTTTTTCCTCATCATCCAACCAAACAGTCAAACCGACTGATTTCATGATTCGATCG
GCAATCCTGCGGTCTGTTTCCGATACTTCCGCTTCGGCATACATACCAGATACGCCCAGC
CCGATTTTTCCGGGTGTATTCGGCATAACCCGGACAATGCGGCGTGTTCCCCCGAGGTAA
CGGCTGAGCGTACCGACCGACAATCCGGCTGCGACAGAAAGCACCAATGCGCCGTTGGTG
35 CGGATATTTTTGCACGCAGCTTCCATATCCTGCGGTTTGACGGCAAGGATTAAAACATCG
TCGGAATGAAGCTCCGGCAGGGTTGCCGAAGTTTCGACCCCCAACTCTTTTTCCAAACGT
TCGCGTTTTTCCGCACCCCGATTGGCTATATAGATGCGGTAACCGCCTTGTTTGACCAAT
CCGCCCGCAACGGCAGCCGCCATATTGCCGCCGCCGAGAAAATAAACATTCATTATTTCT
ACCCTATTCAAAATTACCTTACTAAATTCATTCCCAATTTTTTACCATCGGACGCGCTCG
40 GACAGACCGTTGCGCCGCAACCCCTGCTTTTCCAAGCAGTCAAATCCTCCCTGTTTGAAC
GTCTCAATCAAAGGTTTGCCGTCACGCGTACGCCAATCCAGCCCGCAGGCTTCAAACTTC
CCTATTTTCCTGTAAAAGTAAGATTGTTGTGCGGATTCATATTCGTTTGCCCTGACGGAA
CGATTGCCGTCTGAAAGCGGTATCTCGTAGTCCCCTAAAGACGGCGGACTCTCGCCGCCA
ATATCCCAAAAATCGATGGCAGCCGGTTTTCTCGGCTTACACCAGCCGGTGAGGGACGAA
45 CACTCATACCACCCCGCCAGCCGGCAGCCTGCAACCGTAAATGCAAGCAACGCAGCCATT
GCCGTATATTTTATTGCCCGAATTTCCATCAGCCCCTTTTCCCGAAAATCGCGCTGCCGA
TACGGACGTGTGTCGCACCGCACTCAATGGCGGCAGGCATATCGTCCGACATCCCCATAG
ACAGCACGTCTGCCTTAACGCCAGCCGCATTGAGGTCGGCAAGCAGTTTCCGCATCGTTT
GAAATTGCACCTTCAACTCCGTTTCACTGCTGTTGGCTTTGGCAACACACATCAGTCCAC
50 GTACGACGATATTCGGCAGCTTCGCCACTTCCACAGCAAGCGCGACTGCTTCTTCGGGCG
CGACACCGTGCTTCACCGCCTCGCCCGCAATGTTCACCTCGATACACACCTGCAAAGGCG
GCATTGAGGAAGGACGTTGCCCGCTCAGCCGGACGGCGGTTTTCAGACGGCATACGGTAT
GCACCCAATGCGCGCGTTCGGCGACAAACTTGGTTTTGTTGGACTGCACATCGCCGATGA

-369-

```
     CGTGCCACACGATGTCGGTCAAATCCGCCAACTCTTCCGTTTTGCCGTACCACTCCTGAA
     TATAGTTCTCGCCGAAATCACGCTGTCCGGCGGCGTAAACTTCGCGGATGCCGTCTGAAG
     GGAAAGTCTTACCGACGGCAATCAGGCTGACGGAATGCGGCTCCCTGCCCGCCTGCAGAA
     CCAATTTTCCGATACGGTCGGACACCTCACAATAACGTTCTTGCAACACCGTCATAGATT
  5  ATCCCCTAATTAAAAATGATTAAACAGTTGAAACCCCTCCAGTCAGGCGGTACAATCAA
     GGTTGTTAGAACCATTCCAACCAATCGAAACATTATACTAAACAGAGCCGCATTATGCAG
     ATTACCGACTTACTCGCCTTCGGCGCTAAAAACAAAGCATCCGACCTTCACCTGAGTTCG
     GGCATATCCCCTATGATTCGGGTTCACGGCGATATGCGGCGCATCAACCTTCCCGAAATG
     AGCGCGGAAGAGGTCGGTAATATGGTAACTTCGGTGATGAACGACCACCAGCGGAAAATC
 10  TACCAGCAAAACTTGGAAGTCGACTTCTCGTTCGAACTGCCCAACGTCGCCCGATTCCGC
     GTCAACGCCTTCAACATCGGCCGCGGTCCCGCCGCCGTATTCCGCACCATTCCCAGCACC
     GTCTTATCGCTGGAAGAATTGAAAGCCCCGAGCATTTTCCAAAAAATCGCAGAATCGCCG
     CGCGGCATGGTTTTGGTTACCGGCCCTACCGGTTCGGGCAAATCGACCACGCTTGCCGCG
     ATGATCAACTACATCAACGAAACCCAGCCGGCACACATCCTGACCATCGAAGACCCGATT
 15  GAATTCGTCCACCAAAGCAAAAAATCCCTGATTAACCAGCGCGAGCTGCACCAGCACACC
     CTCAGCTTCGCCAACGCGCTGCGTTCCGCATTGCGCGAAGACCCCGACGTTATCCTTGTC
     GGCGAGATGCGCGACCCAGAAACCATCGGCTTGGCACTGACCGCCGCCGAAACCGGACAC
     TTGGTTTTCGGCACGCTGCACACGACCGGCGCAGCAAAAACCGTCGACCGTATTGTGGAC
     GTATTCCCGGCGGGAGAAAAAGAAATGGTGCGCTCTATGCTGTCCGAATCGCTGACCGCC
 20  GTCATCTCCCAAAACCTGCTGAAAACGCACGACGGCAACGGCCGTGTCGCCTCGCACGAA
     ATCCTGATTGCCAACCCCGCCGTCCGCAACCTCATCCGCGAAAACAAAATCACGCAGATT
     AACTCCGTCCTGCAAACCGGGCAGGCGAGCGGTATGCAGACAATGGACCAATCGCTGCAA
     TCGCTGGTGCGCCAAGGGCTGATCGCACCGGAAGTCGCACGCAGACGCGCGCAAAACAGC
     GAAAGTATGAGTTTCTGACACACAACCGCTTTCCGGCCATACCGGCGGGAAAACAAGGCG
 25  CAAACACGCGGGGCGGGACGCAGCATCCCGCCCGGCTACCTTTCCGAACAAGAAGCGTCC
     GCCTTCCTGTTGAAACCTGCCGCCGCAAACTGCAAGGCTTAAACCGAAAAGAAGCTAACG
     ATGAATACCGATAACCTGCACGACATCTTGGACGAAATGGTTCAAGTGTATTCTCAAAAA
     AAACAAAGCCGATCCGAAACCCCGGCCGAAATCGGCGCACACTTCCACCCGCTGCTCGAC
     CGCCTGTGCGAAACCGCAGAAGCACAAAACGCGTCCGACATCCTTATCAGCAAAGGATTC
 30  CCGCCCTCGTTGAAAATCAACAGCGCATTAACCCCGCAGCCGCAAAAGGCGCTGACGGGC
     GAGGAAACCGCCGCCATCGCCGCATCGACGATGAACGCCGAACAATCGGAAATATTCCGG
     CGCGACGGCGAAATCAACTACTCCGTCCAGTCGCGCAGCGGCACGCGCTACCGCGCCAAC
     GCCTACCACAGCCAAGGCAGCGCAGGTTTGGTTTTGCGGCGCATCAACCACGTCATCCCG
     CAAATGCAGGAATTGGGCCTGCCCGAAAAACTCAAAGACCTCGCCGTCGCACCGCGCGGG
 35  CTGCTGATTATCGTCGGGCCTACCGGTTCGGGCAAATCCACCACGATGGCGACTATGCTC
     GAACACCGCAACAAAACCCTGCCCAGCCATATCGTTACCATCGAAGACCCGATTGAATTT
     ATCTACAACCGCGCCGCTGCATCTTTACCCAGCGCGAAATCGGCGTCGACACCATAAAC
     TGGCAGACGGCGGTACAAAACGCTATGCGCCAATCCCCCGACGTGGTCTGCATCGGCGAA
     GTCCGCAGCAGGGAAAGTATGGAATACGCGATGCAGCTCGCCCAAACCGGCCACCTGTGC
 40  ATTTTTACGCTCCACGCCAACACCGCGCCGCAGTCGCTCGAACGCATACTCAACTTCTAC
     CCCAAAGAACAGCACAACCAAATACTGATCGACATCGCCCTCAACCTGACCGGCATCATC
     TGCCAACGCCTCGCCCTCAAACAAGACAAAACGGGCAGGACGGCGGTTGTCGACTTGCTC
     ATCAACACGCCCGCCATCCAAGACTTCATCCTGAAGGGCGACCTGATGAACATCAGTAAA
     ATCATGGAAACCGCCAAAACCGACGGAATGCAGACGATGGATCAAAACCTTTTCGAACTG
 45  TACCGTCACGGCATCATCAGTTACGAAGAAGCCCTGCGCCAGTCCGTTTCCGCCAACAAC
     CTGCGATTGCACATCCAACTGCACAAAGAAGGCAAAACGCCCGAACTCCTTTACGACAGG
     GTCAACGGTCTCAACCTCATTTCCTGATCCGCAAAACCCAATGCCGTCTGAAAACCGCAT
     CCCCGTTTTCAGACGGCATGATTTTATCCGCCCCATTCATGTGCTACACTTTATAGTGGA
     TTAAATTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGCACAA
 50  ATAGTACGGAACCGATTCACTTGGTGCTTGAGCACCTTAGAGAATCGTTCTCTTTCAGCT
     AAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATATTCACTTCATAACAATAA
     ACCGGTAAAACCATGAAAACCCCACTCCTCAAGCCTCTGCTCATTACCTCGCTTCCCGTT
     TTCGCCAGTGTTTTTACCGCCGCCTCCATCGTCTGGCAGCTAGGCGAACCCAAGCTCGCC
     ATGCCCTTCGTACTCGGCATCATCGCCGGCGGCCTTGTCGATTTGGACAACCGCCTGACC
 55  GGACGGCTGAAAAACATCATCACCACCGTCGCCCTGTTCACCCTCTCCTCGCTCACGGCA
     CAAAGCACCCTCGGCACAGGGCTGCCCTTCATCCTCGCCATGACCCTGATGACCTTCGGC
     TTCACCATTTTAGGCGCGGTCGGGCTCAAATACCGCACCTTCGCCTTCGGTGCACTCGCC
```

```
GTCGCCACCTACACCACACTTACCTACACCCCCGAAACCTACTGGCTGACCAACCCCTTC
ATGATTTTATGCGGCACCGTACTGTACAGCACCGCCATCCTCCTGTTCCAAATCGTCCTG
CCCCACCGCCCCGTCCAAGAAAGCGTCGCCAACGCCTACGACGCACTCGGCGGCTACCTC
GAAGCCAAAGCCGACTTCTTCGACCCCGATGAGGCAGCCTGGATAGGCAACCGCCACATC
GACCTCGCCATGAGCAACACCGGCGTCATCACCGCCTTCAACCAATGCCGTTCCGCCCTG
TTTTACCGCCTTCGCGGCAAACACCGCCACCCGCGCACCGCCAAAATGCTGCGTTACTAC
TTTGCCGCCCAAGACATACACGAACGCATCAGCTCCGCCCACGTCGATTATCAGGAAATG
TCCGAAAAATTCAAAAACACCGACATCATCTTCCGCATCCACCGCCTGCTCGAAATGCAG
GGACAAGCCTGCCGCAACACCGCCCAAGCCCTGCGCGCAAGCAAAGACTACGTTTACAGC
AAACGCCTCGGCCGCGCCATCGAAGGCTGCCGCCAATCGCTGCGCCTCCTTTCAGACAGC
AACGACAGTCCCGACATCCGCCACCTGCGCCGCCTTCTCGACAACCTCGGCAGCGTCGAC
CAGCAGTTCCGCCAACTCCAGCACAACGGCCTGCAGGCAGAAAACGACCGCATGGGCGAC
ACCCGCATCGCCGCCCTCGAAACCAGCAGCCTCAAAAACACCTGGCAGGCAATCCGTCCG
CAGCTAAACCTCGAATCAGGCGTATTCCGCCATGCCGTCCGCCTGTCCCTCGTCGTTGCC
GCCGCCTGCACCATCGTCGAAGCCCTCAACCTCAACCTCGGCTACTGGATACTACTGACC
GCCCTTTTCGTCTGCCAACCCAACTACACCGCCACCAAAAGCCGCGTCCGCCAGCGCATC
GCCGGCACCGTACTCGGCGTAATCGTCGGCTCGCTCGTCCCCTACTTCACCCCGTCTGTC
GAAACCAAACTCTGGATTGTCATCGCCAGTACCACCCTCTTTTTCATGACCCGCACCTAC
AAATACAGTTTCTCCACCTTCTTCATTACCATTCAAGCCCTGACCAGCCTCTCCCTCGCA
GGTTTGGACGTATACGCCGCCATGCCCGTACGCATCATCGACACCATTATCGGCGCATCC
CTTGCCTGGGCGGCAGTCAGCTACCTGTGGCCAGACTGGAAATACCTCACGCTCGAACGC
ACCGCCGCCCTTGCCGTATGCAGCAACGGTGCCTATCTCGAAAAAAATCACCGAACGCCTC
AAAAGCGGCGAAACCGGCGACGACGTCGAATACCGCGCCACCCGCCGCCGCGCCCACGAA
CACACCGCCGCCCTCAGCAGCACCCTTTCCGACATGAGCAGCGAACCCGCAAAATTCGCC
GACAGCCTGCAACCCGGCTTTACCCTGCTCAAAACCGGCTACGCCCTGACCGGCTACATC
TCCGCCCTCGGCGCATACCGCAGCGAAATGCACGAAGAATGCAGCCCCGACTTTACCGCA
CAGTTCCACCTCGCCGCCGAACACACCGCCCACATCTTCCAACACCTGCCCGAAACCGAA
CCCGACGACTTTCAGACAGCACTGGATACACTGCGCGGCGAACTCGACACCCTCCGCACC
CACAGCAGCGGAACACAAAGCCACATCCTCCTCCAACAGCTCCAACTCATCGCCCGACAG
CTCGAACCCTACTACCGCGCCTACCGCCAAATTCCGCACAGGCAGCCCCAAAATGCAGCC
TGAAAAAGTTTCGGCATTTTGTAAGAGAGGACAGATTGTCAGACAGGTTACAAGATAGTG
GATAAAGCTTTGCGCAGGGTAAATGCGTAGCAACTGAACCGTCATTCCCACGAACCTACA
TCCCGTCATTCCCACGAAAACAGAAAACCAAAAACAGAAACCTAAAATCCCGTCATTTCC
ACGACAATGGGAATCCAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCCAC
TTCGTCATTCCCGCCAGGCGGGAATCCAGTGCGTTGAGCTTCAGCTATTTAGAATAAAT
TTTGAAACTCTAATCCCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGT
CATTCCCGATAAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACG
AATCCATCCGTACGGAAACCTGCATCCCGTCATTCCCACGAAAGTGGGAATCCGGTTCGT
TCGGTTTCACTTGTTTTAAGTTTCGGGTAACTTCCACTTCGTCATTCCCGCGCAGGCGGG
AATCCAGTGCGTTGAGTTTCAGCTATTTAGAATAAATTTTGAAACTCTAATCGCGCCATT
CCCACGAAAGTGGGAATCCAGAATCTCGGACTTTCAGATAACCTTTGAATATTGCTGTTG
TTCTAAGGTCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATCCGCACGGAAACCTGC
ACCACGTCATTCCTACGAACCTGCACCACGTCATTCCCACGAACCTGCACCACGTCATTC
CCACGAACCTACATCCCGTCATTCCCACGAAAGTGGGAATCTAGAATCTCAGACTTTCAG
ATAATCTTTGAATATTGCTGTTGTTCTAAGGTCTAGATTCCCGCCTGCGCGGGAATGACG
GCAGAGCGGTTTCTGTTTTTTCCGATAAATTCCTAAAACTCAAAATTTCATCATTCCCAC
AAAAACAGAAAACAAAATCAGAAACCTAAAATTCGTCATTCCCGCGCAGGCGGGAATCC
AGAATCTCGGACTTTCAGATAATCTTTGAATATTACTGTTGTTCTAAGGTCTGGATTCCC
GCCTGCGCGGGAATGACGGCAGAGCGGTTTCTGTTGCTCCCGATAAATGCCGCAATCTCA
AATCCCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTCCCGATA
AATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGACAGAACGGTT
TCTGTTTTTTCCGGTAAATTCCTAAAACTCAAAATTTCATCATTCCTACAAAAACAGAAA
ACCAAAATCAGAAACCTAAAATCCCGTCATTCCCACGAAAGTGGGAATCCAGAATCTCGG
ACTTTCAGATAATCTTTGAATATTACTGTTGTTCTAAGGTCTGGATTCCCGCCTGCGCGG
GAATGACGAATCCATTCATACGGAAACCTGCATCCCGTCATTCCCACGAAAGTGGGAATC
CAGAATCTCTAAAGCTTCAGCTAACCTTTGAATATTGCTGTTGTTCTAAGGTCTAGATTC
CCGCCTGCGCGGGAATGACGGCATCGGTTTGACGGTATTTAATTGAATTGTGGAAATTGA
```

```
     TGGATTCAGTGAGATTGGCGAGATGAAGCCTACCCTATAGCCCGCCTTTTACGAACCCGC
     CCCTCCCGAAAAACGCAAAAAATGCCGTCCGAAAACCTTTCGGACGGCATTTTCGCGTGC
     AAATCAGTAGAAGACTTCACGCCAGCTGATTCGTTTCATACCGCACGTCGGGCCGGTAAT
     GTCCAAGCTGTCCAAATCGTTCATCAGCAGGGTGCGCACCCCTTTTTGGGAGAAGCAGCG
  5  GTTGTTTTTGCCGGAACGCTTGCCGGCGGGGTCTATACCGCTGCCGCCCGCATCGCCGTC
     TGCCGTTGTTGAAAATCCGTCTGTTTTCTTTTCATCCAGATAACGCACATTAACCGGTTT
     GTCGTAAACATATCCGTTCGGGCAGACGATTTCATTGCCTTTTTGCATACAACCTATAGG
     GATGGATTTGCCGTTGATGCCTTTCTTATGGCCGGAATATTGCGCGACAGCCTGATTCTC
     GGCCGGCACAATCGGGCGCGCGCTTTTCTTGGTCAGCTTGCCGCCGTCGGCGGTATTGAT
 10  ACCCAAAATGGCGGTTTCCGCGCCGCATTTGTCCGTACCCGTATATTTATGGATGGTTAC
     AAAGGCGGTACGCAATACCACGGTCGGTTTGACGGTAACGCGCTGTCCGCCCTTCAATTT
     CACTACCCACCCTTTGCTGCCCGATCCGTCGGATCGCTTGTAATCGGTCAGGAATAAGGT
     TTTATCCTCCTGCTTAAGCTCTTGCTCGAGCAGCCCGCCTCCCAAACCGCTGAGTTTTAC
     ATTTACGTTATTCGCCACCGTATCGTCGTCGAAGATACCGTAAATATATTGTTCGCTCGT
 15  ACTGAGTACATCATCCTCACTCAAATCACTGCCCGTGCCGAAGATAACCACGCGTTTGTC
     TTTCAGTTGGGAAATAGCGGGCGCGGAAGTAATCGGTTTTGTGCCTTCAAAAATGGCGCG
     TACAGACCATTGATTAGGATCTTGATTGCTCAAATCAAAGCGGTACATACTGCCGCCGCG
     ATCGCCGGCATAGGCGATATCGACCGTGCCGTCCAAATCTTTATCCACCAGCGTGGGGGA
     CGAAAGCCCGCCCTTGCCACCGGGTACTTCGATTTTTTTAATCAGCGTGCCGCTGCTTTC
 20  CAAATCATACACATACAGCGCGGTTTTATTGTCGCCGCTGGTAATGTCTTTAGTCGCATA
     ACCGGAGGCGAGGAAAGCGGCGTATTTGCCGTCGTGGGTTTTGCCGATTTGCGGCGTGCC
     GACGGTGTAGCCTAATTTCACGCCGTTATTGCCATTCTTGTCATGTTTGACATCAAACAG
     GGAAACGTCTGCCAGGTTGCCGTTGCCGCTGTCGATTTTGCTTAAATCCAAGGCATACGC
     GCCTCTGCCGCCAAAGCCCATCGCGCCGAACATAAACACATGGTCTTTCCCGTTCCGTTC
 25  GACTTTGCGCAAGACAAAGCCGCCGTCCACGCCGTAGCGGTCGCCCACATAGCTTTTTTC
     GGCAAAGGCGCGCAGCTCTTTGGCAAGGGTGGATTCGGTGTTTTGAATATCCTTGCGCGG
     CATCGTACCCGGGATATAACTGAGCTTCAGATTGTAGCTGCGCTTGTCCCCGCCGCTTTG
     TTTGAAGATATGCACCATCCCGTCGTTGGCGGAAGTAGCCAAATACTCGCCGACCGCCAC
     GATGGGGCTGTTGACGATGTCGCCCAAATTGCGCTCGTGCTTGCCGTTGTCGCGGCTGCG
 30  GTATTTTGGCTGTATTTTGGCTTGCCGTCTTTTTCTTCTTTGTTGAATGTGTTAAATTG
     ACCGTCATCATTGGAAGCACGAACCGTCCAAGGCAGCAATACTTTTTTCCACTCGCTGGC
     ATCAGGCATGAAGCTCCCTTCACTAACAATGCCGAAAGTGTCGTTTTTGCCGTCATTTCC
     ATTAAAATTGGCGACCTCATCATTGTTTCTACCCAGTTTGATCTGCTGTACGCCGCCATC
     CAATCGGATGATGGTTTGCCGCCCTGTGAAATTCGGCTGTCGATTTTCAATATCCGACTT
 35  AGCCAAGTCTGCGAGGGAATGGCGGCCGGGTTTGTTGGGGTCGGTTTTTCTTTTCAGATT
     TTGAAGGAAGATGCGGCTGCTCGAACTATCGGGGTAGGTGGAAACCGAAGCGGAATACAT
     CTGCACCTTACCATTTTGCACAGGTCCGAACCACAGCGCGGGGGCAGTCAGTGCGGGGGA
     AGGGGCTTTGGTACTCTTATTGGGGTTATTTGCGTTGATGCAGCGGCCTGCTTTGACTTC
     CGGCAATTTGAGTTTGACGCTGACTGTTCCTTTCTCTTCATACGTCCAACTACCGTTAAA
 40  AAAGTTACTATTCCGTCTTTTCCATGCTTCCGTCGGCTCGATGCGTGTTTTCAAGATACC
     CAAATTAACTGTTTTACCTTGCACGATATTTTTAATGTGTTTTTTATCCAGCAGGTGCAG
     CTTGGCGTTCAGATAAAAGGCGACGGCGTGGTGTTTGTCCTGATGGTTTTTATTATTCTG
     ACTCTTGTAATCGTCTGTCGTATAAACGAGGTTTTTGTCTTTGTGTTGGCTGCCCGCACC
     ATTTTGCTGCGTCACGTCCTCGCTAAAAGAAGATACCAAAGAACCTTGTCTCTTTGGTTT
 45  GAAGGAGCTCTCTCCGCCCAAATTGAAAGACACGCCCAACCAAGGATGATCCTTCAATTT
     GTAAATGGGCGAATTGTCGCGGCTTTTGTCTTCGTATATATCCAGCCCGCCGCCGTTTGC
     CTTTTTTGCCAAACTGGAATTGCCGAAGGTAAATTGGGTTCTATAGGCAACTGTAGGACA
     ACCTCCGCTGGAGCATGTGCTACCTTCGTAGCTGTAGCCTACCAGCCCGTTTTGGTCGT
     ACCAATCTGATCAAGGGCATTTTTGCGCTCGGTCAGCTTAGCGGTATCAAAACCGGAAAC
 50  CTTTCCGTAGGGCGGCAGGTAGGTCGCCGCGCCGAAAACGACAGTATCTTTTTTTTCAGC
     AACAACTTCATCGGTATTATTGAATGAGAAACTAATGCTCTTTTTTGCCAAACCAAAACC
     ACTCGTATGGATAACTTCGCGTTCATTGCTTTTGTGCGTCAATGACTGATATTGATCCCC
     CCACTTTACCTCGGGCAGATTTTGCGCGTTCATTACAATAGCGTATTTATGCGTTTGCGT
     TTGCGTTTGCGCTTGCGCCTGCCCCCCCCCCCGCCGGTATGGGAAAACATCAATATGGCG
 55  GTATAAAGCGCGGTATGGCGGAAAACCTGCCGTTTCCAAGTTTTATTCATCTTTTATTCC
     TTGAGTTTGCCTTCACGGGACGGGGCGGCGCGCCGCGAACGCCGGGGTTCGGTAAACCGC
     CCGATTCCGCGCCCGCCGAATTGCTGATTGAAAAGCCCTTTCACTTGGCTGCCAAAGGGG
```

```
AATGTTAAGAAAAGCAATGCGCCCCTTTGACGGGGTACAATATATAAGGTTACCGCGCCA
TTCTAACCCTGCGCACTTATCACAGTAAAGCGGTTTTTAGCAAACCGCTGCAGATGCCCA
ACGGTCTGGATTCCCGCCTACGCGGGAATGACGGCGGAGCGGTTTCTGTTTTTTCCGATA
AATTCCTAAAACTCAAAATTTCATCATTCCTACAAAAACAGAAAACCAAAATCAGAAACC
TAAAATTCGTCATTCCCGCGCAGGCGGGAATCCAGTGCGTTGAGTTTCAGCTATTTAGAA
TAAATTTTGAAACTCTAATCCCGTCATTCCCACGAAAGTGGGAATCCAGAATCTCTAAAG
CTTCAGCTAACCTTTGAATATTACTGTTGTTCTAAGGTCTAGATTCCCGCCTGCGCGGGA
ATGACGGGTCTTTTATAACCTTTGAATATTGCTGTTATCCCAAGGTCTGGATTCCCGCCT
GCGCGGGAATGACGAATCCATCCGCACGGAAACCTGCACCGCGTCATTCCCACGAACCTA
CATCCCGTCATTCCCACGAAAGTGGGAATCCAGAATCTCTAAAGCTTCAGCTAACCTTTG
AATATTGCTGTTGTTCTAAGGTCTGGATTCCCGCCTGCGCGGGAATGACAGGTCTTTTAT
AATCTTTGAATATTGCTGTTGTTCTAAGGTCTAGATTCCCGCCTGCGCGGGAATGACGAA
TCCATCCTCACGGAAACCTGCACCGCGTCATTCCCGCGAACCTACATTCCGTCATTCCCA
CGAAAGTGGGAATCCAGAATCTCGGACTTTCAGATAATCTTTGAATATTGCTGTTATTCT
AAGGTCTAGATTCCCGCCTGCGCGGGAATGACGAACCCATCCATACGGAAACCTGCACCG
CGTCATTCCCACGAACCTACATCCCGTCATTCCCACGAAAGTGGGAATCCAGGACGCGGA
ATCTCAAGAAACCGTTTACCCGATAAGTTTCCGTGCCGACAGACCTAGATTCCCGCCTGC
GCGGGAATGACAGGTCTTTTATAATCTTTGAATATTGCTGTTGTTCTAAGGTCTAGATTC
CCGCCTGCGCGGGAATGACGGTTTAGAAGTTGCCCGAAACCTCAAAAAAAAAAACCGAA
ACCGAACAAGCCGGATTCCCGCCTGCGCGGGAATGACGAACCCATCCATACGGAAACCTG
CACCGCGTCATTCCCACGAACCTACATTCCGTCATTCCCACGAAAGTGGGAATCTAGAAT
CTCTAAAGCTTCAGCTAACCTTTGAATATTGCTGTTGTTCTAAGGTCTAGATTCCCGCCT
GCGCGGGAATGACGGCGGAGCGGTTTCTGTTGCTCCCGATAAATGCCGCAATCTCAAATC
CCGTCATTCCCTCAAAAACAGAAAACCAAAATCAGAAACCTAAAATTCGTCATTCCCGCG
CAGGCGGGAATCCAGTGCGTTGAGTTTCAGCTATTTAGAATAAATTTTGAAACTCTAATC
CCGTCATTCCCACGAACCTACATTCCGTCATTCCCACGAAAGTGGGAATCCAGAATCTCT
AAAGCTTCAGCTAACCTTTGAATATTGCTGTTATCCCAAGGTCTAGATTCCCGCCTGCGC
GGGAATGACGGCGGAGCGGTTGCTGTTTTTCCGATAAATGCCGCAATCTCAAATCCCGTC
ATTCCCACGAACCTACATTCCGTCATTCCCACGAAAGTGGGAATCCAGAATCTCTAAAGC
TTCAGCTAACCTTTGAATATTGCTGTTATCCCAAGGTCTAGATTCCCGCCTGCGCGGGAA
TGACGGCGGAGCGGTTGCTGTTTTTCCGATAAATGCCGCAATCTCAAATCCCGTCATTCC
CACGAACCTACATCCCGTCATTCCCACGAAAGTGGGAATCTAGAATCCCGGACTTTCAGA
TAATCTTTGAATATTGCTGCTGTCCAATGGTCTGGATTCCCGCCTGCGCGGGAATGACGG
TTTAGAAGTTGCCCGAAACCTCAAAAAAAAAAAAACCGAAACCGAACAAGCCGGATTCC
CGCCTGCGCGGGAATGACGGCAGAGCGGTTTCTGTTTTTTCCGATAAATGCCGCAATCTC
AAATCCCGTCATTCCCACGAACCTACATCCCGTCATTCCCACGAAAGTGGGAATCTAGAA
TCTCGGACTTTCAGATAATCTTTGAATATTGCCGCTGTCCAATGGTCTAGATTCCCGCCT
GCGCGGGAATGACGGTTTAGAAGTTGCCCGAAACCTCAAAAAAACCGAAACCGAACAAGC
CGGATTCCCGCCTGCGCGGGAATGACGGCAGAACGGTTTCTGTTTTTCCGATAAATGCC
GCAATCTCAAATCCCGTCATTCCCGCGAACCTACATCCCGTCATTCCCACGAAAGTGGGA
ATCTAGAATCTCTAAAGCTTCAGCTAACCTTTGAATATTACTGTTGTTCTAAGGTCTAGA
TTCCCGCCTGCGCGGGAATAACGGGTCTTTTATAAACTTTGAATATTGCCGTTATCCCAA
GGTCTAGATTCCCGCCTACGCGGGAATGACGGTTTAGAAGTTGCCCGAAACCTCAAAAAA
AAAACCGAAACCGAACAAGCCGGATTCCCGCCTGCGCGGGAATGACGGGCTAAATAATAT
CAAACCATAAATCCTGCCAAGAAACATTATTTTCTTCAATCAGTTGCAATTTCCAAGCCC
TGTTCCATTTCTTCAACTGTTTTTCCCGAGTAATTGCACTCTCCATCGTAGGATGCAGTT
CATACCAAACCAGCATAGTAACGTTGTACCGTGATGTAAATCCCTCAATCAAATGCTCCC
TATGTTGGTAAATACGTTGCACCAAATCAGATGTAACGCCAATGTATAACGTGCCATTAC
GTTGGCTTGCTAAAATATAAACCGCAGGCTGCATATAATACCCTTTTGAATTATTTCAAT
TTATATTCCCGCGAACACCATCCCGTGATTACTTTAACCCTTCGTTATTCCCATAGCTTT
CCATCATTCCCGCAACTCTTCGTCATTCCCGCGAAAGTGGGAATCTAGAACGCAAAATCT
AAAGAAACCGTTTTACCCGATAAGTTTCCGCACCGACAAACCTAGATTCCCGCCTGCGCG
GGAATGACGGCGGAGCGGTTTCTGTTTTTTCCGATAAATGCCGCAATCTCAAATCCCGTC
ATTCCCACGAAAGTGGGAATCCAGAATCTCGGACTTTCAGATAATCTTTGAATATTGCCG
CTGTCCAATGGTCTAGATTCCCGCCTGCGCGGGAATGACGGCATCGGTCTGCCGTTACAA
CACGGTTTCTTTAGATTTTACGTTCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATC
CATACGGAAACCTGCACCACGTCATTCCCACGAACCTACATCCCGTCATTCCCACGAAAG
```

```
TGGGAATCCAGAATCTCGGACTTTCAGATAACCTTTGAATATTGCCGTTATCCCAAGGTC
TGGATTCCCGCCTGCGCGGGAATGACGGCATCGGTCTGCTGTTTTCGGACGGCATTTCGG
CTCAATCCAGCAGTGCGTCCACAAACGCGCGCGCGTCAAACGGGCGCAGGTCGTCTATGC
CTTCGCCCACGCCGATATAGCGGACGGGAACGGGGCGGTCGGAGGCAAGCGCGGCGAGGA
TGCCGCCTTTTGCCGTGCCGTCGAGTTTGGTAACGATTAAACCGGTCAGCCCCAATGCGT
CGTCAAAGGCTTTGACTTGGTTGACGGCGTTTTGCCCGATATTGGCATCAAGCACGACGA
TGATTTCGTGCGGCGCGTCGGGCATGGCTTTTTGCAGCACGCGTTTCACTTTTTTGATTT
CTTCCATCAAATGAAGCTGCGTGGGCAGGCGGCCGGCGGTGTCGGCCAGCACAATGTCGA
TGCCGCGCGCTTTGGCGGCTTGGACGGCATCGAAGCACACGGCGGCGGAATCGCCCGTGG
TTTGCGAAATCACGGTTACGTTGTTGCGCTCGCCCCAAGCTTGAAGCTGCTCACGCGCGG
CGGCACGGAAAGTATCGCCTGCCGCCAGCAATACGGATTTGCCCTGCGCTTGGAAATATT
TGGCGAGTTTACCGATAGACGTGGTTTTGCCCGCGCCGTTGATGCCGGCAAGCATGATGA
CAAACGGCTCTTTGGTTTCGGGCAAAACCAAAGGTTTCTCCAGAGGCTTAATCAGGTCGT
ACAAGGCTTCTTTCAACGCGCCGCGCAATTCGTTGCCGTCTTTCAGCCCTTTGAGGCTGA
CGCGGTCGCGCACGTCTTTCATCAGGTATTCGGTGGCTTCCATGCCCATATCGCTGGTAA
TCAGCACGGTTTCCAGCTCTTCGTATAAATCTTCGTCGATTTGTCCGCCGCCGAACACGC
CCGCCAGCGATTTCGCCATTTGTCGCGCGATTTGGTCAGGCCTTGTTTCAAACGCGCCG
CCCAACCGAGCTTGTGTTCTTCAGTTGTCGCAACGGCTTCTTGAACTTGCCCGACAGCCT
CGCCGACGGTTTCGGCAACGGCTTCTTTTGCCGCTTCGACTTGTTCCGCTGCTTTTTCCG
CCGCTTCCTCTGCTTCAGACAGCATCTCGGCAACGGTTTCCTTTACCTGTTCAACCGCAC
CGCTGACGGTTTCAACGGCAGATTCGACCTGCCCTTTGACGCTTTCTGCTAAAGATTCAG
CATCTTCTTTAATATTTTCAACTATTTGAGCAAGTTCAGATTCTGCTTTTGCTGCGGTTT
CCTGAATTTGAGCCTCCTCGAGAGCCGGCGTTTCCTGTTTTTTCTTGCGACGGAAGAAGC
TGAACATTGAATTTTCCTTTTAATTTTAGAAACTTGAAACAGGGCGTATTGTAGCGTATT
TTACGCGGTAAGGTTGTCTGAAAATCCGGGCTGTAAGGTTTCGGCATCTCAAACGTCTAA
TCATGCAAACCGTCCACACAGGAAACATCAAAATGAAACACCGTACTTTCTTTTCCCTTT
GCGCCAAGTTCGGCTGCCTGCTTGCGCTGGGTGCTTGTTCGCCCAAAATCGTCGATGCCG
GAGCCGCGACCGTGCCGCACACTTTATCCACTTTGAAAACTGCGGACAACCGCCCCGCCA
GTGTTTACTTGAAAAAAGACAAACCGACGCTGATTAAATTTTGGGCGAGCTGGTGTCCTT
TGTGTCTGTCCGAATTGGGACAGACCGAAAAATGGGCGCAAGATGCAAAATTCAGCTCCG
CCAACCTGATTACCGTCGCCTCCCCGGGCTTTTTGCACGAGAAAAAAGACGGCGACTTCC
AAAAATGGTATGCCGGTTTGAATTATCCCAAGCTGCCCGTCGTAACCGACAACGGCGGCA
CGATCGCCCAAAGCCTGAATATCAGCGTTTACCCCTCGTGGGCGTTAATCGGTAAAGACA
GCGACGTGCAGCGCATCGTCAAAGGCAGCATCAACGAAGCGCAGGCGTTGGCGTTAATCC
GCGACCCGAATGCCGATTTGGGCAGCTTGAAACATTCGTTCTACAAACCCGACACTCAGA
AAAAGGATTCAAAAATCATGAACACGCGCCACCATTTACCTCGCCGGCGGCTCGCTTCTGGG
GCTTGGAAGCCTATTTCCAACGCATCGACGGCGTGGTTGACGCGGTATCCGGCTACGCCA
ACGGCAACACGAAAAATCCGAGCTATGAAGACGTGTCCTACCGCCATACGGGCCACGCCG
AAACCGTCAAAGTGACCTACGATGCCGACAAACTCAGCCTAGACGACATCCTGCAATATT
TCTTCCGCGTCGTTGATCCGACCAGCCTCAACAAACAGGGCAACGACACCGGTACGCAAT
ACCGCAGCGGCGTGTACTACACCGACCCCGCCGAAAAAGCCGTCATCGCCGCCGCCCTCA
AACGCGAGCAGCAAAAATACCAACTGCCCCTCGTTGTTGAAAACGAGCCGCTGAAAAACT
TCTACGATGCCGAGGAATACCATCAGGACTACTTGATTAAAAACCCCAACGGCTACTGCC
ACATCGACATCCGCAAAGCTGACGAACCGCTGCCGGGCAAAACCAAGACCGCCCCGCAAG
GCAAAGGCTTCGACGCGGCAACGTATAAAAAACCGAGTGACGCCGAACTCAAACGCACCC
TGACCGAAGAGCAATACCAAGTTACCCAAAACAGCGCGACCGAATATGCCTTCAGCCACG
AATACGACCATTTGTTCAAACCCGGCATTTATGTGGACGTTGTCAGCGGCGAACCTTTGT
TCAGCTCCGCCGACAAATATGATTCCGGCTGCGGCTGGCCGAGCTTCACGCGCCCGATTG
ATGCAAAATCCGTTACCGAACACGATGATTTCAGCTACAACATGCGCCGCACCGAAGTGC
GCAGCCACGCCGCCGACTCGCATTTGGGACACGTCTTCCCCGACGGCCCGCGCGACAAAG
GCGGACTGCGCTACTGCATCAACGGCGCGAGCTTGAAATTCATCCCGCTGGAACAAATGG
ACGCGGCAGGCTATGGCGCGTTGAAAGGTAAAGTGAAATAAGCCGCACCGCCGCCTACCC
CGACAAAATGCCGTCTGAAACCCGAAACGTTTCAGACGGCATTTTTTATCCGATGGGGAT
TTTGTTCAGACGGAGATTTGTTTAGACAGCATCGCCGCCGTTTTCAATCAGCCCCGCCA
ACCGTTCCAACGCGAAGGCGACCGCCTGCGCGCGGACGGATTCGCGGTTGCCGTCAAAAC
GGCGCATTGCTTCGCAACTTCCGCCCGGAAAGGCAAACCCGAACCAAACCGTGCCGACGG
GTTTGCTTTCGCTGCCGCCGCCCGGACCGGCGATGCCGGAAATACCGACGGCGTAATCCG
```

```
    CCTGCGCCACGGCTTTCGCGCCGCGCGCCATCTCATAGACGGTTTGGCGGCTGACCGCGC
    CGTGTTCGAGCAGGGTTTCGGGCAACACGCCCAGCGGTCTTCTTTGGCTTTGTTGCTGT
    ATGTTACAAAACTCTGGTCGAACCATTGCGAACTGCCTGCAACGCTTGTGAATGCGGCGG
    CAAGCATTCCGCCCGTACAGGATTCGGCACAGCTTACGGTTTGACGTTTTTTCGTCAGGT
  5 TTCGGGCGATGGTGTGCAGCGCGTCCATTTCCCACTCCTCTTTCAGACGGCGTTTAAGAA
    TTGATGATGTGTATGTCGCGTTGCGGGAACGGGATGTTGATATTGACTTTGCGGAGGTTT
    TCGACCACTTGTTCGTTCAAGTCGCATTGCAGCGTCCAGCGGTCTGCTTCGTTTGCCCAA
    GCCCATAATGTGATTTCGATGGCATTGTCGCCCAAGGCGGTGATGTAGGCGGCAGCCTGC
    CGCTCTTCGTTTTGAACGCTCAAGGGGTGTTCGACGGCGGCTTTCAACACCGCCTCTTTC
 10 GCCACTTTCAAATCGCAGTTGTAATCGACGCCGACTATCACTTGGGCGCGGCACAGCGGC
    AGTGTGGAACGGTTGACGATGCTGTTGCCCATCACCACGCTGTTGGGCAGCACGACTTCT
    TCGTTGTCGGTCGTCCGCAAAGAAGTCTGCACCATTTTAATCTCTCGGACATATCCTTCA
    AAACCGCCGACGCGGATAAAATCGCCGACTTTGAACGGGCGGAACAGGATAATCAGTGCG
    CCGGCGGCAAAATTGGACAGCTGGTCTTTCAGGGACAACGCCACCGCCAAACCCGCGCCG
 15 CCGATTAAGGCGGTTACGGATGTTGTGGAAACGCCCAATCTGCCCAATGCGGCAATAATC
    ACCAAAATCAATAAGCCGATATTGGCAACATTACACAAAAAACTAATCAGCGTGGCATCG
    ACCTGCGCGCGCGTCATCGCCGCCCTCATCACAGCGACAATGCGTTTCGCCGCCCATTTT
    CCGACCAAAAAAATAAGCAGCGCGGCGGCAAGGTTCAGCCCGAACGCCCACGCCTTTTCA
    GCCAGATGCTCCCAACCGGAAACACTGATCAGGTGTAAAAAATCAAATTGTTTGAAGTCC
 20 ATTGTTTTCCTCTTGATCGAACATCCGCCCCGTGCGGCGTAATCGGCACAGGTGTAAAAA
    TGCCGTATGAAGCCCTGCGGGGAGGTATGTTTGTTTTATTTCAAAACCGTTCTAATCCAA
    CGGGAAACCCATCCGCGCTGGTTCGCATCAATATCGCGCTGCGCGGGGGCGGTGGTGTGC
    GTCGGGGCTTGGGCGAAGCGGAACACGTCGGGCAGGCGCGTGTTTTTGACGGCGGGGTAA
    ACCCACATTTCGGACGGAACCGCCTGCTGCACTTCCCGACTTTGCAGCCATTGCACCAGT
 25 TTTGCCGCCAATTCCGGCTGTTTCGCGCCCTTCAAGACCGCCGCGCCTTCGACCTGGCGG
    AATACGCCGCCTTTTAAAAACAGGTTGCCCGTCGGCGGCTCGCTGTATTTGCCTTTGGAA
    AAATACACTTCCGCCGCCGGGCTGGCGGCATAACCGACCACCAGCGGATACGCGCCGCCG
    TTGTGCGAAAAGTCGGTGTAATACGCCTCGCTCCAGCCTTTGGCGACCTTCACGCCGTTC
    TGCCGCATCTGTGCCCACCATTTGAACGCGCTTTCTTCGCCCAGACCGCTGATGTTCGCC
 30 ATCAGGAAGCCCAGCCCCGGGGACGACGTGGCGGGGGACGGCACGACCAATAGGTTTTTA
    TATTCGGGGCGGGTCAAATCCTGCAGGGTTTGCGGCAGGGGCAGCTTTTTGCCTTCAAAC
    CATTTTTTGTCGTAATTGATGGACACATAGCCGTAATCGACCGCCAAAGCCGAAGGCAGC
    CCGACCGCGACGGGGGCGGATTCGGGTTGCGCCGCCGCCAAAATGCCCATTTCCCGCGCC
    TTGCCGATATTGGCGTTGTCCAAACCATACACCGCGTCGGCAATCGGGTTGGCGCGGCTC
 35 AAAATCAGTTTGTTGAGCATTTCGTTCGCGCCGCCCGCCTGAATAATCGACACCTTCGCA
    TCGTTTGCCCGCTCGAAGCGCGCAATCAACCCTTTGGGCAGGCTGAACGACTTATGCACC
    GCCAGCCTGACTTCCGTCTGCGCCTGCAGGTATGCCGAAACCGCCAGCAGCGGCAGCAGC
    CAAATTTTCCGTTTCATTCCGAGTCCTCCTCTATTCGCTGTAAAATAACATTCTAACAAA
    TTTTCACGGTTCAACATGCAAGAAAACCCGACCGTGTGGCTGTTCGACCTCGACAACACG
 40 CTGCACGATGCCGACGCAGGCATCTTCACACTCATCAACCGCGCTATGACACGCTATATG
    GCACGCCGCCTCAAACTCTCCGAATCTGCCGCGTCCGACCTGCGTCAAGACTATTGGCAC
    CGCTACGGCGCAACGCTCGCCGGACTGCAAATCCACCATCCCGAAATCGACATCGCCGAA
    TTTTTGCGCGAAAGCCATCCGATCGATGCAATCCTGACCAGGCTGCACGGCATGCCTGAA
    ACACAAAACACCCTGAGCCGCCTAAAAGGGCGCAAGGCGGTTTTTTCCAACGGCCCGTCG
 45 TTTTACGTCCGTGCCGTTGTCAACGCACTCGGTTTGGAAAACCGTTTCGACGCGCTTTTC
    GGCACGGATGATTTCGGGCTGCTGTACAAACCCAATCCGCAAGCGTATCTCAATGTCTGC
    CGCCTGTTGGACGTACCGCCCGAATGCTGCATTATGGTGGACGACAGCGCGGACAACCTG
    CATCAGGCAAAGGCGCTGGGTATGAAAACCGTCCGGTTCGGTGCAAAATCCCACGCGCTG
    CCCTTTATCGATGCCTCCGTAAGCGATATGGCGCAACTGGCTCGGTATGCAGAAACTTTG
 50 TCAGAACACCGCCAAAATCATTACAATACCCCCTACCCCCGAAAATACGAAAGAAAGC
    CATGCGTAAAACCTTCCTCTTCCTGACCGCTGCCGCCGCCCTTTTGTCGGGCTGCGCGTG
    GGAAACTTATCAAGACGGCAACGGCAAGACCGCCGTCCGTCAAAAATATCCCGCCGGCAC
    GCCCGTTTATTACCAAGACGGCAGCTACTCGAAAAAATATGAACTACAACCAATACCGTCC
    CGAACGCCATGCCGTGTTACCCAATCAAACCGGCAACAACGCCGACGAAGAGCATCGCCA
 55 ACACTGGCAAAAACCAAAGTTTCAAAACCGATAAACCTACCCTATGCCGTCTGAAGCCGC
    TTCAGACGGCATTGCACAGGAAACCGTCATGCCGCAAAACACTTTAAACATCGTCATCCT
    CGCCGCCGGCAAAGGCACGCGCATGTATTCCAAAATGCCAAAAGTGCTGCACCGCATCGG
```

```
CGGCAAGCCCATGGTCGGGCGCGTTATCGACACCGCAGCCGCACTGAATCCGCAAAACAT
CTGCGTCGTCATCGGCCACGGCAAAGAGCAAGTCTTGGACACCGTCAAACGCGATGTCGT
TTGGGTTGAACAAACCGAACAGCTCGGTACCGGCCACGCCGTCAAAACCGCCCTGCCCCA
CCTTTCCGCCGAAGGCCGCACGCTGGTGTTGTACGGCGACGTTCCTTTAATTGACGTTGA
AACCCTCGAAACCCTGCTCGAAGCCGCAGGCAACGAAGTCGGGCTGTTGACCGACGTTCC
CAACGACCCGACAGGCTTGGGGCGTATCATCCGCGACAGCAACGGCAGCGTAACCGCCAT
CGTCGAAGAAAAGACGCCGACGCCGTCCAAAAAGCCGTGAAAGAAATCAATACCGGCAT
CCTCGTCCTGCCCAACGCCAAACTCGAAAACTGGCTGAACAGCCTTTCCAGCAACAATGC
ACAAGGCGAATACTACCTGACCGACCTCATCGCCAAAGCCGTTGCCGACGGTATTAAAGT
TCATCCCGTCCAAGTGCGCGCCTCCCACCTCGCCGCCGGCGTGAACAACAAACTCCAGCT
CACCGAACTCGAACGCATCTTCCAAACCGAACAGGCGCAAGAATTGCTCAAAGCAGGCGT
AACCCTGCGCGATCCGGCACGTTTCGATTTACGAGGCCGTCTGAAACACGGGCAAGACGT
CGTGATTGATGTGAACTGTATCTTTGAAGGCGACATCGAGCTCGGCGACAACGTCGAAAT
CGGCGCAAACTGCGTCATCAAAAACGCCAAAATCGGCGCAAACAGCAAAATCGCCCCCTT
CTCCCACCTCGAAAGCTGCGAAGTCGGCGAAAACAACCGAATCGGCCCGTACGCCCGCCT
GCGTCCGCAAGCCCGCCTTGCAGACGACGTACACGTCGGCAACTTCGTCGAAATCAAAAA
CGCCGCCATCGGCAAAGGCACCAAAGCCAACCACCTCACCTACATCGGCGACGCCGAAGT
CGGCTGCAAAACCAACTTCGGCGCCGGTACGATTATTGCCAACTACGACGGCGTGCACAA
ACACAAAACCGTCATCGGCGACGAAGTGCGCATCGGTTCAAACTGCGTCCTAGTCGCCCC
CGTTACCCTCGGCAACAAAGTAACCACAGGCGCGGGCAGCACGATTACCCGCAATGTCGA
AGACAACAAACTCGCCCTCGCCCGCGCCCGCCAAACCGTCATCGAAGGCTGGGTGCGTCC
TGAAAAAGACAAACAATAAAGCTATGCCGTCTGAAGCCGGTTTCAGGTTTCAGACGGCAC
CCCAAAACAAACATCCGATAAGGACGGCAAACCATGTCATTACCCCCATGCCCGCAATGC
GCCTCCGAATACACCTATGAAGACGGCGGACAATACATCTGCCCCGAATGCGCCCATGAA
TGGAATGAAACCGAATCCGCCGCCGACCTTGCGGCTCAAGTGCGCGATGCCAACGGCGCA
GTGCTGCAAAACGGCGATACCGTCATCCTCATCAAAGACCTCAAGGTAAAAGGCAGCTCG
ATGGTGATCAAACAAGGCACAAAAGTCAAAGGCATACGCCTGCAAGAAGGCGATCACAAC
ATCGGCTGCAAAATCGACGGCAGCGCGATGAATTTAAAAATCCGAATTCGTCAAAAAGCC
TGACCGCCCAAAAACAAGAAACGCCGTCCGAACCCGTTTGGCAAGGTTCGGACGGCGTTT
TTTATATGGCGGATTTATACGCCCAGCAGCCCTTGCCCCAAAAAGCCGCCTTTTTCCACG
CCGGGCAAGACGAAGAAATAGCCGCCGCCGAAGGGGCTGATGTATTCTTCCAGCGGTTCG
CCGTTGAGGAGGTTTTGCACGAAGATGAATCCGTCGGCAAGGTTTGCCTGATAGCAGACG
AACACCAGCCCGACATCAAGCTGTCCGCTTGAGGCGAGTCCGCGCGAATAGCTGTAGGCG
CGGCGGAAGAGGCGGTGTTTTTTGAGGAATTCGGGATCGCGCGGATTCGCCAGGCGTATA
TGGCTGTCTTTGGGCGTGATATCACCCTCGGGGTCTTTGGCAAAATCCGGTTGGTCGGCT
TCTTTTTTGCCGTCCATCGGCGCACCGCTGTATTTGCGCCGCCCCGAAAATGTCGGTTTGC
TCTTGAAGCGGCGTCCTGTCCCAAAACTCGACAAAGTGGCGGATAAGGCGGACTGCCTGA
TAGCTGCCGTTTTTCGCCCACTCCGGTTCGTCGAGGCTGTTGGCGGCCACCCCCGTCCAC
AAAACCTCGTCGGCAGTTTTGGGATCGGAAACTTTGGGGTTGCCCGTGCCGTCCCTGAAG
CCCAACAGGTTGCGCGCCGCCATCGCGCCGGGTTCGGATTTGGGCTGCCACCCGTCGATA
CTCCAACGGATAACGGCGGTTTGGACGGTGTGTTTGATGATGTCGCGCAGGGCGGCTTGG
CAGGTTTCGGGGGGTGAAGGCACAGATTTGCAGGCTCAAATCGCCGTCGCACCAGCTTTTT
TGCAGCTTATCGTTGGAGAAGTCGCGCATTTCCTGCAAATGAATCGGTTTTTTGTCTTTG
AGTCCGAACCGGCCGTCAAACAGGCTGCTGCCCACCCCCACGGTAACGGTCAACCCGTCG
GGGTTGAAGGCTTTGCCCAAAATGCCGCTGCCGGCTGGCGGAAGTTTGTCGTCGCCGTCT
TGGTATTCGCCGCCTTGGGTGAGAAACTCGATGCGGGCGGTCAGCGTGCGGAACAGGTTT
TCCAGCTGCTTGGCACTTTGCGCGGTTACGTCGAAGGCGCACATAATCGAAAACGCCTGC
TGCGGCGTAACGATGCCTGCCTGATGTTCGCCGTAGCAGGGATAGGCTTGGGGCGAGTGT
TGGCTTTCGGCGGTGCGTTCGGCGGTTTCGCCCTGTTTTTTGCCGCCGAGATAACCTCCG
ATTGCGCCGACTGCTCCGGCTGCGATCGCGGTTTTAAAAAGAGTGCGCCTGGTCGGTTGT
GCGGGTTGTTTTTTGCTCATGGTGTTTCCTTCAATATCCGTGCAGCAGGATGGGTATCCC
TGCACGCCGTTTTTCCATTAACCGATAGCGGCAGGTTGAAATCCCGCCCTGCAATATATG
GCGGATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTATAAAT
AGTACGGCAAGGCAAGGCGAGGCAATGCCGTACTGGTTTTTGTTAATCCACTATAAAACT
TCAGACGGTATCTGCCGCCAAATACCGTCTGAACGCTTGCGGCTTATTTCAAGCCGAGTA
TGCCGCGAAGTTGGGCAAGGTCTTCGGCAAGCGCGTTAATAGAGGCCTGTAACGCTTTGC
GGTCGGCTTCGCCCAGCTTGTCGTAGGTTTCAAAACCGTCTTTAGTCCGGTATTTCGCCA
```

```
GAATTTCGTTGACCTGTTTGAAGTTGGTATCGGTTTTTTCCAACAAGGCTTTGTTTTTGG
CCTCGATCAGCGGACGGAACAAATCGACGATTTTTTTAGATCCGTCCACATTGGCTTGGA
AGTCGCTCAAATCGGTGTGGCTGTACCGGTCTTCTTCGCCGCTGATTTTACTGCCCGCCA
CTTCTTCAATCAGTTCGGACGCGCCGCCGACCACCTTGCCCGGAGGAAACGCCAATGCGT
CGATTTCTTTTTGCAGGGCTTCGACATCGGTCATCAGTTTCGCTGCAATTTCCTTCACGC
CGGACACGTCTTTTTCCACCCAAAGGGCGTATTCGATACGGTGAAAGCCGGTAAATCCGG
CATCTTTCGCGCCGTCTTTGAAGTCGTCTTCACGCGCATCGATGACGGGGTCGAGTTCGC
TGAAAAGCTCGGCAATCGGTTCGATGCGTTCGTAATGGACGCGGGTGTCGGCAAACAGGG
ATTTCGCCTTTTCAATGTCGCCTGCTTTGACGGCTTCGGTAAAAGTTTTGGTTTTCGCCA
CCAGCTCTTTAACCTCGCCTTGAACGTAGGCTTTATAGTCGGCGAGCGGTTGGGACAGTT
TTTCCAAATCCGCTTCGTTGGCGGTGTCTTTAAAGCCGCTGTCGGTTACCACCAGCTTGC
CGCGCGGATTGGTCAAAAGACCGCAAGTCATTTCGTATTCGCCCGGCAACAGGGTGACGG
TCATTTTATCGGAAAGTCCGGGGGCGATGTTTTCGCGCTCGTCCACCACCATCACGCCTT
TCAGGATTTCCCATTCGAGCTTGCGGCCGCTGTTGTTTTAATATTGAACACAACCTGTC
CGCTCGGCACGGTCAGTTCCATCGGTTCGCAGGCATTGTCGTTGACGGCGATACTGACCG
AACCGCCCTCGTTGGCGGTTTGCGCCTCACCGGACGCTGCCGGCGCAGCTTTCTCCGCCT
CCGGCGGCTGGCACGCGGTCAAACCTAAGGCAAGCATCACGGACAATGCGGTCAAATTGA
ATTTTCTCATTTCAGCTCCTCTTTACGGGTTAAAGTTTCAGACGGCCTGCTGCCGCACAA
AAACCAAGTTATGACGGGAATAAGGTACAGCAGCCAAACCAAGGTCTCGCCCTGCGTCGG
ATGGTCGGTATAGCCGAAAAATCCGCCGAGCAGCACGCCCAACGGACTGTCTTCGTGCAA
ATATTTTGATGAGTCGAACACAATGTCCTGAAGCGCGTTCCAAATACCTGCCTCATGCAG
CGCGCGCAGCGAGCCGGCAAGCAGGCCGGCGGCAACGACAATCAGAAACGCCCCCGTCCA
ACGGAAAAACTTCGCCAGATTCAGGCGCATCCCGCCCTGATAAATCAACGCGCCAATCAC
GGCGGCAGCCAAAACCCCCGCTACCGCGCCGGCCGGCATCTGCCACGTCGGGCTCTGTTT
GAATACGGCAAGCAGGAAAAAAACACTCTCCAGACCTTCGCGCGCCACGGCAAGAAACGC
CATACCGACCAAGGCCCATCCTTGACCGCTGCCACGGTTCAAAGCCGCCTGCACAGAATC
CTGAAGCTGCCGCTTCATCGAACGCGCCGCCTTTTTCATCCATAAAATCATATAAGTCAG
CATGGCAACGGCAACCAAACCGATAATGCCGACGACGAACTCCTGCTGCTTCTGGGGAAT
CTCGCCCGTTGCCGAATGGATGCCGTACCCCAGCCCCAAACACATCAAAGAAGCAAGGAC
GACCCCGAACCAGACCTTAGGCATCAGTTTGGAATGTCCGGACTGTTTCAGAAAACCGGC
AACGATGCCGACAATGAGCGCGGCTTCAATACCCTCGCGCAACATAATTAAAAAAGCGAC
CAGCATAAACGCGAACGAACAAGGATGATGAATAATATATTATCGGAATATTTTCATTGC
TTGTAAATACAAATGCAAGTTATTTTTATCTGCAGTACCGCGCGGCGGAAAGTTCCGCAG
GCTGCAGCTGCGCCCTGTGTTAAAATCCCCTCTCCACGGCTGCCGCAACGCCGCCCGAAA
CCATCTTTCTTATTACTGCCGGCAACATTGTCCATTATGAAAAAATACCTATTCCGCGCC
GCCCTGTACGGCATCGCCGCCGCCATCCTCGCCGCCTGCCAAAGCAAGAGCATCCAAACC
TTTCCGCAACCCGACACATCCGTCATCAACGGCCCGGACCGGCCGGTCGGCATCCCCGAC
CCCGCCGGAACGACGGTCGGCGGCAGGCGGGGCCGTCTATACCGTTGTACGAGCATCGGG
CTGAAAACGCTTGGGCGTTCAGGCTGAACCTTGCCGCCGCGCTGCTTATTTTTTTGGTCG
GAAAATGGGCGGCGAAACGCATTGTCGCTGTGATGAGGGCGGCGATGACGCGCGCGCAGG
TCGATGCCACGCTGATTAGTTTTTTGTGTAATGTTGCCAATATCGGCTTATTGATTTTGG
TGATTATTGCCGCATTGGGCAGATTGGGCGTTTCCACAACATCCGTAACCGCCTTAATCG
GCGGCGCGGGTTTGGCGGTGGCGTTGTCCCTGAAAGACCAGCTGTCCAATTTTGCCGCCG
GCGCACTGATTATCCTGTTCCGCGCGTTCATAGTCGGCGATTTTATCCGCGTCGGCGGTT
TTGAACGATATGTCCGAGAGATTAAAATGGTGCAGACTTCTTTGCGGACGACCGAGAACG
AAGAAGTCGTGCTGCCCAACAGCGTGGTGTATGGCGACGGGCGATGACGGGGATACCGGA
TAGGTCAGTGCGGTTTTTACCTTTTTGCGGATGGCCTGGGTTTTTTCTTTGTAAATTGCC
AATTTGTCCAGCAGGCTTTCCAATACGCCGCCCGTTTCGCCCGCCGCAAC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 35>:

gnm_35

```
CCGGATTTGGTGCGAAAAATTTGCATTCCGCCGAAAATTTCGGTTTCAGACGGCATTCAA
ATGTTTTGGCTGCCCAGCCAGCGTTCCGCGTCCAAAGCCGCCTGACAGCCGGAAGCCGCG
```

```
CTGGTAATCGCCTGACGGTAGGTATGGTCTTTTACGTCGCCCGCCGCCCATACGCCTTCG
ATATTGGTTGCGCCGACATTGTCCGCCGTGCCGCCTTTGGTTTTCAGGTAACCGGCTTCG
TCCATTTCCAACTGACCTTTGAAAATATCGGTATTCGGCTTGTGCCCGATGGCGATAAAA
ATGCCGCTGACGGCAATTTGTTGCTCAGAACCGTCGTTGTTTTTTAATAATGCGCCGTTT
```
ACGCCCCGATCGTCGCCCAGTACTTCTTGCAGGTTGCTTTCCAGCTTGAGGATGATTTTG
CCCTCTTCCACGCGTTTCATCAGTTTGTCGATCATGATTTTTTCGGCACGGAACTCGCTG
CGGCGGTGGATCAGGGTAACGGTTTTGGCGATATTGGCAAGGTAGAGTGCCTCTTCAACT
GCCGTATTGCCGCCGCCAACTACGGCAACATCTTGGTTTTTATAGAAGAAACCGTCGCAG
GTGGCACAAGCGGAAACGCCTTTTCCTGCAAACGCTTCCTCACTCGGCAAACCGAGGTAT
```
TTGGCGGACGCGCCTGTTGCGACAATCAGGGCATCGCAAGTGTACTCGCCCATATCGCCT
TTGAGTGTAAACGGGCGTTTTTGCAGATCGACGGCGTTGATTTGGTCAAAAATGATTTCC
GTTCCGAAACGTTCGGCGTGGGCGAGAAACCGCGCCATCAATTCCGGCCCTTGCACGCCG
TCGGCATCGGCAGGCCAGTTGTCCACTTCGGTGGTGGTCATCAGTTGCCCGCCTTGCGCG
ATACCTGTAATAATGACGGGGTTTAAATTGGCGCGCGCGGCATAGACGGCGGCGGTGTAT
```
CCGGCGGGGCCGGAACCCAAAATAATCAGTTTGCGGTGTTGGGACATTGTTTTTCCTTTG
CTGTGTCAAGTTTTCGGATTCTACTCGAATTATCGGCGCGTTTGAGAAATTTCGACCATA
CCGGCGCTCAGACGGCATCCCGCAGCCTTAACTGCCGTCTGAATATCAAAGCAGGAATCA
CGCTTATGCAACAAAAAATCCGTTTCCAAATCGAAGGCATGACCTGCCAGGCCTGCGCTT
CGCGCATTGAAAAAGTGTTGAACAAAAAAGATTTTGTCGAATCGGCGGGGGTAAACTTCG
```
CCAGCGAAGAGGCGCAGGTAGTGTTTGACGACAGCAAAACCTCAGTAGCCGACATTGCCA
AAATCATTGAGAAACCGGTTACGGCGCGAAGGAAAAAACGGAAGATACATTGCCGCAAC
CCGAAGCAGAACACCATATCGGCTGGCGGCTGTGGCTGCTGTTCACCATCAACGTCCCGT
TCCTTATCGGCATGGCGGGGATGATGATCGGCAGACACGATTGGATGATTCCGCCGTTGT
GGCAGTTCGCATTGGCAAGCGTGGTGCAGCTTTGGCTGGCAATCCCGTTTTACAAAGCG
```
CGTGGGCGAGCATTAAGGGCGGACTGGCGAATATGGACGTGCTGGTTACCATCGGCACGG
TCTCGATTTACCTGTATTCCGTCTATATGCTGTTTTTCAGCCCGCACGCGGCGTACGGTA
TGGCGCATGTGTATTTTGAAGTGGGCGTGATGGTGATCGGTTTTGTGTCACTGGGTAAAT
TTTTGGAACACCGTACCAAAAAATCCAGCCTCAACAGCTTGGGCTTGCTGCTCAAACTTA
CACCAACCCAAGTCAACGTGCAACGCAACGGCGAATGGAAACAGCTTCCCATCGACCAAG
```
TGCAAATCGGCGACCTTATCCGCGCCAACCACGGCGAACGCATTGCCGCAGACGGCATCA
TTGAAAGCGGCAGCGGTTGGGCGGACGAGAGCCATCTTACCGGCGAATCCAATCCTGAAG
AAAAAAAGGCGGGCGGCAAAGTGTTGGCGGGCGCGTTAATGACCGAAGGCAGTGTGGTGT
ACCGCGCCACGCAGCTCGGCAGCCAAACCCAGCTCGGCGACATGATGAACGCGCTCTCTG
AAGCACAAGGCAGTAAAGCACCGATTGCGCGCGTAGCCGATAAAGCGGCTGCGGTATTCG
```
TGCCTGCCGTCGTGGGCATTGCGTTGTTGACTTTTATTGTTACTTGGCTGATTAAGGGCG
ATTGGACGGTTGCGCTGATGCACGCCGTCGCCGTTTTGGTGATTGCCTGCCCGTGCGCGC
TGGGTCTGGCAACCCCTGCCGCGATTATGGTCGGTATGGGCAAAGCGGTTAAACACGGTA
TTTGGTTTAAAGACGCGGCAGCAATGGAGGAAGCCGCCCACGTCGATGCCGTCGTGTTGG
ACAAAACCGGTACGCTGACCGAAGGCAGCCCGCAGGTTGCCGCCGTTTATTGCGTTCCCG
```
ACAGCGGCTTTGACGAAGACGCTTTGTACCGCATCGCCGCCGCCGTCGAACAAAACGCCG
CCCATCCGCTCGCCCGTGCCATCGTCTCCGCCGCCCAAGCGCGCGGTTTGGACATTCCCG
CCGCACAAAACGCACAAACCGTTGTCGGCGCAGGCATTACCGCCGAAGTGGAAGGCGTGG
GTTTGGTGAAAGCAGGCAAAGCCGAATTTGCCGAACTGGCCTTGCCGAAGTTTTTAGACG
GCGTTTGGGATATTGCAAGCATTGTTGCGGTCTCAGTCGATAACAAACCCATCGGCGCAT
```
TCGCACTTGCCGACGCGTTGAAAGCCGATACCGCCGAAGCCATAGGCCGTCTGAAAAAAC
ACAATATCGATGTCTATATTATGAGCGGCGACAACCAAGGCACGGTCGAATACGTCGCCA
AACAACTGGGCATCGCACACGCCTTCGGCAACATGAGTCCGCGCGATAAAGCTGCCGAAG
TGCAAAAACTCAAAGCCGCCGGCAAAACCGTGGCGATGGTCGGCGACGGCATCAACGACG
CGCCCGCGCTTGCCGCCGCTAACGTCAGCTTCGCCATGAAAGGCGGAGCGGACGTTGCCG
```
AACATACCGCATCCGCCACGCTGATGCAGCATTCGGTCAACCAACTCGCCGATGCTCTGC
TGGTGTCGCAAGCCACTTTGAAAAAACATCAAGCAAACCTGTTTTTCGCCTTCTTCTACA
ATATTTTGGGCATTCCTCTCGCCGCGCTTGGCTTTTTAAATCCCGTCATCGCTGGCGCGG
CAATGGCGGCAAGCTCGGTTTCCGTGTTGAGCAATGCCTTGCGCCTGAAACGGGTAAAAA
TCGATTAGCAGCATGTAACCGCCCTGCAGCCTTGTCCGAACGGATAAGGCTGTCTCCAGC
```
GATATGGTAATATGCCGTCTGAAACCGTTTTTCAAGTAATTGATATGAATAAAGAAACCC
GTTTTCCGGAACACTTCGACATCCCACTTTTCCTCAAAAACCTGCCCAACCTGCCAGGCG
TATACCGTTTTTTCAACGAAAGCGGCAACGTCTTATACGTCGGCAAAGCCGTCAACCTCA
```

```
     AGCGGCGCGTGTCCGGCTATTTCCAGAAAAACGACCATTCCCCGCGCATCGCATTGATGG
     TGAAACAGGTTCACCACATCGAAACCACCATCACCCGCTCCGAATCCGAAGCCCTGATTC
     TCGAAAACAACTTCATCAAAGCCCTGTCGCCCAAATACAATATTCTTTTCCGCGATGACA
     AAAGCTATCCTTATTTGATGCTCAGCGGCCATCAATATCCGCAAATGGCGTATTACCGCG
5    GCACGCTGAAAAAGCCTAATCAATATTTCGGCCCATATCCCAACAGCAACGCCGTGCGCG
     ACAGCATTCAAGTGTTGCAAAAAGTCTTTATGCTGCGTACCTGCGAAGACAGTGTATTCG
     AGCATCGCGACCGTCCTTGTCTGCTTTACCAAATCAAACGCTGCACCGCGCCTTGTGTAG
     GCCACATCAGTGAAGAAGATTATCGTGACAGCGTGCGTGAAGCCGCGACTTTCCTTAATG
     GCAAAACTGACGAATTGACGCGTACCCTGCAACACAAAATGCAAACCGCCGCCGCTAATC
10   TACAATTCGAAGAAGCCGCACGTTACCGCGATCAAATCCAAGCGCTCGGCATCATGCAAA
     GTAATCAGTTTATCGACAGTAAAAATCCGAACAATCCCAACGATATCGATTTGCTTGCAC
     TGGCGGTTTCAGACGGCCTGGTTTGCGTACACTGGGTCAGCATCCGCGGCGGACGGCACG
     TCGGCGACAAAAGCTTTTTCCCCGACACCAAAAACGATCCCGAGCCAAACGGACAAGATT
     ACGCCGAAGCCTTCGTCGCCCAACACTATCTGGGCAAAAGCAAACCCGACATCATCATCA
15   GCAACTTTCCCGTTCCCGATGCGCTAAAAGAGGCTTTGGAAGGCGAACACGGCAAGCAGA
     TGCAATTTGTCACCAAGACCATAGGCGAACGCAAAGTCCGGTTGAAAATGGCGGAACAAA
     ACGCGCAAATGGCGATTGCACAACGCCGCCTGCAACAAAGCAGCCAGCAACACCGCATTG
     ATGAACTGGCAAAAATCCTCGGCATGGATTCAGACGGCCTCAACCGCCTTGAATGTTTCG
     ACATCAGCCACACACAAGGCGAAGCCACTATTGCGTCCTGCGTTGTGTACGATGAGCAAA
20   ACATCCAGCCTTCGCAATACCGCCGCTACAACATCACGACCGCCAAACCCGGCGACGACT
     ACGCCGCCATGCGCGAAGTGTTGACGCGCCGTTACGGCAAAATGCAGGAGGCCGAAGCCA
     ACGGCGAGACCGTCAAATGGCCGGATGCCGTGTTGATTGACGGCGGCAAAGGGCAAATCG
     GCGTAGCCGTATCGGTATGGGAAGAACTCGGGCTGCACATCCCTTTGGTCGGCATTGCCA
     AAGGCCCGGAGCGCAAAGCCGGTATGGAGGAGCTCATACTGCCTTTTACCGGCGAAGTCT
25   TCCGCCTGCCGCCCAACAGCCCGGCCTTGCATCTATTGCAAACCGTACGCGATGAATCGC
     ACCGTTTCGCCATTACCGGTCACCGCAAAAAACGCGACAAAGCCCGCGTTACCTCCTCCT
     TAAGCGACATCCCCGGCGTAGGCAGCAAACGCCGCCAAGCCCTGCTCACCCGCTTCGGCG
     GTCTGCGCGGCGTGATTGCCGCCAGCCGCGAGGACTTGGAAAAAGTGGAAGGCATCAGCA
     AGGCATTGGCGGAAACGATTTACAATCATCTGCATTAGCATGCTGTCAAAGACAAAATCC
30   GTCTGTAAAAAATATGATACAGCAGGTCGGTATACCGATATATAGTGGATTAAATTTAAA
     CCAGTACGGCGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTT
     GTCCTGATTTTTGTTAATCCACTATAAACCTAACTTCATAACGAATAACGATGATTCGAC
     AAAACGGAAAACGATCTGACATGAACAATCCCGACTTACCCTATCGGCAGGCCTTAGAAT
     GCCTGTCTCAAAAACAATATAACTTTACCGAAGTCCGCCGACTGCTGACAGAAGCGTTCT
35   CGGCAGGTCATCCCGCCGCCGCATTCGAGTTGGCAAAACACCTGATGGACGCGGACAGCC
     CCTACCAAGACCGCGAACAAGGTATGGAAATGCTCCGCATCGCCGCTGAACAGGGACATC
     CCTACGCGCGTTACAATCTGGCATATATCCAAGAATTGGAAGGCGCACCCCCGGAAACCC
     TGATACCGCTTTACAGACCGTTGGCAGAAGAAGGACTGCCCGAAGCGCAAGTCCGCCTGA
     TGTACCTTCTGTACGCGTCCCGACATTTTGAAGAAGCCTTGGAATGGGCAAAAACAAGCG
40   CAAAAAACAACAACCCCCACGGGCAATACCTGCTTGCCCAATACTGCCGGTACGGCACAC
     CGCCGGATTTTGAAACGGCGCACCTGCTCTACCGAAAATCGGCGGCACAAGGCTTGCCGG
     AGGCACATTGGCAGCTCGGGCTGCAATATCGTTTCGGGCAAGGGACGAAAGTCGACACGG
     CACAGGCCGTCAATCATTTGCGCGCCGCCGCACAACAAGGATACATTCCTGCCTACACCC
     CACTTGCCGAGCTCATCCTACCTACGGCTCCTGATGAAGCCGTTCACTGGTTTCAACAGG
45   CCGCACAGGAAATGACCCCGATGCCCATGCCGCACTTGCCGACATCTACCTGCAAGGCA
     AGCATCTGGAAAGAAACCACAAACTTGCCCTGCATCATGCCGAAGCAGCCGCCGCCGAAC
     GCCATCCCGAAGGTTTGCGGATACTGGGCGACATCTGCCGCTACGGTTTGGGCATAGCCC
     CCGATACGGAAAAAGCCCGGCATTATTATCGGCAGGCAGCCGAAGCCGGCAGCCTTTCCG
     CCTATCAGAAACTCATATCCGACAGCGCGTTAAACCATCCTGACCAATACGGCGGCATTA
50   AAGATTCCGCCATCAGGCGGCAAAGGGCAGAACGGCTTTATCAAAAAGCCCAAGCCCTGC
     ATTACGGATTACAATGCGCGCCCGAATACGCAGCCGCGCTCAAACTCTACACAGAAGCCG
     CAGAACTCGGACACAGCAAAGCCCAAACCAATCTGGGCAGCATGTATTACTTCGGACAGG
     GTATGACCGCCGACTACAATGAAGCACGCAAATGGTTTGAAAAAGCCGCCGCGAAAAAAG
     ACAGTATGGCGTTCTACAACCTCGCCTGCATCCATTACAGCGGACACGGCGTCGAGCCGG
55   ACAAAGAAAAGCCTGCCGCTACCTGCAAGAAGCCATAAACAACGGATACGGGCAAAAAA
     GCGTCCTGCAAGAACTGCTGCAACAATGGCAAAATGCCGTCTGAACAGCGTTACACCTAC
     CCTGCCGAAACGAAACAGGTATAATCGCCCCTTTCCCTTCCCGCCGTCCGAACAGGCATT
```

TCACATTCAGACGGCATCCTGATTGCACAAGCGTACGAAAGCATTATGACAGACACCGCC
GAGAACCAAACACAAAACAACTGGCAAGCCGGACACCCCCGCAGCATCCGCAGCTTCGTC
CTCCGCCAAAGCCATATGACCGCCGCGCAGCAACGCGCCATCGATACCTTATGGGACAGC
TTCGGCATCGACTACCAAGCAACACCGGCCGATCTTGATGCCCGTTTCGGAAGCAGCCGA
CCCAAAATCCTCGAAATAGGCTTCGGTATGGGGACGGCAACCGCAGAAATCGCCCGCCGC
CTGCCCGAAACCGACTTCCTCGCCATCGACGTACACGGTCCCGGCGTAGGCAACCTGCTC
AAACTCATAGACGAAAACCATTTAGAAAACATCCGCGTGATGCGGCACGATGCCGTAGAA
GTTGTCGAAATATGCTGCAAGACGGCTCGCTCGACGGCATCCACATATTCTTCCCCGAC
CCGTGGCACAAAAAACGCCACCACAAACGCCGTCTGATACAAGCCCCCTTCATCGCCAAA
CTACTGCCCAAACTCAAAACCGGCGGCTATATCCACCTGGCGACAGACTGGGAAGAATAT
GCACAGCAGATGCTTGAAGTCCTCAGTAGCTTCGACAGCCTGCAAAATACGGCGGCAGAC
TACGCCCCCACCCCGGACTACCGCCCCGAAACCAAATTCGAAGCGCGCGGCAAACGCCTC
GGACACGGCGTTTGGGACTTGGTATTCAAACGGATCGGATAACAAACCACTGTTTGAAAA
TGCCGTCTGAAACATGTTTGCTTACAGACGGCATTTTTTCAAGATAAAGCAGCAAGTGAT
GTTTCGATATAAAGTTTAAAACAATAGTTTGAACGGCAAAACGCGTGTGTACCGCACGCA
TCCTTATAGGTTTTATGCACATCGGTTTTAAAGTTTGTGCCGCCCGCAGGTAGTATGTGA
TAGCTACGCACGCGGTTGGTGTGATGTAGGCTACGGCTTGCTGGTTACAACCGTAAAAAA
GTAAGTGCCGCCATTGCGGTAAAAACGAAGGGATTTCATAGTGTTATGCTCGTAATGATT
TTGTAGATTGGATTCTCGAATCCGACCTTTTGGGCATTGCTGCAATGGATTGCAACGACG
GGAATGTTGAAGGTTTTGTCGGATACAAGTATCCGACCTACGCTTGTTGCTATATATCTT
TTGATTTAATGACTAAATATGACAAAGTTAAAGTGCAGATTACAGCAAGCATGATATGCT
TCTTTAGGCTTTTATCATTCCATGATATAGATATTTCTTCCTTTTCATTTTCTTTATAAA
ATTTTAAACCTATATCACCATTTTTCCATTCCTGGTGGTTTACTATGATTTTATTTTTAA
AAGAATCTCTTAAACTTTCATGTAAAGAGTTAAATTTTCTTGATTTACTTCCCTTAGTAC
ATGGTGAGCAATTGTATTTCTAATTTTATTTAATCTCTCCCCTATATCATATACTTCGCT
AAATAAGCCAAGATTACGCGCAATTTTTAGTTTTGTGCGAAATCCAATTTGTGTATCATT
GAAAAAATCTTCTTTATTACATTTTGCATATATCCATGCCTCTAAAATTCTTTCAAAAAA
TAAATGTGTTCGTAAGATTGAACCTATTTCATCCTGTGTTTCAATAGCTTCTTTCACGAT
ATCAAAAATCTTATAATCATCAAAATTTGAATTTTTAATAAATAATTCTAAATTAAAATC
TAATTGAGACATAATAAGTGCCCATTTCAAAAATAAATCTATATTCTAGTTAATATAATA
GTTATTCTAATATCTAAATTAAATAATAAACTACTATTTTTATATCCACGACAAAGTCTA
AGTCTCACTCCGCCCCAAACAACAAATTCTCTTTAATATCCCTAATCCTATCCCGCAACA
CAGCCGCCTCTTCAAACTGCAAATCCCTAGCCGCCTGCTGCATGGCTTTTTCGAGTTTGG
CGATTTCTTTAATCGCATCTTCTTCGTTGTGAATCTCGCCCACTTTAACCTTGTTTTTAC
CTTTCAGACGGCCTTTACTGCCGTCTTCTTCGTGGTACACGCCGTCGATGATGTCTTTGA
CCTGTTTTTTAATCTGCTGCGGCACGATGCCCTGTTCTTCGTTGAATTTAATCTGTTTTT
CACGGCGGCCGTTCGGTTTCGTCGATAGCGGCTTTCATGGAGTCGGTAATTTTGTCGGCGT
ACAGGATGGCGACGCCGTTCACGTTGCGCGCGGCGCGGCCTATGGTTTGAATCAGGCTGC
GGTGGGAGCGCAGGAAGCCTTCTTTATCTGCGTCGAGGATGGCGACGAGAGAGACTTCGG
GGATGTCGAGGCCTTCGCGTAAGAGGTTGATGCCGACGAGTACGTCAAACAGGCCGAGCC
GTAAATCTCTAATGATTTCAACGCGCTCGACGGTGTCGATGTCGCTGTGCAGGTAGCGCA
CTTTGATACCGAGTTCGCTGTAATAGTCGGTGAGTTGCTCCGCCATGCGTTTGGTGAGGG
TAGTAACGAGTACGCGTTCGCCTTTTTCAATGCGGTCGTTGATTTCGCTCATTAAGTCGT
CGACTTGGGTGGCAACGGGGCGGATGATGATTTGGGGATCAACCAGCCCTGTGGGGCGGA
CGACTTGTTCGACCCACTTGTCCGGCGTGTTCTTCTTCGTATTTGGCGGGGGTAGCGGAAA
CGAAGATGGTTTGCGGCATGACTTTTTCAAATTCGTGGAATTTGAGCGGGCGGTTGTCGC
GGGCTGAAGGCAGGCGGAAGCCGTAGTCGACGAGGTTTTGCTTGCGCGATGCGTCGCCTT
TGTACATGCCGCCGATTTGGGTTACGGTAACGTGGCTTTCGTCGATGAACATGATGGCGT
TGTCGGGCAGGTAGTCCATCAGCGTAGGCGGCGGTTCGCCTTCTTTTTTGCCGGAAAAGT
GGCGGGAGTAGTTTTCGATTCCTTTGCAGAAGCCCATTTCGTAGAGCATTTCGAGGTCGA
AACGGGTGCGCTGTTCGATGCGTTGTTGTTCGACGGGGCGTTGTTCGCGGGCGAAAAATT
CGATGCGTTCGCGTAATTCTTCTTTGATGGACTCGCAGGCGCGCAAGACGGTGTCGCGCG
GGGTAACGTAGTGGCTGGACGGGAAGACGGTGTAGCGGCCGACGCGCTGGATAAGGCTGC
CTGAAAGCGGGTCGAACATATCGAGGCGGTCGATTTCGTCATCAAACAGGCTGATGCGTA
AGGCGTTTTCGGAGCTTTCGGCGGGGTACACGTCAATCACGTCGCCGCGCACGCGGAAGC
TGCCGCGTTTGAAGTCCAAATCGCCGCGTTCGTATTGCATGGAAACGAGCGTGGCGATGA
TGTCGCGCTGCTCGATGGTATCGCCTTCTTTGACGGACAACACCATTTGTTGATACTCGG

```
TCGGGTCGCCGATACCGTAAATGGCGGACACGGTGGCGACGATAATCACGTCGTTGCGCG
TCATTAGGTTTTTGGTGGCGGAAAGGCGCATCTGCTCGATGTGTTCGTTGATCGCGCTGT
CTTTTTCGATGAACAAATCGCGGCTGGGCACATAGGCTTCGGGCTGGTAATAGTCGTAGT
AGGAGACGAAATATTCCACTGCGTTTTCGGGGAAAAATTCGCGCATTTCGGCGTAAAGCT
GGGCGGCAAGGGTTTTGTTGTGCGCCATGATGATGGCGGGGCGGCCGCTTTGGGCGATGA
CGTTCGCCATGGTGTAGGTTTTGCCCGAACCGGTTACGCCGAGCAGGGTTTGATAGGCAA
GGCCGTCTGAAAGCCCTTCGAGCAGGCCTGCAATGGCGGTGGGCTGGTCGCCTGCGGGCG
GGAAGGGTTGGTGGAGTTTGAAGGGGGAATTTGGGTATTGGATAACTTCCATAATCTTGC
CTGTGATGCGTTTGCGGACAAAGCGTGCAGTAGGGATGGGTCGGAAACGTCTTTCAGACG
GCATAAGGCGGTGAAATCCTGAATGTATGCCGTCTGAAACCCAATCGCTACCCAAGTATA
GTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTG
CGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATAAATGCCGCACGGTTCAAAT
TCCGGTAAAAAATCGCTCATAACCTGTCCTTTCAAACATAATATGCCGTCTGAAATCCTT
TCAGACGGCATCGTCAAAACCTACTTCTTATCTTTTTATCTTTCTTATCTTTATTTGAA
ACCGGCTTTTTCGCCGCCAGCCCCAAAGACTTCTGCCACTGCTCGGGCGACTTGACTAAA
TCCAAAGCTTTCCGCAACTGGTCGTCTTTGGCAGGGTTGGGAATCCGCCTTGAAGACAAA
TCCTCGTCCTTTTTCTTTTTACCTTTTTCTTTTACAGCGGGCTTATCCGCATCTTTTTCA
AGCGGCACGGCAAGGGTTTCACCGTTCACATCCTCGCCGCCCAAGGGATTGCCGATGTGT
CCGACCAAATCCGCCTCGCGGCTTTCAAAAATGCGTTCCTTATCTTTTACTTCGACATCG
GGAACAATCCCCTGCGCCTGAATAGAACGGTCGTTCGGCGTATAATACAGTGCCGTTGTC
AGCTTGACCGCGCTGCCGTTGGACAAAGGAATCAAAGTCTGAACCGAACCTTTGCCGAAG
CTCTGCGTACCGACGATGACCGCGCGTTTATGATCCTGCAATGCACCTGCGACAATCTCC
GACGCGGAAGCCGAACCGGAATTGACCAATACCGTCATCGGTATGGTTTTCAACTCGGCA
GGAATGCCCGCCAACGAATCGCCGCCCATCCCGTACACATAATCTTCAGGAATGGCTTTC
AGTACCATGCGGTCTTTGCCGTCGCGTCCCTTGGTGCTGACGACGACTGCTTCAGACGGC
AGAAATGCCGCCGACACGCCGACCGCGCCAGTCAAAAGCCCGCCGGGGTCGTCGCGCAAA
TCCAACACCAGCCCCTTGAGCGGTTTTCCTTTATTTTCCTTTACCAGCTCTTTTGCGGCG
GTATTGACGCTTTCGACCGTCCGCTCTTGGAACTGCGACACGCGGATATAGCCGTAATCG
GGTTCGATCAGGTGATGGCGGACGCTTTTCACTTTAATAATGGCACGGGTCAGGTTGACG
ACTATCGGCTTGTCGGCATTTTTGCGCGACAGCGTCAAAGTAATCTTCGTACCCGGCTTG
CCCCGCATTTTCTTCACCGCTTCGCTGACCGTCATGCCGCGTGTCGAAACATTATCGATT
TTCACAATGAAATCGCCGCTTTTCACCCCCGCCCGTTCCGCAGGCGTGTCCTCAATCGGC
GAAACCACTTTGACAAATCCGTCTTCCTGCCCGATTTCCATCCCCAAGCCGCCAAATTCG
CCGCTGGTGGACTCCTTTATCTCGGCATAACCTTTTTATCCATATATTCGGAATGCGGA
TCCAAACCGGCCACCATACCCTTCATCGCACCTTCAAACAAATCGGCATCGGGTTTGTCC
TGATAGTAGTTTGCCTTGATTTGACCGTAAACCTCCGCCATTGTGCGGATGGATTGCACC
GGCAGGACTTCGTTATCCCGCCTGTCCTTCTCGGCGGCAAAACCCTGCACCGCCAGACTG
ACGGCCACGCCGCTGATTGCACCCAAAGTATAAAGTGCGATTTTCTTAAAAACAGGTTTC
GACATTCTTCTTTAACTTTCTCTCTTGATTTCCAAAAACCGGAAAATACAGGTACGGCAA
ACGGCAAACTTCACGGAACAGCGCACCATATCGGCACGATTTGCATAAAGCCTACCGTTT
CGGCAATCCGATCAACGTATCCAGCTCGAAGGGGTTCAATACCTGACCTTGATAACGTATT
TGCAGGTAAAGCCCCTCTTCCCCGTCCGGCAGCGACCCGCTCGAGCCGATTTTGCTTCCT
GCCGCGACCATATAACCCTTGCCGACGGAAATTTCGCTCAAACCGGCATAGATGCTGATG
TAGTTCTCGCCGTGATCGACCACGACCACTTTGCCGTAGCCGTCCAACTCGTCCGCATAG
CTTACCGTTCCCGGCGCAATGCTTTCAACCGTTGCCGGTGCAGTGGAATAGAACACGCCT
TTCCAAATATCGCCGCCGCTCCGGTTCTGCCCGAAAAGTCCGGTCGGCACACCGTCAACC
GGTTTTTTCAAACGTCCTTGCATGCGGCTGAAACCGTCGGCACTGCCGATACCCATAACC
GAAGGCGCTTGGATGTTCCTGTCTTCGGCGGTCAgtTGGACATTTCCGCACGTCGTGCTT
CAGCCTTCTGCTGCGCCGCTTCTTTTCTGGCTTTTTCGGCTGCCGCCAGTCTGGCTTCAG
CCAATTTTCTTTTTGCTTCCGCATCCTGAATGCGGTGTTCGGCCTTTTTCTTCTCCAAAT
TGCTCAAGAGCTTGTTCAGCTGCTGCTCGTTCCCTTTCTGTTCCAGCAGTTTTCGGGCAT
CTTTGGCGATTTTGGCATTCTGTCTGCGGCTTTCCGTCTGTTCCGCCGCATCGGTTACAC
CCTGTTTTTTCAGCAGAGATTGCACGTTTGCCTGAATTTTCTTCAAAACGGGCAAGCTCAT
TGTTGATTTTCTGCTCTTGTACCGCCAAAGCCTTCTGCTGTTTTTCCAAATCCTTGACAA
CTTCCCGATTGGAGGCGTTTACATAACGCGTATAACGCAAAAAGCGGTTTTTCTGACCCG
GTTCGGCGTTTTTCAGGAACAGGGCAACCGCATTCGGCTGGCTGTTTTTATAGTTCCCCG
ATACGAAACGGGAAATCTGCGCTTTCGTAGCGGCGACTTCCGTTTTCAAACGGTTCAGCT
```

```
      CGGTATTGAGTTTTTGGAACTTGTCCCAAGCCTCGCGCTGTTTGCGGTTGACGGAAGCAA
      GGTTGCCGCGCGCCTGACGGATACGCTCTTGGCGGATACGCTCTTCCTGAAGCTGTTTGA
      GGGAATTGCTGACATGAAGCAGCATTCCTTCGCTTTGTTTGAGCAGGGCTTTTTTGTTTT
      CGACATCATTGGTGGCAGCGGCAACGGCGGCTTTCAATTCGTCGGAATCGGTTTTGGCAT
  5   TTTTCTCTTCCCTGTATTTTTTGTCCTGTTTCACTGCTTTGCCGTTCTTGTCGGAACGGA
      CTTTTTTATTTGCAGAAACAGTGTCTTTTTCCGCCTTGCCGCCCTTGCGCGGATTGCCCT
      GTCCTTTTGCCTCTTTTTTGCCTTGTTTGTTTTCAGGCTGTGTTTTTGCGTTTTTTTCTT
      TGGATCCGGACACGGGCTTGCCATGTGCCTTTTTGTGTTCCGCCTTCGATTTCTTATCCC
      CTTCGCGTCCTTTGCGCGCAGACTGCCTGGATGTCGCCTCCTTCTCTGCTTCTTTGCGGT
 10   TTTTGGCGGTTTTTTTGGACTCTTTGCCCTCTTTTGCCGCCTCTTTGCCGCCTGTTTTTT
      TATCTTTCACTGCGCCATTTTTGCCTTTTTCTTTTTTGCCTTCCGCCGCTTCGGGCTGTT
      CTTTTTTGTTCTTCGTCTGTTTTTTCACTTCGGCGGAACGGTTGTGTGCCGCGTCGTGGG
      CGGCAACGGCGGGCGTGGAAAAAACGAGCATCAGGGCAAGCAGAAGGGGTTTGTAGCGCA
      TGGTTCGACCTTCGGAAAAAGTTGGATAATACTGAAGGCTGCACGAAAGCAGCCGGACGT
 15   TTGGATTATACTGTCAGTTATGCCGTCTGAAAATGCCGTTTGCCCAATCTTGCGCCTTCT
      TTGCGCGGATACTTGCAATCGGCTCAAACAGCCTTATATTGTGCGTCATATTTTCAATGC
      CGCAACGGATATTGTGTTCCGACACACAGGGTAGCACATTAAGCCGCATACCGTATGTTG
      CCCGATTTTGGGAACGTGCGCCCCTCCAAACAAAGCAAGCCCTGCCGCTTTCACGGAAAA
      CGGGGATTCAACCGATAAGGAAATTTTGATGAACAGACTGCTACTGCTGTCTGCCGCCGT
 20   CCTGCTGACTGCCTGCGGCAGCGGCGAAACCGATAAAATCGGACGGGCAAGTACCGTTTT
      CAACATACTGGGCAAAAACGACCGTATCGAAGTGGAAGGATTCGACGATCCCGACGTTCA
      AGGGGTTGCCTGTTATATTTCGTATGCAAAAAAAGGCGGCTTGAAGGAAATGGTCAATTT
      GGAAGAGGACGCGTCCGACGCATCGGTTTCGTGCGTTCAGACGGCATCTTCGATTTCTTT
      TGACGAAACCGCCGTGCGCAAACCGAAAGAAGTTTTCAAACACGGTGCGAGCTTCGCGTT
 25   CAAGAGCCGGCAGATTGTCCGTTATTACGACCCCAAACGCAAAACCTTCGCCTATTTGGT
      GTACAGCGATAAAATCATCCAAGGCTCGCCGAAAAATTCCTTAAGCGCGGTTTCCTGTTT
      CGGCGGCGGCATACCGCAAACCGATGGGGTGCAAGCCGATACTTCCGGCAACCTGCTTGC
      CGGCGCCTGCATGATTTCCAACCCGATAGAAATCTCGACAAACGCTGATATGAACCTCT
      CCAACCACTTTCTCATCGCCATGCCCGATATGGAAGACGCGTTTTTTTCACAATCGGTCG
 30   TCTATATCTGCAAACACGATGAAGACGGCGCACTCGGCATCGCCATCAACAAACCCTCTC
      CGATTACGATGGACATGATTTTTTCCGCCACCGGCAAAAACATCCCCATGCGGATGCAGC
      ACGACAGCGTGATGATGGGCGGTCCGGTGCAGGTCGAGCGCGGTTATGTCGTGCATACCC
      CGATCGGCAACTGGCAAAGCAGTATCGGCGTTTCAGACAATATCGCGCTAACTTCTTCCC
      GAGACGTGATTGAAAATATTTCACGCGAAGGTGCGGTTGACAAAGCCTTGATCAGCATAG
 35   GCTATTCAAGCTGGAGCAAAGGGCAGCTCGAACGCGAACTTGCCGACAATGCGTGGCTGA
      CTGTTCCCGCCGACGAACACATCCTGTTCGACATCCCCTACGAACACCGTTACGCCGCCG
      CATTCGCCAAACTCGGCATCGACCCGCTCGCCCTGTTTTCAGGAGCCGGCCATGCATAAA
      ATTCCAAAAGGAACGGCACTGGCATTCGACTTCGGCGAAGCGCGTATCGGCGTGGCACAA
      GGAGACGCGGAATTAGGGCTATCCCATCCTTTGAGCACCGTTACCGGCGGCAGCAACGAT
 40   GAAAAGTTCGCGGCAATCGCCAAGCTGGTTCAAGAATGGCAGCCGCGTTATTTGTCGTC
      GGACTGCCCGTGCATACCGACGGCACGAAACATGAAATGACGCACCTGTCGCGCAAGTTC
      GGACGCAGGCTGAACGGCAGGTTCAATCTCCCCGTCTATTGGGTTGACGAACGGCTGTCG
      TCCGTCTATGCCGAAAGCCTGCTTTCGGAAGCACAGGTCTTCGGCAAAAAACGCAAATCG
      GTGCTCGACCAAGTGGCGGCGCAAGCCATCTTGCACGGTTTTTTCGAGGGCGGTCCGGCG
 45   GAATGTTTCAACGGGCGTGAGGGTTAAGCGGCGCGGTTAACACCCTACCGTGAAAGAGGC
      GCGCACCAAGCCGTCCAGCTCCAATGCCAAATTGTCCCCCGCACCGATTGCGCCCACGCC
      GGAGGGCGTTCCGGTAAACACCAAATCCCCTTTCCCCAAACCGTAATCTGCCGCCAGTTT
      GTGTAAAATTTCCCGAATCGGGTAAATCATCAAACCGGTATCCCCGCGCTGTTTCAATAC
      GCCGTTTTGTTTTAATGAAAACAACACCTTCTCGGGATTGCCGATTCTGCCTGCCGCCGC
 50   AAAATCCGACACGCACGCGGAATGCCTGAACCCTTTTGCCTTCAGCCAGGGCAGCCCTTT
      TTCCTTCAGACGGCATTGGATATCCCGTGCCGTAAGGTCCAGCCCTACACCATATCCTGC
      GACACATCCCAAAATATCTTTACCCTCGCCCGTGCCGTCTGAATCCTTACCGACCAGCAG
      CACGAGTTCGCACTCAAACTGCACATCCCTACTAAACTCGGGCAGCAAGATTGTACCGCC
      GCTGTTCAAAATGCTGCCTGACGGCTTCATAAACACCACAGGTTCGGAAGGTATTTCGTT
 55   TTTTAACTCTTCGATATGTGCGGCATAGTTCCTGCCGATACAGAAAATATTGCCGACCTC
      GACTGCCTCTCCTTCTAAAAATACTGAAGCCACTTCACTTTCCCCCTAAGTAAAAATGCC
      GTCTGAAATTATTTTCAGACGGCATTCGACCAAGCTTACGCATTTAATGAAGCTGTTACA
```

```
CGTGCAACAATTTCTCCGATTGCAACTGCCTGCGCTTCGTTGTCGCGGCGTTCGGCGTAT
TCGACATTGCCTTCTTTCAAGGCGCGGTCGCCGATGACGATGCGGTGCGGAATACCCAAC
AGCTCGGAATCGTTCAGCAACACGCCTGCGCGTTCGTCGCGGTCGTCGAGGAGGACGTCT
GCGCCTGCCGCCAGCAATTCGGCATAGATTTTGTCGGCGGCTTCGCGTACGGTGTCTGAT
TTTTTGTAGTTCATCGGCACGATAACGACTTCAAACGGCGCCATTGCTTTGGTCCAGATG
ATGCCTTTTTCGTCGTTATTCTGCTCGATGGCGGCGGCAACGACGCGGGTGATGCCGATG
CCGTAGCAGCCCATTTCCATAATTTGCGATTTGCCGTTGTTGTCAAGGAAGCTTACGTTC
ATGGCTTGGGTGTATTTGTCGCGCAATTGGAAAACGTGTCCGACTTCAATGCCGCGCGCC
AGTTTCAGACGGCCTTGCCCGTCGGGGCTTTCGTCGCCCTCGACGACGTTGCGCAAATCG
ACAAACTCAGGTTCGGCAGCGTCGCGGCCGAAATTGAAGCCGGTATAGTGGTAGTCGTCT
TCGTTTGCGCCGATGACCCAGTCCGCGCCTTTTTCGGTAGCGAAATCGGCATAGACTTTG
CCTGCAAAACCGACAGGGCCGAGAGAGCCGCCGTTTGCGCCGAACTGTTCGACAATCGCG
GCAGGGCTTGCCATCGTCAGCGGCGATTTCACGCCCGCGAGTTTCTCGGCTTTGATGTCG
TTAAATTCATGGTCGCCGCGTAACAGCAGCAGGATAAGTTCGCCTTCGTTTTCGCCTTCA
ACCACGATGGATTTCAGTGTTTTTTCAATCGGAATACTGAGGAAATCAACCAATGAATCA
ATGGTTTTGACGTTTGGCGTGTGTACTTTGACGAGTTCTGCCTGAGCGGCTGCACGTTCG
CCTTTGAGCGGCAAGGTCGGCGCTAACTCGATATTGGCGGCGTAATCGGAAGTGTCGCTG
TATGCAATCACATCTTCGCCGCTTTCCGCCAACACTTGAAACTCGTGCGAACCGGTACCG
CCGATGCTGCCGGTATCCGCAGCAACGGGTCGGAACGCCAAGCCTAGTCGGGTAAAGATG
CGGCAATAAGCATCATACATATCTTGATAGGTCGTCTGGAGCGAGGCATAGTCGGCGTGG
AAGGAATAAGCGTCTTTCATCACAAACTCGCGCGCGCGCATCACGCCGAAGCGCGGGCGC
ACTTCGTCGCGGAATTTGGTTTGGATGTGGTAAAAGTTTTTCGGCAGCTGTTTGTAGCTG
TTGATTTCTTTGCGCACGATGTCGGCGATGACTTCCTCGCAGGTCGGGCCCATGCAGAAA
TCGCGGTCGTGGCGGTCTTTCAGGCGCAGCAGTTCTTTACCGTAAAACTCCCAGCGGCCG
GATTCCTGCCACAGCTCGGCAGGCTGCACCACCGGCATCAGCAACTCCACGCTGCCCGCG
CGCGCCATTTCCTCGCGCACGACGTTTTCGACTTTGCGTAACACGCGCAGCCCCATCGGC
ATCCAAGTATAAAGACCCGATGCGTTGGCCTTAATCAGGCCGGCGCGAATCATCAGCTTG
TGGCTGGCAAGCGCGGCTTCGGCAGGGGCTTCTTTTAAAGTAGAGATAAAGAATTGGCTG
GCTTTCATAAAAGTATTTTTCCAAACAGGCAAATTCAAAAGTAAATCGGGTGCAGATTGT
AACGCGAAAAAAGCAGGTTTTGCACCAACCTCCAAAATTCACCCCCTGCCCCAAGCGCGG
GACAAATCCCATAACAGACGGCAAAAACATGACCAGAAACATCATATTGAACATAAGCAC
ATGATTTTTATAGATTTAAATGTGCCTATTTTTTAATCAAAATAAGCGTACATTTGTTGC
GTAAGACTTTTTTAACACAAGCCGTGGCTTATCAACACGGTTATCCACAAAGCTTGTGTA
TAGATTTTCTACAATAGGAAAATTGCCGACAGAGACATAATGATTCGATATACCACAATT
CCGAAAAAATATCGCCAAAATCAAACAGAATATTTCGAAATCAAAAAGACTTGACCTTAC
CAAACGCCAACTTCAGTATAAAACCTGCTTTTACAGGCATGGTTATTTGCCAGCAGACCC
GATTGCTGATAGGATTTCGTGTGGAGCAGATCGAACATTTTTTTCAAGTTTTCCCTTGTT
TCCAAAACTTTTATAATTTTTTGAAAACATTAAACTTAAATTATTTTTTTCGGTTTGATT
TAGAAATTTTCGTTTTTGCTTATTATTTTTCACAAACGAAAATAAAGGGGTTGGCTACAC
CCTCCCTGCCGATTAAACACTCAACATAAAGGATAGATACTATGTCCACCCAATTACACG
ATGTTGACCCTATCGAAACCCAAGAGTGGCTGGACGCGTTAAGCTCCGTCCTCGAATATG
AAGGCGGCGAACGCGCGCAATACCTCTTGGAAAACCTGGTCAAATACTGCCGCGACAAGG
GCGTACGTATGCCACACGGCACGACCACCCGTATTTGAATACCGTTTCGGTTGAAAACG
AAAAAGGCATTCCGGGCGACCAAAACATCGAACACCGCATCCGCGCATTCGTGCGCTGGA
ACGCCGCCGCCATCGTATTGCGCGCCGGCAAGAAAGATTTGGAACTGGGTGGGCACATCG
CATCTTTCCAATCTGCCGCCACCATGTACGAAGTCGGTTTCAACCACTTTTGGAAAGCCA
AAGGCGAAGGCGAAGAAGGCGATTTGGTCTTCTTCCAAGGTCACGTCGCCCCGGGCATCT
ATGCACGCGCATTCGTCGAGGGCCGTCTGACCGAAGACCAGCTGAACAACTTCCGCCAAG
AAGTGGACGGACACGGTCTGCCTTCCTATCCGCACCCCCACCTCTTGCCCGACTTTTGGC
AGTTCCCGACCGTATCCATGGGCTTGGGGCCCATCATGGCGATTTATCAGGCGCGTTTCC
TGAAATACTTGGAATCGCGTGGTTTGGCAAAAACCAAAGGCCGTAAAGTATGGTGTTTCT
GCGGCGACGGCGAAATGGACGAACCCGAATCTCAAGGTGCAATCGCACTGGCTGCACGCG
AAGGCTTGGACAACCTGATTTTCGTCATCAACTGCAATCTGCAACGCTTGGACGGTCCGG
TACGCGGCAACGGCAAAATCATCCAAGAATTGGAAGCAACTTTGCCGGCGCCGGCTGGA
ATGTCGTCAAAGTCATTTGGGGCCGCCGCTGGGACCGCCTCTTGGCGAAAGACAAAGACG
GTATCCTGCGCCAACGTATGGAAGAATGTTTGGACGGCGACTACCAAACTTACAAATCCA
AAGACGGCGCGTATGTGCGCGAACACTTCTTCAATACGCCCGAACTGAAAGCATTGGTTG
```

CCGATATGACCGATGAGCAACTCTGGGCATTGAACCGCGGCGGCCACGACCCGCAAAAAG
TGTACAACGCCTACGACCGCGCAGCGAACCATGCCGACGGCAAACCTACCGTCATCTTGG
CGAAAACCATTAAAGGTTACGGTATGGGCGCATCCGGCGAAGGTCAGAACGTTGCCCACC
AAGCCAAAAAAATGGACAAAGCGTCCCTGAAACAATTCCGCGACCGCTTTGACATTCCGG

5   TTACCGACGAACAAATCGAAAGCGGCGATCTGCCTTACCTGACTTTTGCCCCCGATACGG
AAGAATACAAATACCTGCACGCACGCCGCGATGCTTTGGGCGGCTACCTGCCGCAACGCA
AACCGACGCAGGAAGTATTGGAAGTGCCCGAGCTGTCAGCATTCGACGCACAACTCAAAT
CCAGCGGTGAACGCGAGTTCTCGACCACGATGGCATTCGTCCGCATCCTGTCCACTTTAC
TGAAAGACAAAAAAATCGGCAAACGCGTCGTACCTATCGTTCCCGACGAAAGCCGTACTT

10   TCGGCATGGAAGGTATGTTCCGCCAATACGGTATTTGGAATCCGAAAGGTCAGCAATATA
CCCCTCAAGACAAAGACCAACTGATGTTCTATAAAGAATCCGTTGACGGTCAAATCTTGC
AAGAAGGTATTAACGAACCGGGCGCGATGGCCGACTGGATTGCGGCTGCAACCAGCTACG
CCAACAGCAACTTCGCCATGATTCCGTTCTACATTTACTATTCTATGTTCGGTTTCCAAC
GTATCGGCGACTTGGCTTGGGCGGCGGGCGATATGCACGCGCGCGGCTTCCTGCTGGGCG

15   GTACTGCCGGCCGTACGACGCTGAACGGCGAAGGCCTGCAACACGAAGACGGCCACAGCC
ACATCCAGGCCGACCTGATTCCGAACTGCGTATCTTATGACCCGACTTTCCAATACGAAG
TCGCCGTCATCGTACAAGACGGTCTGCGCCGTATGTATGCCAATAATGAAGACGTGTTCT
ACTACATCACCCTGATGAACGAGAACTACACCCATCCGGATATGCCCGAAGGTGCGGAAC
AAGACATCTTGAAAGGTATGTACCTGCTGAAAGCCGGCGGCAAAGGCGATAAGAAAGTTC

20   AATTGATGGGCTCCGGTACCATCCTGCAAGAAGTCATTGCCGGTGCCGAGCTGCTGAAAG
CCGACTTCGGCGTAGAAGCAGACATCTGGTCTTGCCCGTCCTTCAACCTGCTGCACCGCG
ACGCTGTCGAGGTAGAACGCTTCAACCGCCTGCATCCGCTGGAAGCCGAAAAAGTACCTT
TCGTTACTTCCCAACTGCAAGGTCATGACGGTCCGGTTATTGCCGCTACCGACTATATCC
GCAGCTATGCTGACCGTATCCGCGCCTACATCCCGAACGACTACCACGTCTTGGGCACTG

25   ACGGTTTCGGCCGTTCCGACAGTCGCGCCAACCTGCGCCGCTTCTTTGAAGTGGATCGCT
ACAACGTTGCCGTGGCCGCATTGGCCGCATTGGCGGAACAAGGCAAAGTCAGCAAAGAAA
CCGTTCAACAAGCCATTGAGAAATACGGCATCAAAGCCGATTCAGCTCCTAGCTGGAAAC
GCTGATTGATGTTTCAGACGGCCTGTTTGCCCCATTCCGACATCAGGCCGTCTGAAAACC
GAATGCCCGAATGGTTTGAGCAGACAAACCGTACCGATGCCGCCTGAAGCAGCTTTCAGA

30   CGGCATCCAATGAAAAAGATTAAAGGAACTCAAATGAGTATCGTAGAAATCAAAGTCCCC
GATATCGGCGGTCACGAAAACGTCGACATCATCGCCGTAGAAGTTAAAGCGGGCGACACC
ATCGCCGTTGACGACACCCTGATTACACTGGAAACCGACAAAGCCACGATGGATGTGCCT
GCCGATGCGGCCGGTGTCGTGAAAGAAGTAAAAGTCAAAGTCGGCGACAAAATCTCCGAA
GGCGGCGTAATTCTGACCGTTGAAACCGGTGCCGCCGCCGCCGAAGCCGCCCCGGCTGCT

35   GCCGAAGCACAACCTGCACCTGCTGCCGCACCCGCTGCCGCAGGCGGTGCAACCGTTCAA
GTAGCCGTTCCCGATATCGGCGGCCATACCGATGTGGATGTAATCGCCGTTGAAATCAAA
GTGGGCGACACCGTTGCCGAAGACGACACGCTGATTACTTTGGAAACCGATAAAGCGACA
ATGGACGTACCTTGTACCGCTGCCGGTGTCGTTAAAGCCGTATTCTTAAAAGTCGGCGAC
AAAGTATCCGAAGGCTCTGCCATTATCGAAGTAGAAACCGTCGGCTCTGCCGCAGCAGCC

40   CCTGCTCAAGCCGCTCAAGCTGCCGCACCGGCTGCCGCTCCGCCTCCGACTGCTGCCGCC
GCACCCGCCGCCGCGCCTGCACCTTCTGCACCTGCCGCTGCCAAAATCGACGAGGCCGCT
TTCGCCAAAGCACACGCCGGTCCTTCCGCACGCAAACTGGCGCGCGAATTGGGCGTGGAT
TTGGGCCAAGTCAAAGGCACCGGCTTGAAAGGCCGTATCATGGGCGACGACATCAAAGCC
TTTGTGAAATCCGTGATGCAGGGCGGCGCGGCAAAACCTGCCGCAGCCAGCGCATCTTTG

45   GGCGGCGGTCTGGACTTACTGCCGTGGCCTAAAGTGGACTTCTCCAAATTCGGCAATGTC
GAAGTTAAAGAATTGTCCCGCATTAAGAAAATTTCCGGTCAAAACCTGTCCCGCAACTGG
GTTGTGATTCCCCACGTTACCGTACACGAAGAAGCGGACATGACCGAGCTGGAAGAATTC
CGCAAACAGCTGAACAAAGAATGGGAACGCGAAGGCGTGAAACTGTCCCCGTTGGCGTTC
ATCATCAAAGCCTCTGTTTCCGCGTTGAAAGCATTCCCCGAATTCAACGCCTCACTGGAC

50   GGCGACAACCTGGTGCTGAAAAACTACTTCAACATCGGTTTCGCAGCCGATACGCCGAAC
GGCTTGGTTGTTCCCGTCATCAAAGACGTGGATCAAAAAGGCTTGAAACAAATCAGCCAA
GAATTGACCGAATTGTCCAAAAAAGCCCGTGAAGGCAAGCTCAAACCGCAAGAAATGCAA
GGCGCGTGCTTTACCATTTCCAGCTTAGGCGGCATCGGCGGCACAGGCTTCACGCCAATT
GTGAACGCTCCCGAAGTCGCCATCTTGGGCGTGTGCAAATCCCAAATCAAACCTGTTTGG

55   AACGGCAAAGAGTTTGCCCCGCGCCTGATGTGCCCGTTGAGCCTGTCCTTCGACCACCGT
GTCATCGACGGTGCGGCCGGTATGCGCTTCACCGTATTCTTGGCGAAGCTGTTGAAAGAC
TTCCGCCGCATTACCTTATAAAAATAAAACATCCCTCTCAAGCAGTCTGATAATGTTTGGA

```
        TTGCTTGAGATTGATGAGTAATGGTGTTAAATTCAACCTTTAAATTAATAACTTATGGGA
        AATTTCTTATATAGAGGCATTAGTTGCCAACAAGATGAGCAAAATAATGGACAGTTAAAA
        CCTAAAGGTAATAAAGCTGAAGTTGCAATTCGTTATGATGGTAAGTTTAAATATGATGGT
        AAAGCTACACATGGTCCAAGTGTGAAGAATGCAGTTTACGCCCATCAAATTGAAACAGGT
  5     CTATATGACGGATGTTATATATCTACGACAACAGACAAGGAAATTGCCAAGAAATTTGCA
        ACAAGTTCCGGCATCGAAAATGGCTATATATATGTTTTAAATAGGGATTTGTTTGGTCAA
        TATTCTATTTTTGAATATGAGGTTGAACATCCAGAAAAACCCAAATGAGAAGGAAGTAACA
        ATCAGAGCTGAAGATTGTGGCTGTATTCCTGAAGAAGTGATTATTGCTAAAGAGTTGATA
        GAAATTAACTAAGTTGAAAGGTCAATATAATGGCTTTAGTTGAATTGAAAGTGCCCGACA
  10    TTGGCGGACACGAAAATGTAGATATTATCGCGGTTGAAGTAAACGTGGGCGACACTATTG
        CTGTGGACGATACCCTGATTACTTTGGAAACCGATAAAGCGACTATGGACGTACCTGCTG
        AAGTTGCAGGCGTAGTCAAAGAAGTTAAAGTTAAAGTCGGCGACAAAATCTCTGAAGGTG
        GTTTGATTGTCGTCGTTGAAGCTGAAGGCACGGCAGCCGCTCCTAAAGCCGAAGCGGCTG
        CCGCCCCGGCGCAAGAAGCCCCTAAAGCTGCCGCTCCTGCTCCGCAAGCCGCGCAATTCG
  15    GCGGTTCTGCCGATGCCGAGTACGACGTGGTCGTATTGGGTGGCGGTCCCGGCGGTTACT
        CCGCTGCATTTGCCGCTGCCGATGAAGGCTTGAAAGTCGCCATCGTCGAACGTTACAAAA
        CTTTGGGCGGCGTTTGCCTGAACGTCGGCTGTATCCCTTCCAAAGCCTTGTTGCACAATG
        CCGCCGTTATCGACGAAGTGCGCCACTTGGCTGCCAACGGTATCAAATACCCCGAGCCGG
        AACTCGACATCGATATGCTTCGCGCCTACAAAGACGGCGTAGTTTCCCGCCTCACGGGCG
  20    GTTTGGCAGGTATGGCGAAAAGCCGTAAAGTGGACGTTATCCAAGGCGACGGGCAATTCT
        TAGATCCGCACCACTTGGAAGTGTCGCTGACTGCCGGCGACGCGTACGAACAGGCAGCCC
        CTACCGGCGAGAAAAAAATCGTTGCCTTCAAAAAACTGTATCATTGCAGCAGGCAGCCGCG
        TAACCAAACTGCCTTTCATTCCTGAAGATCCGCGCATCATCGATTCCAGCGGCGCATTGG
        CTCTGAAAGAAGTACCGGGCAAACTGCTGATTATCGGCGGCGGCATTATCGGCCTCGAGA
  25    TGGGTACGGTTTACAGCACGCTGGGTTCGCGTTTGGATGTGGTTGAAATGATGGACGGCC
        TGATGCAAGGCGCAGACCGCGATTTGGTAAAAGTATGGCAAAAACAAAACGAATACCGTT
        TTGACAACATTATGGTCAACACCAAAACCGTTGCAGTTGAGCCGAAAGAAGACGGCGTTT
        ACGTTACCTTTGAAGGCGCGAACGCGCCTAAAGAGCCGCAACGCTACGATGCCGTATTGG
        TTGCCGCCGGCCGCGCGCCCAACGGCAAACTCATCAGCGCGGAAAAAGCAGGCGTTGCCG
  30    TAACCGATCGCGGCTTCATCGAAGTGGACAAACAAATGCGTACCAATGTGCCGCACATCT
        ACGCCATCGGCGACATCGTCGGTCAGCCGATGTTGGCGCACAAAGCCGTTCACGAAGGCC
        ACGTTGCCGCCGAAAAACTGCGCCGGCCACAAAGCCTACTTCGACGCGCGCGTGATTCCGG
        GCGTTGCCTACACTTCCCCCGAAGTGGCGTGGGTGGGCGAAACCGAACTGTCCGCCAAAG
        CCTCCGGCCGCAAAATCACCAAAGCCAACTTCCCGTGGGCGGCTTCCGGCCGTGCGATTG
  35    CCAACGGTTGCGACAACGGCTTTACCAAGCTGATTTTTGATGCCGAAACCGGCCGCATCA
        TCGGCGGCGGCATTGTCGGTCCGAACGGTGGCGATATGATCGGCGAAGTCTGCCTTGCCA
        TCGAAATGGGCTGCGACGCGGCAGACATCGGCAAAACCATCCACCCGCACCCGACCTTGG
        GCGAATCCATCGGTATGGCGGCGGAAGTGGCATTGGGTACTTGTACCGACCTGCCTCCGC
        AAAAGAAAAAATAAATCCGACTGAATAAACAGCCGATAAGGTTTATTTGAGCAAATGCCG
  40    TCTGAAATGTTCAGACGGCATTTTCTATTTTACAGCGGATTAAAAATATCTTCTCCGACCT
        ATAGTGGATTAACAAAAATCAGGACAAGGAGACGAAGCCGCAGACAGTACAAATAGTACG
        GAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAG
        GCAACGCCGTACTGGTTTAAATTTAATCCACTATAAAAACGAATCCGACACGGCTTATCT
        AAAGGAATGGTTGAAAACGGCAGTTTCCAATACAACAAAATGCCGCCTGAACATTTCAGA
  45    CGGCATTTGACCCATTACTGCTGCGGCTCTGAAACCATACCGCCTTCATCAAAATCCGGC
        TCCGGTTCGTTTTGCAACGTTTTACCGTTCAATTTCAACTGATTGTTTTTCAGAGAAATG
        GCAGTATCAATCTGGTCGCCGTTCAAAGTCAGATATTTTCCCTTGCCATACTCTGAACC
        GTACTGTCCACCATCAGGCGCAAGGTCTCGTTGATGTCGTCAAGACTTGCCCTGCCTTCC
        GCCTCATCTTCGGCATTGACGCTGAAAATATTGCCTGCTTGACTGACCGCCAAGTCTTCC
  50    AGCATTTTTTGGGGAATACTCATTCTGATGTCGGCTTCGGTTTTCTTCAGCATCAAACCC
        AATTGATTCAAATCTTCCTTCTTCATGTCTTTAAACATGATTTTTCCGCCCACATCGATT
        TTTCCCGATGGCAGCGTGAATCGGAAAGTTTTAATGTCCAATACGGGATTGTTGGTGAAC
        AGTCCGGAAGCCTCTCCTTTGACGGCGGCAATCAAATCATTGCGGATTTGTTCCTCGGTC
        ATTTTTTTGGCGGAAATTTGTGCAAACTTGCGTTTCAATACGGTTAAGGCAGAAGCATCG
  55    AGGTGTTCGGCAGCGATATGGATGTCCAGCGGGCCGTATTTTTCATCGCCGTACACCAGT
        GTATCGAAACGGAACTGCCCTTCACTGTTGATAAACGCGCCTGATTCCCCGGTCTTGGTT
        GAAAAAGCCAGTTTGCCGACTTCGATTTTGGAAGGTGCGATGCTGCCGTTGGGATTGATA
```

```
AACGCGCCAATCTGCAAATCGGTAACAAGATTGACCAGTTCGTTTAACTTGACGTTGTAA
TCGACACCCTCTTTCCATTCTAGGGAGAATTTTTCCAAGGTCAGATTGCTGCTGCCCAAA
GCAAGCGGATTGATGCCGTCTGAAGTTTCCGAATCGAAATGCACTTTTTCAAACGCGGCA
TCGCCTTTGTCTGCCAGCTTGATTTTAAACAAGGGGGCATCATAGCCGTTCCGGTAGCTT
TTGAAACCTTTTTGATAAACCGTTTCTCCCGTCAGGCCTTCCCAGTGCAGCCTTGATGCC
CGACAGCTCTTCATAATCGAAGGCGGGAACACTGACTTCCATTTTACCGCTGCCGTTAAA
ATAAACGGTATTGGCAAGGGAAGCCGGGACTTGTTTTCCAAAAAAGCGTTCCAGAACTTT
TTCCGTTTCAGGCGCGTATTTGAACTCGGTTTCAATGTACGCCTGCGTGCCGAATCCGCC
GGCGAAAGGGCCGTGCGTGATATGGTTAACCAGCGTAACCGGCTGTTCCAACACTGTTTT
CAGGTTATCCGGCAGGTATTTTCGGGCATTATTCAGCAACTCGGGTTTCAGACGGATGAC
CGTCGTTTCCATAGAGGTAAACCAGCCGCGCTCATATTGGTGCGATTCGACGGTCAAGAA
GCCCGTTTCCTGCAATATTTTTTGCTGCTGCGTCAAGCTTTCTTCGGCTTTGACACCCAA
ATAATAAGGCGTGCCCAAAGCAACGCCGAGCAATGCTGCCGCAACCGAAATCAAAGGTTT
TTTCATCACTTCAAACAAGCAGGTTTCAAAGACGCTAGAATAGCATTATTTAAGCGTATC
CCGCCATATCTCTTTAAAAGAAATGCCGTCTGAAACCTGTTCGGACGGCATTTTCCGGAT
ATAGGGAAATCAGAAATCCAATTCCGCCTTCAGCCAGTAAGTGCGCGGCATACCGACGAC
GGCGAAGCTGCGGTCGTATTGGCCGCGCTGTACCTGCCAATAGTTTTTGTTGAACAGGTT
TTCCACCGAGCTGCTGACGGTCAGAGTGTTTTTGCCAAGCTTGGTTTTGTAGCGCGCGCC
TACGTCAATCAAGGTATAGGACGGGAAGGCGTATTGTTTTTGCGTGTCTTGGTCAGACTT
GCCGAAATACGAAACATTACCGTTTAAAGTCAAGCCTTTGGCAAACGGTGTATCCCATTC
CAAACCTGCTTTGGCAATTACGCGCGGATTGGCGACTTGTACGCCGTTAACCAGCATATC
GCGTGAATTTGGATACTCTTTCACGGTCGATTGCAGATACATCAGACCCAAAGTCGGACG
CAAAGTATTGTTGAGCAAGTTCGCGTAGGTGTTGAACTCAATACCGCGATTGCGTTCCAT
ACCTTGCTCGTCGCCGGCCGCGCCGCCTTGCGCCTTATAGCGGGCGAAATCAGAATTATT
GCCATAGGTCAGCGTTGTTGTTACCCCTTTTGTTGTCTTGGTAGTTGTATGACCGCGCCA
GTAGCCCGGGCGTTTGATTTGGAACGCGTTTAACGTGGTTACGAAATTGCCCCAGTTTTT
ACGCACGCCCACTTCAAACTGGCGGCTGACACGCGGTTTCGCCATTGTCGTTTCGCCGGA
ATCATCGGTTTTGATGTCGGCAGGCTCCAAGTCTTCCATATAGTTGCCGTACACAACCAA
ATCAGGTTGCGGCACCCACGCCGCCATCAGCATCGGGCTGAAACGTTTGGCATCGCCGCT
CTGTGATTTTTTGTCGGTATATTCGACTGTTTGGAAACGTCCGCCCAAAGTCAGGCGGTA
TTTGTTATCCACGAAGCCCAAGGTGTCGGACAAAGCCAGGCTGTTGACTTTGATATTGGC
ATCCAAGTTGGCAGAGTTCTCCCAAGAATTGGGATAGTCGGCTGTAAACGATGCCAATTG
ATGCTCAATATTTCCGTTTGCCTTCACTTCTACCTTGCTAGCTCCGGCTGCCGTTCCGCG
TGATTTTTTCTTATTGGTGTATTCAACCGCTTGGAAACGTCCGCCCAAAGTCAGGACAAG
CGTCCGCCGGCGTTTTGAATGTCCTGCATACGCGCGCGACCGCCGTTGGTTTTGCGTTTT
GCGTAGATGGAATCGAACGCTACGCGCAGTGTTTCGCCGCGATAGTCGGCATTTACCGCA
AATTCTTTGTTGTCTTCGCTGTAACCGTGGCGCGGGGTGTCGCCGTGGCGCAGTTTGCCG
TTGGCGCGCACGCCGAATGCTTTGTTTTCGCCGAAACGTTGGCCCAAGTCGAACGTACCT
TGGGCGCGGTTGTTGCCGAACCGGGCCAAACCGATTTTGCGGTTGCCTTCATCAGCGGCT
TTTTTGGTTTCGATATTGACGGAACCGGATACCGCGCCATCAGGGTTCATGCCGTTTACG
GCGGTGGACGCGCCTTGAATCAGTTGTGCGGAGCCGACTTGCACGCTGGTCGTGCCTTGC
GTGCCGTACATACCTGTCAAACCGTTGACGCTGAATTGGCGCGCATCAAGCTGATAACCT
CTGAAATACAATCCGGTCAGCGTGTTGCTTTCGCCGCCGAACTGCCAAACGGAAGCGTCT
TTTTTCGCTACGGCATCCACCAAAGTACGCGCCTCGGTGTTGTTGAGGGCTTGTTCGTCG
TAGTTGACGACGGTAATCGGCGCGGTAAAGGCGTTGGCTTTGCCCATTCACTTGGTGCTT
CAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACACCGTACTGGTTTTTG
TTAATCCACTATAAACAAATCGTACAGGGTTCTCCGTTTAATCAGATATGGGTTTCCATC
TTCGGCAGTTTCGGGCATTTAGCCGTTTCCACCTTCCTGCCCCCGCTGCCCAGTAAAAATG
CCGTCTGAAATATCGGCGCGATACTTCAGACGGCATACCCGCCCGTTTTCCCGCATTCCC
GGGAGCGGGCTGAAATTTAAACGTGTGCGGAAATGATTTTCAACATTTGCGCCAGCACTT
TGGGATTGGCAGCCACAATATCGCCGCTTTCCAGCCAGCCGTCTTCACCCGACATATCGG
TTACGATACCGCCCGCTTCCTGAACAATCAATGCACCGGCGGCAATGTCCCACGGTTTGA
GGTTAAACTCGAAAAAGCCGTCAAAACGTCCTGTTGCTACGGCGCACAAATCCAAAGAAG
CCGCACCTTCACGACGGCCGCCGGCGGTTTTTGCCAAGAAATCTTTCAAAATCGCCAGAT
ACTTGTCCATCATGCTTTGATCGACAACAGGGAAGCCGGTACCAATCAGGCAGCGGTTCA
GTTCGATGCGGTTGGAAACGCGGATGCGGCGGTCGTTGAGCAACGCGCCTTTGCCACGCG
AAGCCATATATACGTCGTTGCGTTCGGGGGCGTAAACCAAAGCTTCTTGCAACACGCCTT
```

```
     TGTGCAGCAGCGCCATAGAGATGGCGTATTGGGGATGACCGTGAAGGAAATTGGTCGTGC
     CGTCGAGCGGATCGATAATCCATTCGTACTCGGCTGCGGCTTTGCCGTGGGAGCCGCTTT
     CTTCACAAGTGATTTTGTGGTGCGGATAGGCTTCTTTCAAAGCCTCAACCAGGATGATTT
     CGGAATTGCGGTCAACATCGGAAACAAAATCGTTGAAGGCTTTGCTGTCGGTTTTGACGG
  5  CATCGAGATTGCCCGCGGCGCGTATCATCATCTGACCGGCACGGCGGGCGGCTTTAAAGG
     CTGTATTCAAAAACGGATTCATCAGATTTCCTTAAGGGTGGCATACCGCCGGTTCGGACG
     TACAGTCCTTCGGAGCGGCAAAATCGGAGTTTATTTGGTTGGGGTAAATCCTGCCAAATC
     GGGTAAAATACCGCCTGACGCGTGTCTGCTTCAGGCGCAACGTTAAATTTCCGACGTTGT
     TAAAGAACATTTCAGACGGCATTTGACCGTCCGAACGAAAAAGACGGCGCATTATACCCT
 10  ATTCCATTCCGACCGAAAACCGAACATGACTACTCTCAAACCCGCCCTGCCCGCTTATCT
     GGACAACATCCGCATCATCCTCACGCGCACCAGCCATCCCGCCAACATCGGCTCTGCCGC
     GCGCGCGATGAAAACAATGGGTCTGCACAAACTGACCATCGTCGCCCCAAATCTGATGGC
     AACGCCGATGACGGAAAACCCGCCCGTGTTTGACCCGGAGCATCCTCAATCGTTTAAATT
     ACCGGAAGAAAGCTTCATCCTCGCTTCCGGCGCGGCAGACGTTTTGGAAAATGCCACCAT
 15  TGCCGCTTCTTTGGACGAAGCCCTTGCCGACACCACCATCGCCTGCGCCCTGACCAGCCG
     CCGCCGCGAAATTACTGCGCCGCTGCAAACCCCGCGCGATTGGTATCCGAATTACTGCA
     GACCGCAAACCGAGGCGAGAAAGTGGCACTGGTTTTCGGCAACGAGACTTTCGGCTTGAG
     CATCGAAGAAGTCCAAGCCTGCAACCGACTGATGACCATCAACGGCAATCCGACTATTT
     CTCGCTCAACCTCGCCCAAGCCGTGCAGGTCGTGTGCTACGAAATCTTCAGCCAAACCGG
 20  TTCGCCCATGACCCATCTTCAACAAGAAGACCACGCTGCGACCCACGAGCAAATCAAAGG
     CATGGTCGCCCACATGGAAAGCGTGATGAACGACATCGGCTTTTTCAACCGCCGCAACGG
     CGAGCGTCTGATGCGCCGTATGCAGAGCCTGTTCGGCCGCGCCAATACGCAAACCGAAGA
     CATCGATATCCTGCGCGGTTTTTTCAATACCGTCAGCCACCGTATCCATAAAAAAGACTG
     ATTAAGGCCGTCTGAAAACATTTCCAGCTTTTCAGACGGCATGACTGATATTCGGATAAG
 25  CATGAATTACGCCCTAGACGCATTATGGTGGAAACTTACCAGCCAACCCGTCCGCGACCT
     TGCCTCGCTGCTGACTGCGCCGCCTTTGTGGCAAAGCGGCTGCGAATTGAGCGTGCGAGA
     ACTACTGGGAGAACACGGTTTCCGTTACCTTTTGGCATTGGATGCCGATCCCACGCGGCT
     GACGGATTACCTCGCCCAACGCGCCCCGTTCGGCCACCGTCTCGGCATTTATGCCGAAGA
     GCTGCTGGCTTTTTGGTTTGCCAATGCACCGCACGCCCGAACTGCTCGCGCACAACCTCAC
 30  GGTTTCCGGTTCGGACGGCAATACGCAAGGCGCGGCGGATTTTGTGGCAAGGCTTAACGG
     CAAACCCTACCATATCGAGCTGACCTGCAAATATTACGGCGGCGACACGGACAGTCCCGA
     AGGGATGCGCGGATTCGACCCCAAAGACACGCTGTTGGGAAAAGCCGCCAAACTGACCGC
     CCAACTCGGTCTGCCGCACACTTCAGACGGCATCCGGACCTTGCGGCAGCACGGTTTGCC
     GCTTAACGTAAAACCCGTTTCCATCGTGCGCGGCATCGGATTTTTTCCACACGGTTTCCA
 35  TGCTTTTGAGCCACCGCTTAATCCATACGGTTGGCGCGGCATCTATATTCAAGATTGGGC
     GGAATACGGGTTTAAACGCCAAGAAGTCCGCTACCATCTGCTCGACCGTATGGCCTACCT
     CGCGCCTGCGCGTGTCGCCGAAACCGAAACATTGAACGCAACCGAAATCCGCCGTATCGA
     CCAAGGCTTGATTGCCGTTTTGGAATGTCGGCCGGACGGCTTTTGGCACGAAATCGAACG
     CATTATGAAGGCCGTCTGAAACCCTTTCCCAACATTAACGCGTATATCTATTGAGAGGCT
 40  TAGTGATGGAAATCTCATTTCCCATACAATTTATGAAAGAGTCATCCGAGTTAATAAGGA
     TATTGGATATGATAAATATAACAACAACATGCCAACTAATATTATGACGATCCAAACAAA
     TAAGTATGGTAATTTAATAACTACGACCCCAGGTAGAATACAATGAAGAATAATGTTAAA
     AATTGGACAACTAAAGAAGTCAAGCAATCATTAGATAAATTTAATAATATTTTAATTAAA
     AATACTTTTCTTCTTCAGTATCTGAAAAAAGAGTTTTCAGCTTCAAGTGCTTATTGTTTG
 45  TCTATGCTCCCTGAAGAAGAAGATATATATGAAATATTGGTTAATGGGAATATTATTATT
     GATTTAGAATTTAATAAACATACAAATGAAACAGTTGTTATTAATGTTACTGATGTTGAT
     GAATACTTGAAAACTTTAACCAATGAGAGTGGTAGAGTATTTTTTACATTAGCAAAAGAA
     ATCGGCAAACAGAAAAACATTTAACAAGAGCGAAATACAAATTAAAAACTCAATGGAGTG
     ATGGCATATTTAGGATAGATATACTGAACGAAGAAAATAAATTTTGTTTTTTTCCTCATG
 50  TTTTAGGGAGTGATTACAAAATGAAATCGCTGATGTGATTATATCGGATGCTGTTCAAGC
     GACCTGAAAATAGAACTTTTTTCAGGCTGCCTTTGTAGTTAACGGAGAAATTTAGACAAA
     TCCCGATTGCGCACTTTTAACACATCTTTCTTATTGCGGATAGAATACTAAGTAATGATA
     AAGATGCTATTGTTATTTTAAGGACGTTAGATTGATTATGAATAACCCACAGTAAGAGAA
     CCCATTACATTATGAACGCCGCACAACTCGACCATACCGCCAAAGTTTTGGCTGAAATGC
 55  TGACTTTCAAACAGCCTGCCGATGCCGTCCTCTCCGCCTATTTCCGCGAACACAAAAAGC
     TCGGCAGTCAAGATCGCCACGAAATCGCCGAAACCGCCTTTGCCGCGCTGCGCCACTATC
     AAAAAATCAGTACCGCCCTACGCCGTCCGCACGCGCAGCCGCGCAAAGCCGCTCTCGCCG
```

```
CACTGGTTCTCGGCAGAAGCACCAACATCAGCCAAATCAAAGACCTGCTTGATGAAGAAG
AAACAGCGTTCCTCGGCAATTTGAAAGCCCGTAAAACCGAGTTTTCAGACAGCCTGAATA
CCGCCGCAGAATTGCCGCAATGGCTGGTGGAACAACTGAAACAGCATTGGCGCGAAGAAG
AAATCCTCGCTTTCGGCCGCAGCATCAACCAGCCTGCCCCGCTCGACATCCGCGTCAACA
CTTTGAAAGGCAAACGCGATAAAGTGCTGCCGCTGTTGCAAGCCGAAAGTGCCGATGCAG
AGGCAACGCCTTATTCGCCTTGGGGCATCCGCCTGAAAAACAAAATCGCGCTTAACAAAC
ACGAACTGTTTTTAGACGGCACACTGGAAGTCCAAGACGAAGGCAGCCAGCTGCTTGCCT
TATTGGTGGGCGCAAAACGAGGCGAAATCATTGTCGATTTCTGTGCCGGTGCCGGCGGTA
AAACCTTGGCTGTCGGTGCGCAAATGGCGAACAAAGGCAGAATCTACGCCTTCGATATCG
CCGAAAAACGCCTTGCCAACCTCAAACCGCGTATGACCCGCGCCGGACTGACCAATATCC
ACCCCGAACGCATCGGCAGCGAACACGATGCCCGTATCGCCCGACTGGCAGGCAAAGCCG
ACCGTGTGTTGGTGGACGCGCCCTGCTCCGGTTTGGGCACTTTACGCCGCAATCCCGACC
TCAAATACCGCCAATCCGCCGAAACCGTCGCCAACCTTTTGGAACAGCAACACAGCATCC
TCGATGCCGCCTCCAAACTGGTAAAACCGCAAGGACGTTTGGTGTACGCCACTTGCAGCA
TCCTGCCCGAAGAAAACGAGCTGCAAGTCGAACGTTTCCTGTCCGAACATCCCGAATTTG
AACCCGTCAACTGCGCCGAACTGCTTGCCGGTTTGAAAATCGATTTGGATACCGGCAAAT
ACCTGCGCCTCAACTCCGCCCGACACCAAACCGACGGCTTCTTCGCCGCCGTATTGCAAC
GCAAATAAACCGGTTTGAACAAAATGCCGTCTGAACCCTTTTCAAAGCGTTCAGACGGCA
TTTCATCAATTATAGTGGATTAACAAAAATCAGTACGGCGTTGCCTCGCCTTAGCTCAAA
GAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTGTTTGTACTG
TCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATTTTTGGGAATCTGT
TTTACCCCAATATATAAAGCACCATATTAAGGCGGAGTGTCTTCCCCACTTTGACCCGAA
CCCGGAAAAGACACCGCCCAAGCCAATCCTGATGCTGCCCCGACAGCCAACCATTAAGGA
AATCCTAATGAACTTTGCTTTATCCGTCATTATGTTGACCCTCGCCTCTTTCCTGCCCGT
CCCGCCTGCCGGAGCCGCCGTCTTTACTTGGAAGGACGGCGGCGGCAACAGCTATTCGGA
TGTACCGAAACAGCTTCATCCCGACCAAAGCCAAATCTTAAACCTGCGGACGCGCCAAAC
CAAACCGGCGGTCAAACCCGCCCAAGCCGACGCAGGGAAGCGCACAGACGGCGCGGCACA
GGAAAACAATCCCGACACTGCCGAGAAAAACCGGCAGCTTGAGGAAGAAAAGAAAAGAAT
TGCCGAAACCGAACGGCAGAACAAAGAAGAAAACTGCCGGATTTCAAAAATGAACCTGAA
GGCGGTGGGAAATTCAAATGCAAAAAACAAGGATGATTTGATTCGGAAATACAATAACGC
CGTAAACAAATACTGCCGTTAATCGGCTCTAGCGCAAACCCGATGCCGTCTGAAGCGGCA
CGGGGTTTGTCATTTCTGCCAGTAGGTTTTGACGTTGACGAACTCGTACAGCCCGAATTC
GGACAATTCGCGCCCGTAACCGGAATCTTTGACTCCGCCGAAAGGCAGGCGCAAATCGCT
GCTGGTATGGCGGTTGATAAACACCGATCCCGCCTGTATTTTTCGGCAAACCGCCAAGC
GCGTTCGGTATCGGCGGTATAAATGCAGGCACCGAGCCCGAACGGGAATCATTGGCAAG
GGCGATGGCATGTTCTTCGTTTTCGGCGCGCAAAATCAGGGCGGCCGGCCCGAATACTTC
TTCTCTCCAGACGCGGCAGGCAGGATTTACCCTGTCTAAAACCGTCGCGGGATAAAACCA
GCCTCGCCCTTGTGGGATTTTTCCGCCGGTCAGGCATACCGCGCCGTTTGAAACGGCATC
TTCAACCTGCCCGTGAACCCTGTCCCGCAAATCTTCGCGGTGCAGCGGTGCAAGCGTAGT
ATCGGGATGTTTGGGGTCGCCCATTTTCAATTTAGCGCATTCGGCAAGAAACAGCGTGAT
AAAACGATCGGCTGCGGCTTCGGTTACGATGATGCGCTTGGCGGCGTTACACGATTGCCC
CGCATCGCGGAAACGGGAATAACAGGCTTCTGCGGCGGCACGCTCCAAATCAGCATCGGG
CATCACGATAAAGGCGTTGCTACCGCCGAGCTCCAACACGGTTTTCTTAAGGTTTGCGCC
CGCGTGTGCCGCAAGGATGCGCCCCGTATGCGTTGAACCGGTAAACGCCATTGCATCGGT
ATCTTCAACCGCCTTGAGCGTGCCCGCCTCATCCAGCCACACGCCTGCCAGAGGAATGCC
GTCTGAAGCCAAATCGAACAGTGCCTGACTGACGCGTGCCACGCTGGGCGCGGGTTTGAC
GGCGCACGCGTTGCCCGCGCACATAGCGGGAACGGCGAAACGCAATACCTGCCAGACGGG
ATAGTTCCAAGGCATGACGGCAAACACCACGCCCAAAGGCTCGAAGCGCACCTGACTCAA
ACTCGCCTGCGTCGCGATGGTTTTGTGGGCAAGCAGTTCGGGGGCAAGGCGGGCGTAATA
GCGTATCAGTTCGATAGACTTGCCGATTTCCGCACGGCATTCGTGCAAGCAGCGTCCGAC
TTCCTCACACACCATTTCCGCAAAACGCTCTTTCTCCGCCTCCAAACGGTCGGCAAATTT
TTGCAGGCGCGCGGCACGTTCGGTTACGCCCAGTTGCGCGAACGCCCCGCCGCGCATTTT
CAAATCCGCCAGCCGCCGTTCAAACTCCGCATAATCTTGAGCGGGCGGCGGTAAAGCGT
TTCGCCCGTAAATACATTGACACTGTGAAACATCGAATCAACCTGCCAGTTGCGGGAATA
TCGTTTTCAGTCCCGACACAATAATCTCCACCGATACCGCCGCCAGCATCATACCCATAA
TGCGGTTTAAAATCGTCAGCCCCGTCGCGCCCAGCAGGCGGCTGACCTTCCCGGCAACGA
TTAAAATGGCATAACAAATCGCACTGACCACCAAACCGGCCGCGATAATCAACGCGATGT
```

-388-

```
CGCCGTATGTTTTAGCCGCCGAAGCGTAAATAATCACGGTCGAAATACCGCCCGGGCCGA
TGGTGATCGGTATGGCGATGGGCACGACGGCAATCGCTCCGGCATTGCGGGCGGGGCGCG
CCTGCCCCGTTTCCGGCTGCGCGCCGAGATTCTGCTTGGCGGGATTGTCGTTGCCGTTCA
TCATCGAAATGGCGATCAGCAGCACCAAAATCCCGCCGCCGACCTGAAACGAACCGACGC
TGATGCCCAAAACCTTCAGCAGCGTACCGCCGATCAGCGCAAATACCGCAATCACGGCAA
ACACGGCAACGGCGGCCGTCCGCGCGACCTTCCTGCGCTCCTTCGTGCTGTGCCCGTTGG
TCAGGTCAAGGTAAAGCGACAACGCGCTAAACGGATTAATCAGCACCAAAAAAGCCACAA
TCAGCTTGCCGATTTCCATGCCCAATCCCATTATTTCCCCCTCCTTCAAACCCGTGCGGC
AGGCATCCGATGCTGCAAATTGCCGCCGCAACGGATTTTTCCGTTATAATTAAAAATTCA
AGCAATACGCCCCATCATACCCGAACGACGGTATCTTTACCATCAGACAAGGATGCTTTT
CATGGCACTGACACTTGCCGACGTAGACAAAATCGCCCGACTCTCCCGACTGCACCTGAC
TGCGGAAGAAAAAGAAAAATCGCTTCAAGAATTAAACGACATTTTCACTATGGTCGAACA
GATGCAAACCATTAACACAGACGGCATCGAACCGATGGCGCACCCGCACGAGGCCGCCCT
GCGCCTGCGCGAAGACGAAGTAACCGAAACCGACCGCGCCGCCGAATATCAGGCGGGTGC
TCCGGAAGTACGCAACCGTCTGTACATCGTACCGCAAGTTATCGAAGAATAATCCGAATA
TGCTTCAGACGGCATCAGCAATACCGCCCGAAGCCCTTTAAGGATGGAAGATTTATGACC
CAATACACATTGAAACAGGCAAGCGTCCTGTTGCAGTCCAAACAGATTTCCGCCGTCGAA
CTGGCAAGCGCATACCTTGCCGCCATCGCCGAAAAAAATCCCGCCCTCAACGGCTATATC
ACCATCGACCAAGATAAAAACCCTTGCAGAAGCCCGTGCCGCCGACGAACGTATCGCGCAG
GGCAACGCCTCCGCGCTTACCGGCGTACCCGTCGCCTACAAGGATATTTTCTGCCAAACC
GGCTGGCGCAGCGCGTGCGCTTCCAAAATGCTCGACAACTTCATCTCCCCCTACACCGCC
ACCGTCGTCCAAAACCTGCTCGACGAAGGTATGGTAACGCTCGGCCGCACCAATATGGAT
GAGTTCGCTATGGGTTCGACCAATGAAAACTCATTCTACGGTGCAGCCAAAAACCCATGG
AATCTTGAGCACGTCCCCGGCGGTTCGTCAGGCGGTTCCGCCGCCGTCGTTGCCGCGCGC
CTCGCCCCTGCCGCGCTCGGTTCGGACACCGGCGGCTCTATCCGCCAACCCGCATCGCAC
TGCGGCATTACCGGCATCAAACCCACATACGGCACGGTTTCCCGCTTCGGTATGGTCGCC
TACGCCTCCAGCTTCGATCAAACCGGCCCGATGGCGCAAACTGCCGAAGACTGCGCGATT
CTGTTAAACGCGATGGCAGGTTTCGACCCCAAAGACTCCACCAGCCTCGAGCGCGAAAAA
GAAGACTACACCCGCGATTTGAACCAACCGCTCAAAGGTTTGAAAATCGGCCTGCCCAAA
GAATATTTCGGCGAAGGCAACAGCGCCGATGTTCTGACGGCATTGCAAAACACCATTGAT
TTGCTGAAAGCCCAAGGCGCGGAATTGATTGAAGTTTCCCTGCCGCAAACCAAGCTGTCC
ATCCCCGCCTACTACGTCCTCGCCTCCGCAGAAGCCAGCACCAACCTTTCACGTTACGAC
GGCGTACGTTACGGACACCGTGCCGCCCAATTCGCCGATTTGGAAGAAATGTACGGCAAA
ACCCGCGCCGAAGGTTTCGGCAGCGAAGTCAAACGCCGCATCATGATCGGCACTTATGTA
CTGTCGCACGGCTACTACGATGCCTACTATCTCAAAGCCCAAAAACTGCGCCGCCTCGTT
GCCGATGATTTTCAGACGGCATTTGCACGGTGCGACCTCATCCTCGCGCCGACCGCACCC
ACTGCAGCCCCAAAAATCGGAGCGGACGGATGCTTCGCCGGTTGAAACCTACTTGAGCGATATC
TACACCATCGCCGTCAACCTCGCCGGACTGCCCGCATTGACCCCGCCGCAGGCTTCAGC
GGCGGCGGACTGCCCGTCGGCGTTCAGCTTGTCGGCAACTACTTCGCCGAAGCCAAAATC
CTCGGTGCGGCGCATCAAATCCAACTCAACAGCGATTGGCACGGCAAACGACCCGAATGA
AGCAGAACCGCACCTTTACCTTCCCCGATTTTCGCACCGTTTACAGCTATGCGCCTTTAT
ATCGGCTGCAACATTTAAAATACACATTGCGAAAATTTTTCGGAAAAAAAGAAATTTACG
CCTTCGAGCAGTTTGTCAACGCATCCCCTATCCGTCAGGGGCTGTTCCTCCACTGCCCGC
AAAATGCCTATCCGCTGCTGCGCGAATTTGTTGACAGGCGTTTTAACTGCAAACGCCGTT
TAGATGCGATGACGGCAGATTTTCTCATGGCGGAAAAACTGTTCGGCACAGACATCCTGC
ACCAAATGGAAGACTACCGCTTCCATTTGGTCTTGGCGCACCTTTCAGACGGCATCAGCT
TGTGGCTCAACCGCAACGACAACTGCGTCGAAGAAGGCGCGTGGTCTTTATCTTTGCGCG
ACGAAGCAGGCAACCGGCTGTATATGGCGACTTTCGCCTTTGTCGGCACACACCTGCTGA
CAGCCTCCGTACAAGGGCCGGCGGGTGAAGAAGCCAAAGACACCGTCCGCCGCATAACCA
AACAACTCCACGGCTTGCGTCCCCAACAACTGATGGTAACCGCCCTGCAATATTTCGCCG
CCGTACTCGGCTTGGACGGCGCAATGGGCATTGCACAAAAACATCAGGTCAAACTGCGCT
GGAAACTTAAAAAGCGCGTCAAAATGAATTACGACGCATTCTGGCAGGAATACGGCGCAA
GTTTGGAACGGGACGGCTACTGGCATCTCCCCCAAACCCCCGCCCGCAAAGACCTTGCCG
ACATCGAAAGCAAAAAGCGTTCGATGTACCGCAAGCGTTATGAAATGCTGGACAATATGG
TTGCAGAGATGAAAGACAGTCTGAAAACAGAAGCACGCGGCATTTCAGACGGCATCCAAA
CGGAAAAACCGCCCCGCCGGACAGCCTGACGCGAAGACTATCGAATTGATATTTTAGAGA
AAGAAGCTCTTATGACCTGGGAAACCGTAATCGGCTTGGAAATCCACGTCCAATTGAACA
```

```
      CCAAATCCAAAATCTTCAGCGGCGCATCGACCGCATTCGGCGCAGAACCCAACGCGCACG
      CCAGCGTAGTGGAATGCGCGCTGCCGGGCGTTTTGCCTGTGATGAACCGTGAAGTCGTTG
      AAAAAGCCATCAAATTGGGTTTGGCTTTAGATGCGAAAATCAATCAGAAAAACGTGTTCG
      ACCGCAAAAACTACTTCTATCCCGACTTACCAAAAGGTTATCAAATCAGCCAGTTGGACT
  5   TACCGATTGTCGAACACGGCAAATTGGAAATCGTAGTCGGCGACGATGTGAAAACCATCA
      ACGTAACCCGTGCGCACATGGAAGAAGACGCAGGCAAGTCCGTGCATGAAGGCTTGAACG
      GCGCAACCGGTATCGACCTGAACCGCGCCGGCACGCCGCTGTTGGAAGTGGTATCCGAAC
      CTGAAATGCGTTCCGCCGCCGAAGCCGTTGCCTACGCCAAGGCCTTGCACAGCTTGGTAA
      CCTGGCTGGACATTTGCGACGGCAATATGGCGGAAGGCTCGTTCCGCGTCGATGCCAACG
  10  TATCCGTGCGCCCGAAAGGTCAAGAAGAGTTCGGCACGCGCCGCGAGATTAAAAACCTCA
      ATTCCTTCCGTTTCTTGGAGCAGGCGATTAATTACGAAGCGGAAGCGCAAATCGAGATTT
      TGGAAGACGGCGGCAAAGTACAGCAGGCAACCATGCTGTTTGATCCCGAAAAAGGCGAAA
      CCCGCGTAATGCGCCTGAAAGAAGATGCGCACGACTACCGCTACTTCCCCGACCCTGATT
      TGCTGCCCGTTATCATTTCAGACGCCCAAATGCAAAAAGCCAAAGCAGAAATGCCCGAGC
  15  TGCCGAAAGAAATGGCAGCGCGTTTCGTGGCGGATTACGGCGTGTCCGAATACGACGCGC
      GCCTGCTGACCGCAAGCCGTGCGCAGGCTGCCTATTTTGAAGAAGCCGCCAAAGAAAGCG
      GACAAGGCAAGCTGACTGCCAACTGGATGAACGGCGAACTTGCCGCCGCGCTGAACAAAG
      AAGGCATGGAACTTGCCGACAGCCCGATTACCGCCCCGCGCCTCGCCGCGCTGGTTGGCA
      AAATCGCCGACGGCACATTAAGCAGCAAGTTAGCGAAAAAAGCCTTTGAAGCCATGTGGG
  20  CAGAACCCGAAGCCACCATTGCCGAAATCATTGAAAAACACGGTTTGCAACAGATGACCG
      ACACCGGCGAGATTGAAGCCATGGTGGACGAAGTGCTGGCAAACAACGCCAAAGCCGTGG
      AACAGTTTAAATCCGGCAACGAAAAAGCCCTGAATGCGATTGTGGGACAAGTGATGAAGG
      CCAGCAAAGGCAAAGCCAACCCCGCGCAGGTTCAAGAGCTGATTAAAGCCAAACTGGCTT
      AATCCGTTATCACACAGGTCGTCTGAAAGCAAAGTTCCAACGAAGGTAAAACAGGAAATA
  25  AGCTTTCAGACGGCCTTTTATAGTGGATTAAATTTAAACCAGTACGGCGTTGCCTCGCCT
      TGCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTAAATTTAATCCA
      CTATAACTTAATCTGCTCAAACCATACCAAGACATGAACCACACCGTTACCCTGCCCGAC
      CAAACCACCTTTGCCGCCAACGACGGCGAAACCGTTTTGACCGCTGCCGCCCGTCAAAAC
      CTCAACCTGCCCCATTCCTGCAAAAGCGGTGTCTGCGGACAATGCAAAGCCGAACTGGTC
  30  AGCGGCGATATTCAAATGGGCGGACACTCGGAACAGGCTTTATCCGAAGCAGAAAAAGCG
      CAAGGCAAGATTTTGATGTGCTGCACCACTGCGCAAAGCGATATCAACATCAACATCCCC
      GGCTACAAAGCCGATGCCCTACCCGTCCGCACCCTGCCCGCACGCATCGAAAGTATTATT
      TTCAAACACGATGTCGCCCTCCTGAAACTTGCCCTGCCCAAAGCCCCGCCGTTTGCCTTC
      TACGCCGGGCAATACATTGATTTACTGCTGCCGGGCAACGTCAGCCGCAGCTACTCCATC
  35  GCCAATTTACCCGACCAAGAAGGCATTTTGGAACTGCACATCCGCAGGCACGAAAACGGT
      GTCTGCTCGGAAATGATTTTCGGCAGCGAACCCAAAGTCAAAGAAAAAGGCATCGTCCGC
      GTTAAAGGCCCGCTCGGTTCGTTTACCTTGCAGGAAGACAGCGGCAAACCCGTCATCCTG
      CTGGCAACCGGCACAGGCTACGCCCCCATCCGCAGCATCCTGCTCGACCTTATCCGCCAA
      GGCAGCAACCGCGCCGTCCATTTCTACTGGGGCGCGCGTCATCAGGATGATTTGTATGCC
  40  CTCGAAGAAGCACAAGGGTTGGCATGCCGTCTGAAAAACGCCTGCTTCACCCCCGTATTG
      TCCCGCCCCGGAGAGGGCTGGCAGGGAAGAAATGGTCACGTACAAGACATCGCGGCACAA
      GACCACCCCGACCTGTCGGAATACGAAGTATTTGCCTGCGGTTCTCCGGCCATGACCGAA
      CAAACAAAGAATCTGTTTGTGCAACAGCATAAGCTGCCGGAAAACTTGTTTTTCTCCGAC
      GCATTCACGCCGTCCGCATCATAATTCCCCGGTATAAAGAGGATTCGAGCTTTCCGTTCA
  45  GAACACAAAAAACTTCCCGTCCGTGTTTTCCCCGTGAAAAAATGCCGTCTGAAACCCGAT
      TCCGGTTTTCAGACGGCATATGTTTTTTCCTGTTCAAGGCGACAGCCGCTCGCGTATCCA
      GCCACCATCCAGCAAACGGTATTGGATGCGGTCGTGCAGCCTGCTCGGTCTGCCCTGCCA
      GAACTCAAGCAAATCGGGAATCACAATATAGCCGCCCCAATGCGGCGGACGCGGCACATG
      CAGAGGATGTTTGAGTCCAACCGCCGCCGCCTTTGCCACCAATACCGCCTTGTTCGGAAT
  50  AACCTCGCTCTGCGCACTTGCCCACGCACCCAAACGGCTCTGATACGGGCGACTCTCAAA
      ATATTCGTCCGACAACTTCTCCGCCAGCCTTTCAACACGCCCTTCCACGCGCACCTGACG
      CTCCAGCTCCGGCCAAAAAAACGTCATCGCCGCAAATGGATGAGCATCCAGCGAACGCCC
      CTTGCGGCTGTGATAATTCGTAAAGAAAACAAAACCTTCAGAATTAACTTCCTTCAGCAG
      CACCATACGGCTGTTGGGCCTGCCGCGTCCGTCAACCGCCGCCACATTGACCGCCGTCGG
  55  CTCGTTGACCTGTGCGCGTACCGCCTCGTCCAACCACCGCTCGAACTGCTCGATCGGATT
      ATCGGCGCAATCGGCTTCCGACAATTCCCGTTTGCTGTAATCTTCCCGAATATTGTGCAA
      ATCCATTTACTGCTCCTCTTATCATTTGAAAGATTCTACTCCCGCACGCAAACCGATTTC
```

```
AACCGTCGCACAAACTTTGCCCCGACCCCAAGCCGCAGCGACGATTTCATCCGCAAAACC
GCCGCATCAGGTACAATATCGAACCGTCCGACCGAGGACGGCATTTTATCAACCCGTCCT
GCCGCACACGCCGCAGAAGAACCGCCTTATCAGGCGAGTTAGGAAAAATGATGTCCAAAC
AGCCCACCAGCAAACGCCAATGGCGCGACGGCGCAGCCCCGTCTGCCAAGAAAACCGCCA
AAACCGTTCAAAAGCAAAGCCCGTCCCAAGATGAAACGGGCAAAACCGCTTCCCAACCTT
ACGGACAAAAAGCTTCAGACGGCATCAAACCTCAAAACGTCCCCAAACAGCGCGCCGCCA
AAGCCAAAAAACTCGTCGTCCGCAATCCCAACCAAAAAATTATGGAACACGCGCGCGATT
TGAAAGAACGCCGCAGCGACCTGTCGCGCATGGAACCCGAACGCCTGCAAAAAGTGCTTG
CCGCGTCCGGCGTCGGCTCGCGCCGCGAAATGGAAGAATGGATTACCAACGGCTGGATAA
CGGTCAACGGCAAAACCGCGCAACTGGGCGACAAAGTTACCCCCGACGACCACGTTACCG
TCAAAGGCAGCATCATCAAGCTCAAATGGGCGGACCGCCTGCCGCGCATCATCCTGTATT
ACAAACAAGAAGGCGAAATCGTTTCCCGTGACGACCCGCAAGGCCGCGTCAGCATATTCG
ACCGCCTGCCGCAGGCCGCCAGCAGCCGCTGGGTCGCCATCGGACGCTTGGACATCAACA
CCAGCGGACTTCTGATTCTTACCACCTCCGGCGAACTCGTCCAACGTTTCGCCCACCCCA
GCTTCGAAGTCGAACGCGAATACGCCGTGCGCGTCTTGGGCGGGCTGACCGGCGAACAAA
TGCGCGTCCTCACCGAAGAAGGCGTGATGCTCGAAGACGGCTTGGCAAAAGTCGAACGCA
TCCGCGAACAAGGCGGCGAAGGCGCGAACAAATGGTACAACGTCGTGATTAAAGAAGGCC
GCAACCGCGAAGTGCGCCGCATTTTTGAAAGCCAAGGACTCACCGTCAGCCGCCTCGTGC
GCATCGGCTTCGGTCCCATCGGACTGCCCAACCGCCTCAAACGCGGGCAGTTCTACGAAC
TCAACCCCGCCGAAGTCGCCAACATCATCAAATGGGCGGACATGCTGCTGCCGGGCGAAC
GCCGCCGCAAAAAAGCCTAAACCCGCCAAAACACAAAAATGCCGTCTGAAACATCTGCTG
TTTCAGACGGCATTTTATTCGGGCGTTTTCAGGAGAAAAGGTCGAGTGCTTTGACAAAGA
CCATCACCACGCCGTAGGCGAGCGGTATGACGGCCAATGCCCAACGCCACCAGACCGATA
TGCCGCCGCCGGAAACTTTTTCGCCCACAAGGTAAGCGTCGGATATGGCGGTTTCGTCAT
CGGGGTTGCCGCTGTGTGCGGCGGTTTTGATGTCTTTTTCGTGGTGTTTTTCGTGTACGG
ATTTGACGGCGAGGTTGCACAACAAACCGATAATCAGCAGGCACGCCATGATGTACATGG
TTACGCTGTATGCCTGTGCCGCCGGTATGCCGCTGTCGATTTGGCTTTGGCGTATGTAAT
TGACCAGTACCGGGCCGATGACGGCGGCGGTTGACCAGGCCAGCAGGATGCGTCCGTGAA
TCGCGCCGACCTGATAGGTGCCGAACAGGTCTTTCAGGTAGGCGGGAATGGCGGCAAATC
CGCCGCCGTACATGGAAATAATCACGCAAAAGCCGATGATGAACAGGGCTTTGCTGCCGC
CCTCGCCGATGGAGGGAACGGCGAAATACAGCAGCGAACCGAGTACGAAGAAGATGGTGT
AGGTGTTTTTGCGTCCGATTTTGTCGGAAACGCTCGACCACAAAAAGCGTCCGCCCATGT
TAAACAGGCTCAGGAGGCTGACGAAGCCTGCCGCCGCACCTGCGCCGACTGCTGCCTGCC
TGCCTATGGAGGTTTCGGAAAAGAGTTCCTGAATCATCACGGATGCCTGACCCAATACGC
CGATGCCGGCAGTTACGTTCAGGCACAATACCCAGAACAACAGCCAAAACTGCGGCGTTT
TCATGGCTTGGGACACGTTGACATGATTGCTGCTGACCAGCTTGTTTTGCGTTTTCGGCG
CGGTATAGCCTTCAGGTTTCCAGCCGTCGGCAGGTACGCGGATGGTAAACGCGCCGAACA
TCATCAGTGCGAGGTAAAGCAGACCCAATACGGCGAAGGTTTCGGCAACCCCGACCGAAG
CAGCGTTTGAAAAGGTGTTCATCAGTGATACGGAAAGGCGCGAGGCCCAGCATTGCGCCGC
CACCGAAACCCATAATCGCCAAACCGGTCGCCATACCCGGCTTGTCGGGAAACCATTTCA
TCAGTGTGGAAACCGGCCCGATGTAGCCCAAACCCAAGCCTACGCCGCCGATGACGCCGT
TGCCCAAATAGAGCAGGAAGAGGTTGTGCGTACGCACGCCGAATGCGGATACGAAGAAGC
CCAGGCTGAAGCAGCAGGCGGCGGCAAATATGGCTTTGCGCGGCCCTACCCGTTCCATCC
ACGTACCGAACAGGGCGGCCGACGCGCCCAGCATCGCGAGTGCGATACTGAAAATCCAAC
CTACGGTCGTCAGCTTCCAATCTCCGGCCGCCGATTCGGTTATGCCGATAAGTTTGGTCA
GCGGCGCGTTGAATACGGAATAGGCGTAAATCTGCCCGATGGCAAGGTGTACCGCCAATG
CTGCGGGCGGTACGAGCCAACGGTTGAAACCCGGCTTGGCAATGCTTGCCTCACGGTCTA
AAAACTTCATAACATCCTCTTTCTGTCAGTTGAAAAATAAAATTTCATTTGCCCAATGGA
AACTTATTGAAAATTATAAAAAAAATATCGGGTCGGGTTTTTATCCGCCCCAAGATGCGCC
GTCTGAAACATTTCGGGTGTACGGAAAGGTTTCTGTTTTTTCCGACAAATTCCTGCGGCT
TTTCGCTTCCGGATTCCCGCTTTTTCAGGAATGACGAATTAAAGATTATCTTAAGGTCAA
GGGACTGGATTCCCGCTTTCGCGGGAATGACGGCGGCGGGGGAGCGGTTTTTCCGATTGG
GTTTAAATGCAATCGAACAAATCCTGCTGCCCTTGTTCTTTGCTTACGCGCACGTCGGTT
TCGCCGTCGGCGAAGATAATGTGCAGCTTCTGCCCCTGCTTCAAAACATCGGCGTTGCGG
ATGACTTGTCCGCGTGTGTTTTTGACGACGGAAAAGCCGCGCTCCAGAATGTGCTGCGGC
GAAACGGCTTCGAGCAATGCGGCTTGGGCAGTCAGGCTTTGGCGGCGGTGGGTAAGCAGT
TGGTGGAAGGCGTGCGACAGGGCCGTCTGAAAGCGGTCGATGTTTTTTTTTGCAAACGGAA
```

```
ACATCAGGACGGCAATGTTTCAGGGCTTGGGTTTGGCGTTCGAAACGGGCGGTGTGGGTA
CGGACGTTTTGCGTCATCGAGTAAGACAGCGTTTGCGCCAGCTTGCCGATTGAAGCGCGC
TGTTCGTCGAGTTTTTGGCGCGGATGACGGATTTGCCGCGCCAGCCAGTCGAGTTTTTGG
CTGGCATCGAAATAGCGTTGTTCCAAAACGGTTTTCAGACGGCATTGGGCTTGGGCGAGG
CGGTGCAGCGATTCTTGGCGGTTGGGGCTGACCAGTTCCGCCGCACCGGTCGGCGTGGGC
GCGCGCATATCGGCGACGAAATCGGCGAGCGTGAAATCGGTTTCGTGGCCTACGCCGCTG
ACGACCGGAACCGTGCAGGATTCGATGGCGCGCACGACCGGTTCTTCGTTAAACGCCCAC
AAGTCTTCAATGCTGCCGCCGCCGCGACAGACAATCAACACATCGCATTCGGCGCGTTGC
GAGGCGGTTTTAATCGCTTGGGCAATTTGCAATTCGCTGCCTGCGCCTTGAACGGGTGTC
GGATAAACGATAACGGGGATTTCGGGTGCGCGGCGTTTCAAGGTAGTAACGACATCGCGC
AAAGCCGCCGCCGCCAGACTGGTTACGATGCCGATACATTGCGGACGGACGGGCAAAGGT
TTCTTGCGTTCCGCCGCAAACGCGCCTTCCGCCTGCAACTGCGCCTTCAACCGCTCATAG
GCTTCGTAAAGCTGCCCCAAACCTTTGAGCCGTACTTCGTTTACGGTAATCTGAAATTCG
CCCCGCGCTTCATAAATACTGATTTTTCCTGATACCTCGATATGGTCGCCTTCTTTCAAA
GGCTTCGCCAAACGCACCGCCGCACCCTTGAACATCGCGCAACGCACCTGTGCGCGGCTG
TCTTTGAGCGAGAAATAATAATGCCCGCTGGCGGCACGGGTCAGGTTGGATACTTCGCCG
GCAATCCACAAACCGGCAAGGTGGTTTTCCAAAAGACTTTTGGCAAATGCGTTCAACTCG
GAAACGGACAACACGTCAGAATGAAAAAAATCAGACATCGAATCAATCAAATAGTAAAAA
ATATGAATATGTTTTGAAGCCTAAGGCGGCACCGGGCCGCCTAAATTGTCAACAATATTA
TAACACGCGCCATCTTGCCGCCCGCCTTTTCCCGTATGACTTTTTTAAGCGGGGAATGGG
AAAAATATTCATCAACCTGCCTGCAATCTATTCAAATTGCACCGCCGGCAGGCTATGATG
CGGATATTTTCGACAGGAGGAAAAATGGATACGCAGGCAGTTATCACACATATCGCCCGA
TGGTTGGACGAATACGCCGCCCGGGCAAATGCAAAAGGGTTTGTCGTGGGCGTTTCCGGC
GGCATCGATTCCGCCGTCGTCTCCGCACTCGCCGCCCGCACCGGCCGCCCCCACGCTGCTT
CTGGATATGCCGATACGCCAACACCCCGGCCAGCTTGAGCGGGCAAGGCTGCACATCCGC
AATCTGCAACGGCAATATGCCAATGTAAGCGCGCAAACGGTCGATCTGACCGACACCTTC
CAGACCTTTGAACAAACCGTCGGTGCTCATCAGACGGCATTTGACAGTCAGCCGCTTTCC
CTCGCCAACGCCAGAAGCCGCCTACGTATGCTGACCCTGTACTACTACGGGCAGATACAC
GGACTGCTGGTTACGGGGACAGGTAATAAGATTGAAGATTTCGGCGTGGGCTTTTTTACT
AAATACGGCGACGGCGGCGTGGACATCAGCCCGATTGCCGACCTGACCAAAAACGCAGGTT
TACCGGCTTGCCGAAGCATTGGGCGTGGACGAGGCGATTCAAAAAGCCCCGCCGACCGAC
GGCCTGTGGGATACGGAACGCACCGACGAAGAACAGATGGGCGCAAGCTATCCCGAACTG
GAGTGGGCAATGGGCGTGTACGGCACGCGCAAACCCGAAGATTTTGAAGGGCGGCAGCGC
GAAGTTCTAGAAATCTATACGCGACTTCACCGCGCCATGCAGCACAAATCAACCCGATT
CCCGTATGCCGCATTCCGCCCGAATTGCTGGGCTGAAACACGGAAATGCCGTCTGAAACG
GAAAACCGTATTTCAGACGGCATGGAAATATCCGACTCCTATCCCTTAAGAATCGAGTAC
GCGGGCAAACAAAATATCGTTTTCCAAATGAATGTGGTCGTTCAAATCCTCCACCATTTC
TTTCGCCAGCGCGTAAAGCCGTCCAGCTTCCGCAAGCCCCTTCTGGCGGTTGGAAATT
GTCGGTCAGCTCTTTGAGCCGTGCGATGGCGCGGTCGTGTTCTTCGTGTTCGTGCATCAT
CACGCCGATGGGCATCGCCGCACCGCGTCCGACACCCTGATTAATCATCGGAAACAGCAT
CCTTTCCTCTTTCATCATATGCATCAGCAGTTCGTTCTGCATATAGGCAAGCAGCTCGGC
AATTTCCGCCGGAAAGGTGTCGGCATGAACTTGGGCCACTTTTTGCGCCAGCGGCACCAA
TTCTTCAAATTGTGCACGGTGGACATTGTGGTAGCGTTGCAGGATATGATCGACGGTTGC
ACCAAAGGGGGCGGTCTCCCAAACGGAAAAATCAGTCATCGCAGTGTTCCTTTTACAGGG
TTTCGGGTTTGGTTTTGAACATTCATACTTTAAGAATCAATTCAAACGGAGCATACACCG
CCCGCGCGCTTCTGTACAGCGTCAAACGTATTCCTTACATTTTGCTAATAAAAGTAATTT
TCAGAAATAAAATACTGTCCGAACCGTTTTTTAGAATTTGCAAAGGCGATTGGGGCGGTA
CAGAAAAACTATTATCCCGCCCGCCCACTTGAAATTTTTATGCCCAAGCCCTATCCTGCA
CGCTATCGTGCCAATCCCAACCGAAAAGGAAAAATAATGAGCAGC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 36>:

gnm_36

```
TTATAATGAATCATAACTATCAAATATATCGTTAAACTGGATGGATTAAATACCTTTAAA
```

```
ATGCAGCTTAACCTACATCAATAAAGTGCCACAAAAAGGGAAAATTGGAAACTAAAGCAA
TGGCGGTCGGGTTGTAATTTATTATAACAATATGATTTATATGTAATAAAAAACAGATTA
AGCAAAGGGCTCGTCGGCGGTGCGAATGTAATTCCGCTTGGCGTAATAAGGCAGATATGT
TAAATTTAGAAAAAATTACGCTTGCCCGGATTGCACCTTAAACAGGCTGCGGAAGCGGCA
GGATAAAAATCTTTATTCCCATAAATTCATGGAGACTCTCATGGACACACAAACTTACAA
CTACAAAGTGGTGCGCCAGTTCGCCATCATGACTGTAGTTTGGGGGATTGTGGGTATGTT
GGTCGGCGTTATCGTCGCCGCCCAGCTTTTTGCTCCTGCCCTCGACTTGTCTAATATCGG
ACCTTGGTTCCACTTCGGCCGCCTGCGTCCGCTGCACACCAATGCGGTTATTTTCGCATT
TGGCGGTTGCGGCCTGATCGGCACATCATACTACGTTGTCCAACGTACTTGTAATACCCG
TCTTTTCGGCGGTTGGCTGCCGGCATTTACCTTTTGGGGCTGGCAGGCGGTAATCGTTGC
CGCCGTCGTCAGCTTCCCTATGGGTTGGACCCAAGGTAAGGAATATGCCGAACTGGAATG
GCCGATCGATATTCTGATTACTTTGGTTTGGGTGGCTTACGCCATCGTATTCTTCGGTAC
GATTGCCAAACGTAAGATTAAACATATTTACGTTGCCAACTGGTTCTACGGCGGCTTTAT
TTTGGCGGTCGCACTTTTACACATCGTCAACAATATCAGCATCCCGGCCGGTTTGATGAA
GTCATACCCCGTCTATTCCGGTGCGATTGATGCTATGGTTCAATGGTGGTACGGGCATAA
TGCCGTGGGCTTCTTCCTGACTGCCGGCTTCTTGGGTATGATGTACTATTTCGTACCCAA
ACAAGCAGCCCGCCCCGTTTACTCCTACCGCCTGTCCGTCGTTCACTTCTGGGCGTTGAT
TTTTACCTATATGTGGGCGGGTCCGCACCATCTTCACTACACTGCGCTGCCTGACTGGAC
GCAATCTTTGGGTATGGTTCTGTCTTTGATTCTGTTCGCACCCTCTTGGGGCGGTATGAT
TAACGGCATCATGACCTTGTCCGGCGCGTGGGACAAACTGCGTACAGACCCGATTCTTAA
ATTCCTGATTGTATCCTTGTCCTTCTACGGTATGTCTACCTTTGAAGGCCCGATGATGTC
GATTAAAACGGTCAATGCATTGAGCCACTATACGGACTGGACCGTCGCGCACGTTCATGC
GGGTGCGTTGGGCTGGGTAGGCTTTGTAACCATCGGTTCCGTCTATTACATGATTCCCCG
TCTGTTCGGCAAAGAACAGATGCACAGCACCAAGCTGGTAGAAGCACATTTTTGGATTGC
GACCATCGGCGTGGTTCTGTATATCGCTGCCATGTGGATTGCCGGTGTGATGCAGGGTTT
GATGTGGAGTTCTTTGAACGATGACGGTACGCTGACCTACTCGTTTGTCGAATCCGTAAA
ACGCACCATGCCTTACTACGTGATCCGTTTTGCAGGTGGTTTATTGTATCTGAGTGGTAT
GTGCATTATGGCGTACAACGTGTACCGCACAGCCATCGGTGGTAAAGCAGTCGATGCCGA
AATCCCTGCGGTTTCCCAAACACAGCACCACTAAAATACTAAGAAAGATAGGCTACCAAA
ATGAAATTACAACAATTGGCTGAAGAAAAAATCGGCGTTCTGATTGTGTTCACGCTGCTT
GTAGTCAGTGTCGGTCTGTTGATTGAAGTTGTGCCCTTGGCCTTTACCAAGGCGGCAACA
CAGCCGGCGCCGGGCGTGAAGCCTTACAATGCCCTGCAGGTTGCCGGACGCGATATTTAC
ATCCGTGAGGGCTGTTACAACTGCCACTCGCAAATGATTCGTCCGTTCCGTGCGGAAACC
GAGCGTTACGGTCATTACTCTGTTGCCGGAGAGTCGGTTTACGACCATCCGTTCCAATGG
GGTTCCAAACGTACCGGTCCTGATTTGGCACGTGTGGGCGGTCGCTATTCCGACGAATGG
CACCGTATCCACCTGCTGAATCCCCGTGATGTCGTGCCTGAGTCCAATATGCCGGCATTC
CCGTGGCTTGCACGCAATAAAGTCGATGTCGATGCAACCGTTGCCAACATGAAGGCTTTG
CGTAAAGTAGGTACTCCTTACAGTGATGAGGAAATTGCGAAAGCACCTGAGGCTTTGGCA
AACAAATCCGAGCTGGATGCTGTAGTCGCCTATCTGCAAGGATTGGGTCTGGCTTTGAAA
AACGTAAGGTAACATCATGGATATTAACGGTATTCGTGCTCTCTTCACGGTATGGATCTT
TATCTGTTTCCTGTTGGTACTCTATATCGTCTTCAACAGGCGGAATAAGAAAAACTACGA
TAATGCCGCAAACAGCATTTTTGATGAAAACCAAGATGCGCAAGATAAGAAAAGCGAAAA
CCGTTAATATTGTGATAACGGAGCAAAACAATGAACACAACATCCCAATTTACCAGTAAT
TTCTGGAATATATATATTGCAGTTATTGTCTTACTGAGCTTTATCGCTTTGGCTTGGCTG
CTGCTGTCTCAAAATGTTGTCAAACGTCCGAAGAAGGGCGAAGAAGTACAAACTACGGGT
CATGAGTGGGACGGCATTGCCGAATACGACAATCCGCTGCCCCGCTGGTGGTTTTGGCTG
TGTGTTTTGACGTGGCTGTTCGGTATCGGTTATTGGTTATGTATCCGGGTGTCGGCGAC
TACAAAGGTCTGCTGAAATGGACCAGCCATAACCAATATGAAAAAGAGGTCAAAAAAGCC
GATGAGCAATACGGCAAACTGTATGCCAAGTTTGCGGATATGCCGATTGAAAAAGTGGCA
AAAGACCCTCAAGCCAAGCAAATCGCCCAAAACCTGTTTAACACTTATTGTATCCAGTGC
CACGGCTCTGATGCTAAAGGCTCTAAAGGTTTTCCGAATCTGACCGATAGCGATTGGTTG
TGGGGCGGTGATCCCGATAAAATCCACGAGACCATCGAAAAAGGCCGTGTTGCGACTATG
CCTGCCTGGGGTCCTGCTTTGGGCGAAGAAGGCGTGAAAGACGTTGCCCATTATGTGATG
TCCCTTTCAAAACCCGAAGGTCAGTATGATGAGGAACGTGCCGCGCGCGGACAAGCCTTG
TTCAGCGGTCCGCCTGCCAACTGTTTCACTTGCCACGGCGATAAGGGACAAGGTATCCAA
GGTTTGGGTCCGAACCTGACTGATGACGTGTGGTTGTGGGGCGGTACGCAAAAATCCATT
ATCGAAACCATTACCAACGGTCGCAGCAGCCAAATGCCCGCTTGGGGACATTTCTTGGAT
```

AAAGACAAACTGCATATTATGACTGCTTATGTATGGGGTCTTTCCGATAAAGACGGTAAA
GCTCCGGTGAAAAAAGCCGAGCCTGCACCGACTCCCGCACCGGCGGCAGAACCCGCAGCC
TCTGCTCCTGCAGAAGCAGCACAAGCCGTGTCCGAAGCCAAACCTGCCGCAGCAGAACCT
AAAGCCGAGGAAAAAGCTGCACCTGCTGCCAAAGCGGACGGCAAATAGGTTTATGAAACC
GTTTGTGCCGCCTGCCATGGCAATGCGATTCCGGGTATTCCCCATGTAGGCATCAAAGCC
GATTGGGCCGACCGCATCAAAAAAGGCAAGGACACGTTGCACAAACACGCGATCGAAGGT
TTCAATACGATGCCCGCAAAAGGCGGTCGCGGCGATTTGAGCGATGATGAGGTTAAAGCT
GCGGTTGACTATATGGTCAACCAGTCAGGCGGCAAATTCTAACTTGACTGAGTTTCCGAT
ATTATCGGTTATGAAAATCCAGATTCAGTATTGAATCTGGATTTTTTGTTTTAACGGGCA
TCCGGTTTTAAACGCAGACTGCCTATTTGTTGTAATGAATTTTGACTTTAGTCATAAAGA
ATTAGTCTTTATTGTTTATAATCGCGCATCATCACGATAGCCCTATTTTCAAAAGGACGA
TTAATGGATACACAAATCAAAACTGAAGCCGACAATCAGAGCAACCGGCGTTATCTGACC
GTTTGGCGGTGGCATTTTTATGCCGGTCTGCTGGTTATGCCTTTTCTTACCCTGCTTGCC
GTTACGGGTTTGGGTATGCTGCTGTTTGCCAATATTACCGGTAAGGAGGGCGAGCGGATT
CATGTTGTGCCGCAGGCAACGGTACAACCTCTGTCTGTTCAGGCGGAAGCGGCACGCAGT
GCCGTTAATCCGGAAACTTCGTCCGTCGTTCAGTATATTGCGCCGCGTGCCGATGATATG
GTTGCCGTGTTCCGTGTCAACAATGAGGGCAAAGCAACGATGGTCGCGGTCGATCCTTAT
ACGGCAAAAGTGGTCAGTACCATGCCGCGCAATCAGGGTTGGTATTACACGATGGATGAA
ATCCACAGCGATATGATGCTCGGTGCGGCAGGCGATTATCTTTTGGAAACGGCAGCTTCA
CTGACCATTATTATGGTTGTCAGCGGCTTGTACCTTTGGTGGGTGAAACGGCGCGGCATC
AAGGCGATGCTGCTGCCGTCAAAAGGCAGGGCGCGTTCTTGGTGGCGGAATCTGCACGGC
ACGTTTGGAACTTGGGTGTCGTTGATTTTGCTGTTGTTCTGCCTGTCGGGTATTGCTTGG
GCGGGTATTTGGGGCGGCAAGTTCGTACAGGCTTGGAGTCAGTTCCCTGCCGGTAAATGG
GGTGTCGAACCGAACCCCGTTTCAGTCGTGCCGACCCACGGCGAGGTATTGAATGACGGC
AAGGTTAAGGAAGTGCCGTGGGTTTTGGAGCTTACGCCTATGCCTGTTTCAGGGACGACT
GTGGGCAAAGACGGCATTAACCCTGACGAGCCGATGACATTGGAAACCGTCGACCGCTTT
GCGCGGGAAATCGGTTTCAAAGGGCGTTATCAGTTGAATTTGCCCAAAGGCGAGGACGGC
GTATGGACTTTGTCGCAGGATTCTATGAGTTACGACATGATCAGCCCGTTTGCCGACCGC
ACGGTACATATCGACCAGTACAGCGGCAAAATCCTTGCCGACATCCGTTTTGACGATTAC
AACCCGTTCGGCAAATTTATGGCGGCAAGCATTGCGCTGCATATGGGGACTCTGGGCTGG
TGGAGCGTGTTGGCGAACGTCTTGTTCTGCCTTGCCGTCATTTTTATCGGTATCAGCGGC
TGCGTGATGTGGTGGAAACGCCGTCCGACCGGAGCGGTGGGCATCGTTCCGCCGGCGCAG
AAAGTCAAGCTGCCGGTTTGGTGGATGATGGCATTGCCGCTATTGGCAATCGCACTGCTC
TTCCCGACCTCACTGCTTGCCATTGCCGTGATTTGGCTGTTGGATACGCTGCTGTTGTCG
CGGATTCCTGTTTTGAGGAGATGGTTTAAATGACCAAATGCCGTCTGAAAGGTTCAGACG
GCATTTTGTTTGAAGGCGGACGGGGGAAAGGCTATATAATCCCGAATACTTGACCACAGC
TTCTGTTTGAAATCATGTTTTATCTGTATCAATCCAACCGTCTTGAAACGCTGGCGGCAT
TGTTTGCCCGCATTCAAAAAGTCAAACCGCTGAAATCGGCTTTACAGCCCGAACAGATTA
TTGTGCAGAGTCAGGGGATGCGCCGCTACCTCAATACCTGCCTCGCCCGCGATTTGGGCG
TGGCGGCGAATTTGTCGTTCAGCCTGCCCGCCGGCCTGACGTGGAAGCTGATGAAAAAAC
TGATTCCCGGTATTCCGGAACTCAGCCCGTTTGCGCCCGAAGTCATGCGCTGGCGGCTGC
TGGATTTGTTCCGCAGCGAGGCATTTCGGAATACGGCAGAATTTGAAGATGTGAGGAATG
TGCTGCAAGACTATCTGGGCAGCGGCGAATCGGCAGATTACCAGCTTGCGGGACAGCTTG
CGGACATATTCGACCAATACCTCGTGTACCGTCCTCAGTGGATAGACGCTTGGCAGCAGG
GCAGGCGGCTCGGTTTGGGCGACGACGAAATCTGGCAGTCCAAACTGTGGCGTTACCTCG
ACGACGGCAGGCAGAGCGCGCCGCACCGTGTCGCGTTGTGGGAAAAGCTGTTGGAATCTT
TGAGCAGTGATAAGCTGCCCGAGCGTTATTTCGTGTTCGGCATTTCCACGATGGCGCCGA
TGTATTTGCAACTTTTGCACAAGCTGTCCGAACATTGCGACGTGTTCGTGTTCGCACTCA
ATCCGAGCGGGATGTACTGGGGCAACGTCATCGAAGCGGCGCAAATCCTCAAAGGTGGCG
GCGATCCCGATTTAACTCAGGCAGGGCATCCGCTGCTCGCCTCATTGGGCAAGCAGGGGC
GGGACTTTTTCGACTTTTTGAACGAAATGGAAATAGAAGGCGAAACGCCGGTATTTGAGG
AAGGCGGGCGCGATACGCTTTTACACGCCCTGCAAACCGATATTCAAAACCTGAAAATGC
CGTCTGAAATGGCGGGAAGCGTCAACACGGGCGACGGCTCGATACGCATCGTCTCCGCAC
ACAGCCCTTTGCGCGAATTGCAGATACTCAAAGACAAGCTGTTGAAAATTCTGCATGAAC
ATCCCGATTGGCAGCCGCACGATATCGCCGTATTAACCCCGAATATCGAATCCTATACGC
CTTTTATCGAAGCCGTGTTCGGACAGGCGCAGCCCGGTGCGCAGGCATTGCCGTATTCCG
TGTCAGACGTGAAAATCAGCCGCCGCCAACCGCTGTTTCATGCTTTGTCATGCCTGTTCG

```
ACTTGTTGGAAAGCCGATTTGAAGTCGATAAAGTGCTTGTGCTTTTAGAAACCGCGCCCG
TGTTGCGCCGTTTCGGACTGACTGAGGACGATTTACCGCTTTTGCACGACATGGTTGCCG
ATTTGAACGTCCACTGGGGTTTGGACGGAGAAATGCGCGGCGGCACGGATCAGCTGTTCA
CCTGGAAGCAGGCGGTAGAACGCATGATATTGGGCTGGATGCTGCCCAAAGGCGGCAATC
CGATGTGGCAGGATGTCAGCGCGTGGTATGCCGACGTGAATCAAACCGCCATGTTCGGAC
GTTTTGCCGCCTTCCTCGAAACCCTGACGGATATTGTACGGATATGGCGGCAGCCCGCAA
CGGTCGGCGAATGGGTGGCGCGTTGCCGGGATTTGCTTGAAACATTGTTCCAAGCTGAAG
CCGATGACCAAAAGTCAGTCCAAAACCTTGAAAACGAATGGGTCAAATGGCAGGCGGAAA
CCGAATTGGCGCAATTTTCCGGACAGTTGCCGCCGCACACCGTCATCCGCCATATCCGAC
GCTTTCTCGACAGCGAAAGCGAGGCAGGCTTTTTACGCGGCGGCATCACCTTTTGCAGTA
TGGTGCCGATGCGGAGCCTGCCGTTCAAAGTCATCTGCCTGTTGGGTTTGAACGACGGAG
ATTTTCCCCGTAATACCAAAGCCGCCGTATTCGACCTGATTGCCAAACATCCCGCCAAAG
GAGACCGCGCCCGCCGCGATGACGACCGCTACCTGTTCCTCGAAGCCCTCATCAGCGCGC
GTGAAATCCTCTACCTGTCCTACATCGGGCGCGACATCCGCAAAGACGAAGAGCTTGCCC
CGTCTTCCCTGTTGGGCGAACTCATCGATACCGTTGCCGCTATGGCGGGCATCGGTAGCC
GCCAACTTGCACAAAACCTGATAGAACAGCATCCGCTGCAAGCCTTCTCGCGCCGATATT
TTCAAGAAGGCGGACGTTCAGACGGCATATTCGGCACGCGTACCGACTACGCCGCCGCGC
TCGGACAAACGCCCGAACCGCCGCAACCCTTTTTCGATCAACCCGTAGAAAACGCCGAAC
CTGTTGCCGAAATCGGACAGGACGAATTTATCCGTTTCTGGCGCAACCCTGTCAAAGTAT
GGCTTCAGCAGCAGCTTGCGTGGAGCGAACCCCATATCGGCGAAGCCTGGGAGCCTGCCG
AACCCTTCGAGCCGCAACACGCCGATCAAATCGCCGAAATCTACATCGAAGCACGGTGCG
AAGGACGGGATTTTGCCCAAACCGCCGCCCGCATCGGGGCGGAAAGCCTCCTGCCGTCGG
GAGAGTTGGGCAGACTTTGGCAGCAGGACTTCCAAACTGCTGCCAAACAAATCGACACGG
CGGTTTTAAACAGCCCCAAACTGCCACCGCTTTCATATGCCATACCGTCGGACGGGCAAA
TCCTGAAAGGCAGCTTGGGCAATCTGTACCGCTGCGGACAAGTGTTTTACGCCTACGGCA
AACCCAACGCGCCGCAACGTATCGCTTTTCTGCTGGAACACCTGATATTTTGCGCCGTTA
TGCCGTCTGAAGCCGAAATGCGGCAAACCTTTATCGTCCAATCCGGAGAAACCGAAATAT
TGGCGGAAATCGCGCAAGACAGGGCATTGCAGCTATTGTCGGAATGGATGGCGTTTTTCA
ATATCGGGCAAAACCGCCCGCTGCCGTTTTTTGCCAAAACCTCGCTTGCCACCGCCGAAG
CGTTTGCCCAAAAACAAGATTGGGAAGCCGCCCTGAAAAAAGCCCAAACCGCCTACCACG
GCAGCAAAGTCAGCAAAGGGCAGAAAGACTATACCGAAGTCGCCCTCGTGTTCGGCAACG
CAAGCCAAAACCCGCTCGAACAGCCCCTGTTTGAAAACCTCGTCCGTCTGCTTGCCGACA
CGCTTGCCGCAGCGGAAAAAAAAGGAAGAGGCCGGAGAAGCCTGACGGGATAGAAAGGCAA
ATGCCGTCTGAAAGCGTTTAAGCATTTCAGACGGCATTTTTATCGTGTTTAAGGTGC
GGGATAGAATGTGGGCGCGCCGGGACCGACGGGCAGGCCCAAAACAAATACCCAAATGCA
GAATAAGGCAATCCACGCAATCAAGAAGAAAGCGGAATACGGCAACATCATAGAAATCAG
CGTACCCACGCCCGCATCTTTTTTGTATTTGATCACCGTCGCCATAATCAGCCCGAAATA
ACTCATCATCGGCGTAATAATATTGGTAACGGAATCACCGATGCGGTAAGCGGCTTGAAT
GACTTCGGGCGCGTAGCCGGCCAACATCAGCATAGGGACGAAAATCGGCGCAGTTACCGC
CCATTGCGCGGAGGCGGAGCCTATCATCAGATTGATAAAAGCACAAATTAAAATAAAACC
GATAAACAACACGCTGCCGCCCAAGCCGACTTCTTTTAAGAACGTCGCCCCTTTAACGGC
AATATATTGCCCAATATTCGTCCAATTAAAAAAATGCGACAAACTGTGCGGCAAAAAAGAT
GATGACCAAATAAAGCCCCAGAGTACTCATCGATTCGGCCATCGCATTAACGACTTCCTG
TTCGCCGCGCAAACTTCGGGTTACCCGGCCATAAACAATGCCCGGCAGTGCAAACAACAA
GAAAATAAAAACAACAATCGATTTTAAAAACGGCGAACCGGAAACCAATCCTGTTTCAGG
ATGACGCAAAATACCGTCGGCAGGGACGATGCTCCAAGCCAATAGGGCGGATAAGGCAAC
AAACACCACGCCAGCCCAAATTAATCCTTTATATTCCAAAGGCGTGATTTCATTGGAATG
CCGAATGTCTTTTTCTTCTTGTGACAAATCTGATTGATAAGGGCCCAATTGCGGTTCGAC
GATTTTTTCAGTAACAAAATAACCAATCAAAGCAATCACAAACGTACTGGCTACCATAAA
AAACCAGTTGGCTTCAGGGCCTACGACGTAGTCGGGATGGATGATTTGCGCCGCCTGTTG
GGTGATGCCTGCCAAGAGCGGATCGATTGTGCCTAAGAACAGATTGGCCGAATAACCGCC
CGAAACGCCGGCGAAAGCCGCAGCCAGACCGGCAAGCGGATGGCGGCCGAGGGAATGAAA
GATGATGGCGGACAAAGGGATTAGGACGACATAGCCCAATTCAGAAGCGGTATTAGATAA
AATCCCTGTAAAAACAACCATAAAAGTAGTGAGTTTGCGTGGCGATTTTGTGAGCAATAA
GCGCATTAATGCGGAAATCAAGCCCGATTTTTCCGCAATCCCCACGCCCAATAAAGAAAC
CAACACCGTTCCCAACGGCGCGAAACCGGTGAAATTTTTAACGGTATGCGTCAGGATTTT
GATAAAACCGTCGGCATTGAGCAGGCTGACAATGTAAATCAAACCGTCATCGGCACGTCC
```

```
     TTTCGCACCAACAGGGCGCGGATCGGGGACGGATAGTCCGAAATACGCACCGACGGCAGA
     GGCAATCAGCAATAACACAATGAAAATAATAAAAAGCGTAACCGGATGCGGCAACATATT
     GCCCAGCCATTCGACTGTGCGTAAAAATCGTCCGTCCCGTTGCGTATCGGTTTGACTCAT
     CTGCTTCTCCTTAAAAAAATATATTGAGTGCATTAAATTTTTGAATGTAACATGAAGTGT
  5  TTTGTAAGCAAACTAAATAATCGCATATGTATATAACCGCAATAGATTAAAACAGAAAA
     TGCCCACATCGTTATTCTCATAAAGGCGGTAATCCGAAAACTTGACGTTAAAGCCTTATC
     AGGAATGACTGGAACTCAAAAAACGGTTTCCCGTTTTCGCGGAAATGGCGGGATTTTCAG
     TTTTTATTTGCAAAAATGCTGGAGAAAAATGCAGTTTACATTTTGAATGGTATTGTTATT
     AATTGTAAATAAATATTGGAAGGTAAATGATATGAAAAATGAAATTCAAAAAAATATGGA
 10  CAAATATAATCCCTGGCATGAAGATGATTTTGAGTCGTATGAAGACATTGCCAGAGATGT
     ATCGCTGACGACAGATAAAACGTTCATTGAACATTATTTGTTAGAAGTTTATTCAGAAGA
     AAACGGACATTTTGACCAAGAGAATGTCCATGCAATGATAGAAGAAATTAAAAATGCAAT
     TTAGTGAATATGAGACCTTTGCAAAAATAGTCTGTTAACGAAATTTGACGCATAAAAATG
     CGCCAAAAAATTTTCAATTGCCTAAAACCTTCCTAATATTGAGCAAAAAGTAGGAAAAAT
 15  CAGAAAAGTTTTGCATTTTGAAAATAAGATTGAGCATAAAATTTTAGTAACCTATGTTAT
     TGCAAAGGTCTCAATATGTATTTTTAGAAGAAGGCTTTGTGTCATTTTGATGCCGTCTGA
     AAGGGTTTGTTCGTTTCAGACGGCATTGCTACCAAGGCTTGATTATTTCCGGCGCAGGTC
     GGGATGGTTTTCCAAGTTGTCCATCATTATCCCGATGATGCGCGGGGCGGTTTTGCCCAA
     ATCGAAACGTTCGCAGGAAGAGAACCACCGCCAAATCAGCCCGTCCAAGGTTGATTTGAT
 20  GAAGATAACTGCCGTTTCCTTGTCCAAATCGTCAGCCAAATCCTGATTTTCCACCGCTTC
     GGTCAAAACGGCGGTAATTTTCTCGCGCCAGATTGCCTGATGCTTGCGGGCAATGGCGAT
     AACGGCGGCGTTTTGCTCCGTGTGTTCGCATTTTAAAAACAGGATGTTGTGGAATTTGTA
     GTAGATGTCGTTGCTTTGCAGCCGCTCGAAAAAGTGCAGCAGCGTGTGGCGGAATACCGC
     CCAAGACCCTCCTTCGGCATCTTCGGCATCTTGCGCGATGCAGTTTTCGATGTCGTCGCA
 25  GATACGTTGGAACAGCGCGTCGAACAAGTCTTCCTTATTTTTGAAATGCCAATAGAGCGC
     GCCGCGCGTTACGCCGGCGGCTTGGGCGATTTCGTTGAGCGAGGTGCGCGCAATCCCTTT
     GCGGTAAAAGGTTTCCAAGGCGGCAAGCATCAGGTGTTCTTTGGTTTTTAAGGCTTCGGT
     TTTGGTTTTTCTCATAATGGCGGTTTCGTTTCGGGTCGGTTTGATGAGGGCGGATTATAA
     AAAGACTTTGTAACCATGCAATCGTGTATGTATAATGAAACCCATGAAATTGAGACTAC
 30  ATCTCAACTTTGAAAACCCATGAAACCTGCTTCGCAACCCGTTTGAACATCGGGTTGGCG
     AAGCAGGCGGTTTTTATATCCTGAAATATAGTGGATTAACAAAAATCAGGACAAGGCGGC
     GAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAG
     AATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATA
     AGAATGCCTGTTGATTGGCAAAACCCTTTACATCAAACCAGACAGATAGGATAAATAATG
 35  GCTTTTTATGCTTTTAAGGCGATGCGTGCGGCCGCGTTGGCTGCCGCCGTTGCATTGGTA
     CTGTCGTCTTGCGGTAAAGGCGGAGACGCGGCGCAGGGCGGGCAGCCTGCTGGTCGGGAA
     GCCCCTGCGCCCGTCGTCGGTGTCGTAACCGTCCATCCGCAAACCGTCGCATTGACCGTC
     GAGTTGCCGGGGCGTTTGGAATCGCTGCGTACCGCCGATGTCCGCGCCCAAGTCGGCGGC
     ATCATCCAAAAACGCCTGTTCCAAGAAGGCAGTTATGTCCGTGCCGGACAGCCGCTGTAT
 40  CAGATCGACAGTTCCACTTATGAAGCAGGTCTGGAAAGCGCGCGCGCGCAACTGGCAACG
     GCTCAGGCAACGCTTGCCAAAGCGGATGCGGATTGGCGCGATACAAGCCTTTGGTTGCC
     GCCGAAGCCGTCAGCCGGCAGGAATACGATGCTGCGGTAACGGCGAAACGTTCTGCCGAG
     GCAGGCGTTAAAGCGGCGCAGGCGGCAATCAAATCCGCCGGCATCAGCCTGAACCGTTCG
     CGCATTACCGCGCCGATTTCCGGCTTTATCGGTCAGTCCAAAGTTTCCGAAGGTACGTTG
 45  CTGAACGCTGGCGATGCGACCGTACTGGCGACCATCCGCCAAACCAATCCGATGTATGTG
     AACGTTACCCAGTCTGCATCCGAAGTGATGAAATTGCGCCGTCAGATAGCCGAAGGCAAA
     CTGCTGGCGGCGGATGGTGTGATTGCGGTCGGCATCAAATTTGACGACGGCACAGTTTAC
     CCTGAAAAAGGCCGCCTGCTGTTTGCCGATCCGGCCGTCAACGAATCGACCGGTCAGATT
     ACCCTGCGCGCCGCCGTACCGAACGATCAGAATATCTTGATGCCCGGTCTGTATGTGCGC
 50  GTGCTGATGGACCAAGTGGCGGTGGATAACGCATTTGTTGTGCCGCAGCAGGCGGTAACG
     CGCGGTGCGAAAGATACCGTGATGATTGTGAATGCCCAAGGCGGTATGGAACCCCGCGAG
     GTAACGGTTGCGCAACAGCAGGGTACGAATTGGATTGTTACGTCGGGTCTGAAGGACGGG
     GACAAGGTGGTTGTGGAAGGCATCAGTATCGCCGGTATAACGGGTGCGAAAAAGGTAACG
     CCCAAAGAATGGGCGTCGTCTGAAAACCAAGCCGCCGCGCCTCAATCCGGCGTTCAGACG
 55  GCATCTGAAGCCAAACCTGCTTCTGAAGCGAAATAAGGAAGGCATCGATGGCTAAATTTT
     TTATCGACCGCCCCATTTTTGCGTGGGTTATTTCGATTTTCATTATTGCGGCGGGTATTT
     TCGGCATCAAAAGCCTGCCGGTTTCGCAATATCCGTCCGTCGCCGCCCCGACCATCACCC
```

-396-

```
TGAGGGCCACTTATCCGGGCGCGTCCGCGCAGGTAATGGAAGACAGCGTGCTTTCCGTGA
TCGAGCGGAATATGAACGGCGTGGAAGGTTTGGATTATATGTCCACTTCCGCCGATTCGA
GCGGCAGCGGCAGCGTGAGCCTGACCTTTACGCCCGATACCGACGAGAATCTGGCGCAGG
TGGAAGTGCAGAACAAGCTTTCCGAAGTATTGAGCACGCTGCCGGCAACTGTCCAGCAAT
ACGGCGTAACCGTATCCAAGGCGCGTTCCAATTTCCTGATGATTGTGATGCTTTCGTCGG
ATGTGCAGTCAACCGAAGAGATGAACGACTACGCGCAGCGTAATATCGTTCCCGAGTTGC
AGCGTATCGAAGGCGTGGGGCAGGTACGCCTGTTCGGCGCGCAACGCGCGATGCGGATTT
GGGTTGATCCTAAGAAACTGCAAAACTACAATTTGTCGTTTGCCGATGTTGGCAGCGCGC
TGTCCGCCCAGAACGTCCAGATTTCAGCGGGTTCTATCGGTTCGCTTCCCGCCGTTCGCG
GACAGACGGTTACGGCTACCGTAACGGCGCAAGGGCAGTTGGGTACGGCAGAAGAATTCG
GCAACGTCATCCTCCGCGCCAATACCGACGGTTCTAATGTTTACCTGAAGGATGTGGCAA
GGGTCGGACTGGGTATGGAAGACTATTCTTCCTCAACCCGTCTGAACGGTGTAAATACCA
CCGGTATGGCGGTGATGCTGTCCAACAGCGGCAATGCGATGGCGACGGCAAAGGCGGTTA
AAGAACGCATGGCGACGTTGGAAAAATACTTTCCTCAGGGTATGAGCTGGAAAACCCCTT
ACGATACTTCCAAATTCGTCGAAATTTCGATTGAAAAAGTGATTCACACTTTAATCGAAG
CGATGGTGCTGGTGTTTGTCGTAATGTATCTCTTCCTGCAAAACATCCGTTATACGCTGA
TTCCGACCATCGTCGTACCGATTTCGCTGTTGGGCGGTTTCGCCTTCATCTCTTATATGG
GCATGTCGATTAACGTACTGACCATGTTTGCGATGGTTTTGGTCATCGGCATCGTGGTCG
ATGACGCGATTGTGGTGGTTGAAAACGTCGAGCGCATTATGGCGGGTGAAGGCTTGCCGC
CCAAAGAAGCGACCAAAAAAGCGATGGGTCAGATTTCGGGCGCGGTCATCGGTATTACCG
CCGTTCTGATTTCCGTGTTCGTACCGTTGGCGATGTTCAGCGGGGCGACGGGCAATATTT
ACAAACAGTTTGCCCTGACGATGGCGTCATCAATCGCATTCTCCGCCTTCCTTGCGCTGA
CCCTTACCCCTGCTTTGTGTGCCACAATGTTGAAGACAATCCCGAAAGGGCATCACGAAG
AGAAAAAAGGTTTCTTCGGCTGGTTTAACAAGAAATTCAACAGTTGGACGCACGGTTACG
AAGGCCGGGTTGCCAAAGTGCTGCGTAAGACTTTCCGCATGATGGTTGTCTATATCGGCT
TGGCGGTTGTGGGCGTGTTCCTGTTTATGCGCCTGCCGACTTCATTCCTGCCGACCGAAG
ACCAAGGCTTCGTCATGGTCAGCGTGCAACTGCCTGCAGGAGCGACCCAAGAGCGCACCA
ATGCGACTTTGGCGCAAGTTACCCAACTGGCGAAAAGCATTCCTGAAATAGAAAACATCA
TTACCGTTTCCGGCTTCAGCTTTTCGGGCAGCGGTCAGAATATGGCGATGGGTTTTGCCA
TATTGAAAGATTGGAACGAGCGTACCGCGCCCGGCAGCGATGCCGTTGCGATTGCCGGCA
AGCTGACGGGTATGATGATGGGGACGCTTAAAGACGGTTTTGGCATCGCCGTCGTCCCGC
CTCCGATTCTGGAGTTGGGCAACGGTTCGGGTCTGAGCATCAACCTGCAAGACCGCAACA
ATACCGGCCATACCGCATTGCTGGCGAAGCGCAACGAGTTGATTCAGAAAATGCGTGCCA
GCGGTTTGTTTGACCCCAGCACCGTCCGTGCTGGCGGTTTGGAAGACTCGCCGCAGTTGA
AAATCGACATCAACCGTGCCGCGGCGGCGGCGCAAGGCATTTCGTTTGCCGACATCCGCA
CCGCATTGGCAAGCGCGCTGAGTTCGTCTTATGTCAGCGACTTCCCGAACCAAGGCCGTC
TGCAACGCGTGATGGTGCAGGCCGACGAGGATGCCCGTATGCAGCCTGCCGATATTTTGA
ACCTGACCGTGCCGAACAAATCCGGCGTCGCCGTACCGCTTTCCACCATTGCTACTGTTT
CTTGGGAAAACGGTACGGAACAGAGCGTACGCTTCAACGGTTATCCTTCGATGAAGCTGT
CCGCTTCGCCTGCAACCGGCGTTTCCACCGGGCAGGCTATGGCGGCGGTTCAAAAAATGG
TTGACGAATTGGGCGGCGGTTACAGCCTGGAGTGGGGCGGACAGTCGCGCGAAGAGGCAA
AAGGCGGCTCGCAAACCCTGATTTTGTACGGTTTGGCGGTTGCAGCCGTATTTTTGGTAC
TTGCCGCGCTTTATGAAAGCTGGTCGATTCCGCTGGCGGTCATCCTTGTGATTCCGTTGG
GTTTGATCGGTGCGGCTGCGGGCGTAACCGGGCGCAACCTGTTTGAAGGACTGTTGGGCA
GCGTTCCCTCGTTCGCCAACGACATCTACTTTCAAGTCGGTTTCGTTACCGTGATGGGTT
TGAGTGCGAAAAATGCGATTTTGATTATCGAATTTGCCAAAGACCTTCAAGCGCAAGGGA
AAAGCGCGGTTGAAGCCGCTTTGGAAGCCGCCCGCCTGCGTTTCCGTCCGATTATCATGA
CCTCGTTCGCCTTTATTTTGGGCGTGGTTCCCCTGTATATTGCCGGCGGTGCAAGTTCTG
CCAGCCAGCGCGCCATCGGTACAACCGTATTCTGGGGGATGCTCATCGGCACGCTCTTGT
CCGTGTTCCTTGTTCCGCTTTTCTATGTGGTGGTGCGCAAATTCTTCAAAGAAACCGCGC
ACGAACACGAAATGGCAGTAAAACACGCCGCCGAAGCGGGCATCACCGGTTCGGACGACA
GCCAACATTAAGCAACCATGCCGTCTGAACGCCCACGGGTTTTCAGACGGCATCAGGACT
TTTTTATGGATACTACATTGAAAACCACCTTGACTTCTGTTGCAGCAGCCTTTGCATTGT
CTGCCTGCACCATGATTCCCCAATACGAGCAGCCCAAAGTCGAAGTTGCCGAAACGTTCA
AAAACGATACCGCCGACAGCGGCATCCGCGCCGTCGATTTAGGTTGGCATGACTATTTTG
CCGACCCGCGCCTGCAAAAGCTGATCGACATCGCACTCGAGCGCAATACCAGTTTGCGTA
CCGCCGTATTGAACAGCGAAATCTACCGCAAACAATACATGATTGAGCGCAACAACCTCC
```

```
TGCCCACGCTTGCCGCCAATGCGAACGACTCGCGCCAAGGCAGCTTGAGCGGCGGCAATG
TAAGCAGCAGCTACAAAGTCGGACTGGGTGCGGCATCTTACGAACTCGATCTGTTCGGGC
GTGTACGCAGCAGCAGCGAGGCGGCACTGCAAGGCTATTTCGCCAGCACCGCCAACCGCG
ATGCGGCACATTTGAGCCTGATTGCCACCGTTGCCAAAGCCTATTTCAACGAACGTTACG
CCGAAGAAGCGATGTCTTTGGCGCAACGTGTTTTGAAAACGCGCGAGGAAACCTACAAGC
TGTCCGAATTACGTTACAAGGCAGGCGTGATTTCCGCCGTCGCCCTACGTCAGCAGGAAG
CCCTGATCGAATCTGCCAAAGCCGATTATGCCCATGCCGCGCGCAGCCGCGAACAGGCGC
GCAATGCCTTGGCAACCTTGATTAACCAACCGATACCCGAAGACCTGCCTGCCGGTTTGC
CGCTGGACAAGCAGTTTTTTGTTGAAAAACTGCCGGCCGGTTTGAGTTCCGAAGTATTGC
TCGACCGTCCCGATATCCGTGCTGCCGAACACGCGCTCAAACAGGCAAACGCCAATATCG
GTGCGGCACGCGCCGCCTTTTTCCCATCCATCCGCCTGACCGGAACCGTCGGTACGGGTT
CTGCCGAATTGGGTGGGTTGTTCAAAAGCGGCACGGGCGTTTGGTCGTTCGCGCCGTCTA
TTACCCTGCCGATTTTTACCTGGGGTACGAACAAGGCGAACCTTGATGTAGCCAAGCTGC
GCCAACAGGTACAAATCGTTGCCTATGAATCCGCCGTCCAATCCGCATTTCAAGACGTGG
CAAACGCATTGGCGGCGCGCGAGCAGCTGGATAAAGCCTATGACGCTTTAAGCAAACAAA
GCCGCGCCTCTAAAGAAGCGTTGCGCTTGGTCGGCCTGCGTTACAAGCACGGCGTATCCG
GCGCGCTCGACTTGCTCGATGCGGAACGCAGCAGCTATGCGGCGGAGGGTGCGGCTTTGT
CGGCACAACTGACCCGCGCCGAAAACCTTGCCGATTTGTACAAGGCACTCGGCGGCGGAT
TGAAACGGGATACCCAAACCGACAAATAACCGGTCGGGCAATAAAATGCCGGCGGATTCG
CATTTGAAGTGCAACTTTCCCTAACAGAAAAAGGCCAGTATGCGGTAGCATACGGCCTTT
CCTGCAAGAAAGATTGCCATGAGCTACACGCAACTGACCCAAGGCGAACGATACCACATC
CAATACCTGTCCCGCCACTGCACCGTCACCGAAATCGCCAAACAGCTGAACCGCCACAAA
AGCACCATCAGCCGCGAAATCAGACGGCACCGCACCCAAGGGCAGCAATACAGCGCCGAA
AAAGCCCAGCGGCAAAGCCGGACTATCAAACAGCGTAAGCGACAACCCTATAAGCTCGAT
TCGCAGCTGATTCAGCACATCGACACCCTTATCCGCCGCAAACTCAGTCCCGAACAAGTA
TGCGCCTACCTGTGCAAACACCACCGGATCACGCTCCACCACAGCACCATTTACCGCTAC
CTTCGCCAAGACAAAAGCAACGGCAGCACGTTGTGGCAACATCTCAGAATATGCAGCAAA
CCCTACCGCAAACGCTACGGCAGCACATGGACCAGAGGCAAAGTACCCAACCGTGTCGGC
ATAGAAAACCGACCCGCTATCGTCGACCAGAAATCCCGTATCGGCGATTGGGAAGCCGAC
ACCATTGTCGGCAAAGGACAGAAAAGCGCATTATTGACCTTGGTCGAACGCGTTACCCGC
TACACCATCATCTGCAAATTGGATAGCCTCAAAGCCGAAGACACTGCCCGGGCAGCTGTT
AGGGCATTAAAGGCACATAAAGACAGGGTGCACACCATCACCATGGATAACGGCAAAGAG
TTCTACCAACACACCAAAATAACCAAAGCATTGAAAGCGGAGACTTATTTTTGTCGCCCT
TACCATTCTTGGGAGAAAGGGCTGAATGAGAACACCAACGGACTCATCCGGCAATACTTC
CCCAAACAAACCGATTTCCGTAACATCAGTGATCGGGAGATACGCAGGGTTCAAGATGAG
TTGAACCACCGACCAAGAAAAACACTTGGCTACGAAACGCCAAGTGTTTTATTCTTGAAT
CTGTTCCAACCACTAATACACTAGTGTTGCACTTGAAATCCGAATCCAAGGCCGTCTGAA
ACGATAAGGTTTCAGACGGCATTTCTTTCTTTATAGTGGATTAACAAAAACCAGTACAGC
GTTGGCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATC
GGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCC
ACTATATGTTTGACGGTTGCGGTCAGGCTGCGCGGCGTGCCGTAAACGTGAATGTCGGGC
ATAGGGCGGTAGCGTTTGTTGAACACGTTTTCAAAGTCCAAACCGATGCGGGTGGATTTG
CCGATTTTGTAATGCGCGGTCAAATACAGTGTGGCGTAGGGGCGTTGGGTCAATGCGGCT
GCGGCGGCAGGGAAGAAACCGCCATACCCGTCGGCATCCCGAAGCCGAATACGGCAACGG
CAAGCGCAATCAGCAGCGTATAAAGCCCCGCCTGATAGCCTTTCAGCTTCAGGACGGTCA
GCGCGGCAAAGAAAAAGACGATGGGTAAGAGTGCGGCGGCGGCAGTCAGATACAGGCTGC
CGCCGATTGCCGTGTAGTTTTGAACCCAAGTTTCCATAATTGAACATCTCCGAAAATATT
TTTCTAATCGTCGGCAATAGTGGTCAAACCAATTAAAGCAACGTTGCATTACTTTACGAA
ACTTTAATATTTAGGTCAATATATtTTTGGGCGGTTCGGCAGATTTGAATCGGAGCTTTT
GTTTAAATCCTGTCAAAACAAATATTTGCATGAACAAAAATTGTAGTTTGGTGTAGTTTT
TTCTTGTGTTTCGGGGGCGGTGCGAGGTAAATrCCGTTGACGGCGGGAACGGCGTGTCAT
TAGAATCCGCCCTGATTGGTCAGTCCAATTTGATGTTTGATGTATAGTGGATGAACAAAA
ACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCT
TCAAGTGAATCG
```

-398-

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 37>:

gnm_37

```
     ATCGGCGCGGCAGGAGAAATTGTCGGCGCAGGCGATGCCGTGCAGGGCATAAGCGAAGGC
 5   TCAAACATTGCTGTCATGCACGGCTTGGGTCTGCTTTCCACCGAAAACAAGATGGCGCGC
     ATCAACGATTTGGCAGATATGGCGCAACTCAAAGACTATGCCGCAGCAGCCATCCGCGAT
     TGGGCAGTCCAAAACCCCAATGCCGCACAAGGCATAGAAGCCGTCAGCAATATCTTTATG
     GCAGCCATCCCCATCAAAGGGATTGGAGCTGTTCGGGGAAAATACGGCTTGGGCGGCATC
     ACGGCACATCCTATCAAGCGGTCGCAGATGGGCGCGATCGCATTGCCGAAAGGGAAATCC
10   GCCGTCAGCGACAATTTTGCCGATGCGGCATACGCCAAATACCCGTCCCCTTACCATTCC
     CGAAATATCCGTTCAAACTTGGAGCAGCGTTACGGCAAAGAAAACATCACCTCCTCAACC
     GTGCCGCCGTCAAACGGCAAAAATGTCAAACTGGCAGACCAACGCCACCCGAAGACAGGC
     GTACCGTTTGACGGTAAAGGGTTTCCGAATTTTGAGAAGCACGTGAAATATGATACGAAG
     CTCGATATTCAAGAATTATCGGGGGGCGGTATACCTAAGGCTAAGCCTGTGTTTGATGCG
15   AAACCGAGATGGGAGGTTGATAGGAAGCTTAATAAATTGACAACTCGTGAGCAGGTGGAG
     AAAAATGTTCAGGAAATAAGGAACGGTAATATAAACAGTAACTTTAGCCAACATGCTCAA
     CTAGAGAGGGAAATTAATAAACTAAAATCTGCCGATGAAATTAATTTTGCAGATGGAATG
     GGAAAATTTACCGATAGCATGAATGACAAGGCTTTTAGTAGGCTTGTGAAATCAGTTAAA
     GAGAATGGCTTCACAAATCCAGTTGTGGAGTACGTTGAAATAAATGGAAAAGCATATATC
20   GTAAGAGGAAATAATAGGGTTTTTGCTGCAGAATACCTTGGCAGGATACATGAATTAAAA
     TTTAAAAAAGTTGACTTTCCTGTTCCTAATACTAGTTGGAAAAATCCTACTGATGTCTTG
     AATGAATCAGGTAATGTTAAGAGACCTCGTTATAGGAGTAAATAAAAATGGCAATTTGGA
     ATTATCGGTACTACCTTATCCCATCAGCTGCTATCAGAAATAAATTTAATGCAAATAAAG
     ATATCATACTTGATGAGTATCGATCTAATGGTTTTCAGAATTTTAATGAGAATAAAAGTT
25   TTGAAAATTACTTTATCGATAATGATGTTATATTATTATCAATAATAAATGAAGCAAAAA
     AACAGCTTAAATTGAAAGAATCTTGGGATAAAGACGCAATCATGTTTTGTGATAATTTTG
     GTAATAGTCTTACCGTTTGGCCAGATGATATAGAGTGCGAACTTGATTTAAGATTTGATT
     ATACTAAATTTATTCAGAAAACCATTGATTGGGCAATAAAATATAATTGTCTACTTGTAA
     TAGAAAAAACAGGAAATGTAGTTTCCCCTAATATAAATAATCTGATGTATGAAATAAAAG
30   CATATTTGGAAAGCAAGCCGTGGCCCATATGAAACCTAAACTCAACAAGTAGGATGTGTG
     CGGAACGCACGTATGCGGTTCTCAAGGTTTGAGCTAAGAGGCCGTCTGAAAACAGAAAAA
     CTGTTTCAGACGACCTTTCTTTTAACCAGTTGCCACAGCAACCGGACAAAAGCAGCCTAC
     CTCCACATCCATATAGGCAATACAGGGGAGATATTTTGTAAATTCTACGAATATTTTACC
     TGCTAAACAGGGTAGGATATGGTATGAAGCGAACATTGGCTTAATAAACACTATGTCAAG
35   ATCGAATCAGGCTGGTACTAGATTGTTGTATTCCAATTATGGATTGCTATATATAACAAC
     TGATCATTATATCTCTGCAACACGGTTTGTAGCTTGGAAATAGGAGTATAACTTATGCAA
     TTAGAGATTATCGGTAGTAAAATTTATACGGAACAAGATTTTCATAATCAAATTTCAAAA
     ATATTTTCTATACAAGATTATTATGGGAACAATCTTGATGCTTTATGGGATTTATTAAGC
     ACAAATGTAGAACGACCGATTACTTTGGTATGGAAAGATGCTATGTTCTCAAAAAATCAA
40   TTAGAAAATATATTTATTGAAATCGTAAATGTTCTAGAAAGAGTTAAGAAACAAGATGAG
     GATTATGGATTCGAAGAAAAATTTAATTATATTTTAGAGTAAGTAAACCCTAATTACATT
     ACGTACACAGGCTTAAAAACTCCCCAGAGCCAATTAAGCAAGCCGTAACCCATATAAAACT
     TAAACTCAACAAGTAGCATGTGTGCGGAACGTACGCATGCGGTTCTTAAAGTTTGAGCTA
     AGAGGCCGTCTAAAAACAGAAAAACCGTTTCAGACGGTCTTTGTTTAACGCCACCGATCC
45   AGCGGGTTACAAAGCGCAGTCAATGCCGCTGCGCCTTATGCCTCCGAAGCAATAGGCAGA
     ACATTTGGACACGGTGAAAACAAAAACGAAACCGCCCAAGCCGTCGGACATTTCCTTTTA
     GGAGCAGCTATTGCCCGCGTCAACGGTGGTAATTTTGCTGCCGGCGGCTCGGCAGCAGTT
     GCAGCTGAAAAGGCGGCGGAACATCTTGCCCAACAGTATAACGACGGTAAAACCGCAATC
     GATCCGCAAACAGGCGAGTTCAATGCCAACCTGCTGCCGGAACATATCAAAGAGGAAATC
50   AAATCAAAGAGCGGGGTGATTGCATCGCTGACGGGCGCGGCCGTGGGCGGCACGCCGGTA
     GATGCGCAAACCGGAGGTGCGGTCGGACAGAATGCGGTGGAAAACAACCTCTATCTGACA
     TCGGAAGCCTTAAAGAAGGACAAGCAGACAGCTCGTAAAATTTATTCCGTCATAAAAGAG
     CAAGTCAAGCATGAATGCAGTTCCACAGGAAGAATTACCGAATGTCGTCAAAATATAGGA
     CGCATTATCGAATTTACCCAAGACAAACGCTTTGACAGTAGGTTTAAGGACTTAAAAAAA
```

-399-

```
     GAATCCTTATATTACCTAAATAAACATCCTGATTTAGTAGCCTCTTATTTGAAGGCTGAA
     TACGAAAAGCTGGATAGGGAAGACAAAAGTATCCTGCACCGCTACATCTCACCCGGGGCT
     GAAATCGTTTCGGGCAGTTTGGGGGTTGTTCTTTCAGGAGTAGCCGGAGGCGGATCTTGT
     GCCGAGACTTTCGGCTTAGGCTGTGCCGCCGCTTTGGTTGGTGTAACGTCTTCCTACGAT
  5  CATGTCATTACTGGGACGAAAAACTTCGGAAAAAAAGCCAGCGAGCAACGACCGACGATT
     GCGGTTCAGGCCTTGAAGCAGTTGGGGCTGTCGGAGCAGGCTGCGGAATATGTTCAGTTC
     TCTATAGATTTGTTCAGTGTGGGTAAATCGGGGGGCGGTATACCTAAGGCTAAGCCTGTG
     TTTGATGCGAAACCGAGATGGGAGGTTGATAGGAAGCTTAATAAATTGACAACTCGTGAG
     CAGGTGGAGAAAAATGTTCAGGAAACGAGAAGAAGGAGTCAGAGTAGTCAGTTTAAAGCC
 10  CATGCGCAACGAGAATGGGAAAATAAAACAGGGTTAGATTTTAATCATTTTATAGGTGGT
     GATATCAATAAGAAAGGCACAGTAACAGGAGGGCATAGTCTAACCCGTGGTGATGTACGG
     GTGATACAACAAACCTCGGCACCTGATAAACATGGGGTTTATCAAGCGACAGTGGAAATT
     AAAAAGCCTGATGGAAGTTGGGAGGTGAAAACGAAAAAGGTGGGAAAGTGATGACCAAG
     CACACCATGTTCCCAAAAGATTGGGATGAGGCTAGAATTAGGGCTGAAGTTACTTCGGCT
 15  TGGGAAAGTAGAATAATGCTTAAGGATAATAAATGGCAGGGTACAAGTAAATCGGGTATT
     AAAATAGAAGGATTTACCGAACCTAATAGAACAGCATATCCCATTTATGAATAGTAATAT
     TTATGAAAAATTAGGAGATTAATGATGAAAAGAATTAAGTGCTTTTGTGATAAATTTCCA
     TCAGGAGATACATTTAGAATGTGTATCATTCTGGATGACTATGATAATAGGGTTGATTAT
     TATGTAGGAATATATGATTACATTACGTCTACCTTAATGAGCGATATTTACTATCGATCC
 20  ACGATTGATGAGCATTTCAAGATTATAGAATTAATAGAAAATAATCCAAATGAAATTTAT
     GATGATGGCGGTGGTCAACAATTTTGCCTAGAATTTCATCATGATAAGGTCATTTTTTAC
     CACAATGAATTTGATGAAGAAGATGGTTATCCAGTATTAAGCTGTTCGCTGCATACTTTT
     AAAACTGCTTTAATTGCTTGGAATGCTTTTTTGCAATTGCCTAAAAGTATTCATTCGGTG
     GTGGAGACTGTGATTGAGGAATAAGCATAATTAGCTTAATGAATAGAATCAGCGATATAG
 25  ATTGGACTGCAAATCCACGCTTATACGCTGTGCCATGATTAAGATGTTAGAACTTGTATT
     GAATACAAGTTCTCATAAACGAATGGCAGTAAGCATTTGATTTAGATAAAATCCTTGAAT
     TAGAATAATCAGGTCTAAGAGCTCGACAGGACAAATGAGGCTGGCAACCAAGGATTTGGC
     GGAAGCCATTAGGAAAGGACAGGTTCGCAAATCAAGCTTTAACACAGAACAATTAAGGGC
     AATTGAAAAAGGAGAATCTAAAATACCGGATTACACTTGGCATCATCATCAAGATACAGG
 30  AAGGATGCAATTGATTCGTGAAGGCTTGCATCATGATACCGGCCATATTGGTTGGGAAGC
     AATGAACAAAGGAAGGTAACTATGTGGAAAATCATAAAAGAGGATAGTGATGATTTAGAA
     TTTGCAATTAAATGCTTATTCTCTCAGTCTATTGATTTAAATGAATTCAAGTTATGGATT
     GAACAAGTAATACGCGATATGCCCATCGAGGACATCCCTTTTTATATTTTTGATTTGGCG
     GATTTTGATGGGGGAATTGCCGATATTGACAATATTGTAGGTTTTGTTTCAAGTTGCAGA
 35  CTATCAAAATCGAAAAAAAATGCCTTGACCGGCATTGCCTTCTTAAGGGGGATAGATGTC
     TATGATCCGCCTATTTCAAAAGAAAAAGCATTAAAAGCCTTAGAGAAAACATCCTGAAATT
     TATCAGAAATTTCAGCATTTCTTTCCGTTTGTAGAACTGCCCCCGCTTTAAACAGTCAAA
     ATGCCGTCTGAAACGATATTCGGCTTTCAGACGGTATTTTTGATATAAAGCGGGTAACTA
     AAAGAGCGTTTGACGGCAAAGGAAGATAATTATGTGGAAAATCATAAAAGAGGATAGTGA
 40  TGATTTAGGATTTGCAATTAAATGCTTATTCTCTCAGTCTATTGATTTAAATGAATTCAA
     GTTATGGATTGAACAAGTAATACGCGATATGCCCATCGAGGACATCCCTTTTTATATTTT
     TGATTTGGCGGATTTTGATGGGGGAATTGCCGATATTGACAATATTGTAGGTTTTGTTTC
     AAGTTGCAGACTATCAAAATCGAAAAAAAATGCCTTGACCGGCATTGCCTTCTTAAGGGG
     GATAGATGTCTATGATCCGCCTATTTCAAAAGAAAAAGCATTAAAAGCCTTAGAGAAACA
 45  TCCTGAAATTTATCAGAAATTTCAGCATTTCTTTCCGTTTGTAGAACTGCCCCCGCTTTA
     AACAGTCAAAATGCCGTCTGAAACGATATTCGGCTTTCAGACGGTATTTTTGATATAAAG
     CGGGTAACTAAAAGAGCGTTTGACGGCAAAGGAAGATAATTATGTGGAAAATCATAAAAG
     AGGATAGTGATGATTTAGGATTTGCAATTAAATGCTTATTCTCTCAGTCTATTGATTTAA
     ATGAATTCAAGTTATGGATTGAACAAGTAATACGCGATATGCCCATCGAGGACATCCCTT
 50  TTTATATTTTTGATTTGGCGGATTTTGATGGGGGAATTGCCGATATTGACAATATTGTAG
     GTTTTGTTTCAAGTTGCAGACTATCAAAATCGAAAAAAAATGCCTTGACCGGCATTGCCT
     TCTTAAGGGGGATAGATGTCTATGATCCGCCTATTTCAAAAGAAAAAGCATTAAAAGCCT
     TAGAGAAACATCCTGAAATTTATCAGAAATTTCAGCATTTCTTTCCGTTTGTAGAACTGC
     CCCCGCTTTAAACAGTCAAAATGCCGTCTGAAAGCCATTTCCGCCGCTCAGACGGCATTT
 55  TCGCCCCTTTTGTTTACAAACCCTTAAAATCCCTTTACACTCAAAATCCGTTCAACATCA
     AACAAACCCCGCTATGAAAACCCTGCTCCTCCTCATCCCCCTCGTCCTCACAGCCTGCGG
     CACACTGACCGGCATACCCGCCCACGGCGGCGGCAAACGCTTTGCCGTCGAACAAGAACT
```

-400-

```
CGTCGCCGCATCGTCCCGCGCCGCCGTCAAAGAAATGGATTTGTCCGCCCTAAAAGGACG
CAAAGCCGCCCTTTACGTCTCCGTTATGGGCGACCAAGGTTCGGGCAACATAAGCGGCGG
ACGCTACTCTATCGACGCACTGATACGCGGCGGCTACCACAACAACCCCGAAAGTGCCAC
CCAATACAGCTACCCCGCCTACGACACTACCGCCACCACCAAATCCGACGCGCTCTCCAG
CGTAACCACTTCCACATCGCTTTTGAACGCCCCCGCCGCCGCCCTGACGAAAACAGCGG
ACGCAAAGGCGAACGCTCCGCCGGACTGTCCGTCAACGGCACGGGCGACTACCGCAACGA
AACCCTGCTCGCCAACCCCCGCGACGTTTCCTTCCTGACCAACCTCATCCAAACCGTCTT
CTACCTGCGCGGCATCGAAGTCGTACCGCCCGAATACGCCGACACCGACGTATTCGTAAC
CGTCGACGTATTCGGCACCGTCCGCAGCCGTACCGAACTGCACCTCTACAACGCCGAAAC
CCTTAAAGCCCAAACCAAGCTCGAATATTTCGCCGTTGACCGCGACAGCCGGAAACTGCT
GATTACCCCTAAAACCGCCGCCTACGAATCCCAATACCAAGAACAATACGCCCTTTGGAC
CGGCCCTTACAAAGTCAGCAAAACCGTCAAAGCCTCAGACCGCCTGATGGTCGATTTCTC
CGACATTACCCCCTACGGCGACACAACCGCCCAAAACCGTCCCGACTTCAAACAAAACAA
CGGTAAAAAACCCGATGTCGGCAACGAAGTCATCCGCCGCCGCAAAGGAGGATAAACCGT
GAAACCGCTGCGCAGACTGACAAACCTCCTTGCCGCCTGCGCCGTAGCGGCGGCCGCACT
CATACAGCCCGCCCTCGCGGCGGACTTGGCGCAAGACCCGTTCATTACCGATAACGCCCA
ACGGCAGCACTACGAACCCGGCGGCAAATACCACCTCTTCGGCGACCCGCGCGGCAGCGT
TTCCGACCGCACCGGCAAAATCAACGTCATCCAAGACTATACCCACCAGATGGGCAACCT
GCTCATCCAACAGGCAAACATCAACGGCACAATCGGCTACCACACCCGCTTTTCCGGACA
CGGACACGAAGAACACGCCCCCTTCGACAACCACGCCGCCGACAGCGCGAGCGAAGAAAA
AGGCAACGTTGACGAAGGCTTTACCGTATACCGGCTCAACTGGGAAGGACACGAACATCA
TCCCGCCGATGCCTACGACGGCCCGAAGGGCGGCAATTACCCCAAACCTACGGGCGCACG
AGACGAATACACCTATCACGTCAACGGCACAGCCCGCAGTATCAAACTCAATCCGACCGA
CACCCGCAGCATCCGGCAACGCATATCCGACAATTACAGCAACCTCGGCAGCAATTTCTC
CGACCGCGCCGATGAAGCCAACAGAAAAATGTTCGAGCACAATGCCAAGCTCGACCGCTG
GGGCAACAGCATGGAGTTTATCAACGGCGTCGCCGCCGGCGCGCTCAACCCCTTTATCAG
CGCGGGCGAAGCCGTTGACCAGTGGATGCAGGAAAACCCCAATGCCGCCGAAACCGTCGA
AGCCCTGGTCAACGTCCTGCCGTTTGCCAAAGTCAAAAACCTGACAAAGGCGGCAAAACC
GGGGAAGGCTGCGGTTAGTGGGGATTTCTCAGACTCCTACAAGCATAACACTGCTTCAAG
ATTATCTCAGTCTGTAGATGGAGAAATGTTTCAAACCCGCAATGTTGATTTTAAAGCAAA
ATCTATTGGGACTAAAATTCATGATGGAGCTCAAGGGAAACATATTTCAGGACATAGAAA
CTACATTGAAGGTAAGAGTACTTTAAATCAAAACATTAATCCTCAAGAATTGTTGAACGG
AATACATTCAGGTGCTTATCCAGTTATTTCTAAAGGAGCAAGAGGAAATCCTGTTGTTGA
TTTTGGGTATCCTATAGGCAGCGATGGGAAATCAGGATTAAGTACCAATTTTGGTACGAT
TCATTCAGGTAAAAATGGAGTTCACATTGTTCCGGCTAACCCTAAAACCATTAAAAAGGT
GCAATAGTTATGAATATATTACCAAGCTGGCTGCGAGTCGGTATGAATATAGCAATGCTG
GGCATGATACACTCAGATATCAGGTTAATTACCGTAGATTACGAGGAAGGAAGAAGGTTT
TTAAAAATCAAAAATTATTTATCAAGAGAAGCCATCACAGAAGACCATGAAGATATGGAA
TATTTGATTACAGAGTTATGGTCTATGTGTGGAGAATATTTTGATGAAGCTGACTTTGAA
TGTATTTATTCTAATCATTCTTCTATGGAGTTAAACCAAATAAATGGTGCAGTATTCAGG
AGAAAGGAATTAATTTCGCAAGCGTAGGTTAAAAAAACCAACAATCACAATGTCTTCTGA
AACCGTGTTTAATTTTCAGACGGCATTTCCTTCATTTGAAATAGGATATTGAGAACTGAG
TTCTTCAAAAATCCTACACCTGCTCCTTCCACGGCAGCACCTTGGTCAAAACGGCAGACG
GCTACAAAGCCATTGCCCGTATCCGAACCGGCGACCGCGTCTTCGCCAAGGACGAGGCAA
GCGGAAAAACGGGATACAAACCCGTTACCGCCCGATACGGCAATCCGTATCAAGAAACCG
TTTACATTGAAATTTCAGACGGCATCGGCAACAACCAAACCCTGATTTCCAATAAAATCC
ACCCGTTTTACAGTCAAGGAAATGGATACAGGCAGGTCGTCTGAAAAAAGGCGACACCC
TGCTTTCCGAAAGCGGCGCAAAACAGACGGTTCAAAACATTACCTTCAAACAGCAGCCGC
TCAAAGCCTACAATCTGACCGTCGCCGATTGGCATACCTACTTCGTCAAGGGCAGTCAGG
CGGAAACGGAAGGGGTTTGGGTTCATAATGATTGTCCGTATGATAAAGGCAACCAACGAT
ATAAAGACGCTTCTTATCATGGCAAAAATGATAATTCTGTGAAAGTAGAGCACCAACAA
ACGGACAAGCAGCTCTTGATAATTCCGTTCAAGTTAAATCAACTTCTCCTCGAAGAGTTG
GGGTTGATAAAGCCAATAATGAAATCGTTGTATTAAACAAAACTCAAACTTTTAATAACG
GTTCTGCGGAATATCACGGGCATGTCAGAAGTTGGCAAGATTTGCATACCGATCAGAAAA
ATGCTTTAAAAAAAGCAGGATTGGATTAGTTAATTCAAAAGGAAAAATTAAAAAATGACT
GATAAAGTAAAACAGAAAAGTTGATTTCTTCTGATGATAAACAAAGTGTTATAGATGGC
ATTCTTGATATGGTATTTAATTCCAAAGCATATGAAGTACCGTGGATTTCTGAGAAATTG
```

```
ACCCTGCGTGTATGGCAGGATCTCAATCAGGACGGCATTTCCCAAGCTAATGAATTGCGT
ACCCTTGAAGAATTGGGTATCCAATCTTTGGATCTCGCCTATAAAGATGTAAATAAAAAT
CTCGGTAACGGTAACACTTTGGCTCAGCAAGGCAGCTATACCAAAACAGACGGTACAACC
GCAAAAATGGGGGATTTACTTTTAGCAGCCGACAATCTGCACAGCCGCTTCAAAGACAAA
GTGGAACTCACTGCCGAACAGGCAAAAGCCGCCAATCTTGCGGGCATTGGCCGTCTGCGC
GATTTGCGCGAAGCTGCCGCATTGTCCGGCGATTTGGCCAATATGCTGAAAGCTTATTCT
GCCGCCGAAACTAAAGAAGCACAGTTGGCATTGTTAGATAATTTGATTCACAAATGGGCG
GAAACCGATTCGAACTGGGGCAAAAAATCGCCAATGCGACTTTCAACCGATTGGACGCAA
ACGGCTAATGAAGGTATTGCACTGACACCATCCCAAGTAGCACAACTAAAAAAGAACGCT
TTAGTTTCCCTTTCTGATAAAGCTAAAGCAGCTATTGACGCCGCCCGCGACCGCATTGCC
GTGCTTGATGCCTACACGGGGCAGGATTCCAACACACTCTATTACATGAGCGAGGAAGAT
GCGCTTAATATCGTCAAAGTAACCAACGATACATACGACCATCTCGCCAAAAACATCTAC
CAAAACCTGTTGTTCCAAACCCGTTTGCAGCCATATTTGAATCAAATCAGTTTCAAAATG
GAAAATGATACGTTCACTTTGGATTTTAGTGGTCTTGTTCAAGCATTTAACCATGTCAAA
GAAACTAATCCGCAAAAAGCTTTTGTGGATTTGGCCGAGATGCTTGCATATGGCGAACTT
CGTTCTTGGTATGAAGGCCGAAGACTAATGACCGATTATGTGGAGGAGGCAAAAAAAGCA
GGTAAATTTGAAGATTACCAGAAAGTGTTGGGTCAGGAGACCGTTGCATTATTAGCTAAA
ACATCGGGTACGCAAGCAGATGATATCCTGCAAAATGTAGGCTTTGGTCATAATAAAAAT
GTTTCTTTATATGGTAATGACGGCAACGACACTCTAATCGGCGGCGCCGGTAATGACTAT
TTGGAGGGCGGCAGCGGTTCGGATACTTATGTCTTCGGCGAAGGCTTCGGTCAGGATACG
GTCTATAATTACGACTACGCTACCGGACGCAAAGACATCATCCGCTTTACCGACGGTATT
ACAGCCGATATGCTGACTTTTACCCGAGAGGGCAACCATCTTCTTATCAAGGCAAAAGAC
GGCAGTGGACAAGTGACTGTTCAGTCCTATTTCCAGAACGATGGCTCAGGTGCTTACCGT
ATCGATGAGATTCATTTCGATAACGGCAAAGTACTGGATGTTGCCCACTGTCAAAGAACTG
GTACAGCAATCCACCGACGGTTCGGACAGATTGTATGCCTACCAATCCGGAAATACCTTA
AATGGCGGATTGGGCGATGACTATCTGTACGGTGCCGACGGGGATGACCTGCTGAATGGT
GATGCAGGCAACGACAGTATCTACAGTGGCAATGGCAATGATACGCTCGATGGAGGAGAA
GGCAACGACGCCCTGTACGGCTATAATGGTAACGATGCACTGAATGGTGGCGAAGGCAAT
GATCATTTGAACGGCGAAGACGGTAACGACACTCTGATCGGCGGTGCCGGTAATGATTAC
TTGGAGGGCGGCAGCGGTTCGGATACTTATGTCTTCGGCAAAGGCTTCGGTCAGGATACG
GTCTATAATTACGACTACGCTACCGGACGCAAAGACATCATCCGCTTTACCGACGGTATT
ACAGCCGATATGCTGACTTTTACCCGAGAGGGCAACCATCTTCTTATCAAGGCAAAAGAC
GGCAGTGGACAAGTGACTGTTCAGTACTATTTCCAGAACGATGGCTCAGGAGCTTACCGT
ATCGACGAGATTCATTTCGATAACGGCAAAGTACTGGATGTTGCCCACTGTCAAAGAACTG
GTACAGCAATCCACCGACGGTTCGGACAGATTGTATGCCTACCAATCCGGAAATACCTTA
AATGGCGGATTGGGCGATGACTATCTGTACGGTGCCGACGGGGATGACCTGCTGAATGGT
GATGCAGGCAACGACAGTATCTACAGTGGCAATGGCAATGATACGCTCGATGGAGGAGAA
GGCAACGACGCCCTGTACGGCTATAATGGTAACGATGCACTGAATGGTGGCGAAGGCAAT
GATCATTTGAACGGCGAAGACGGTAACGACACTCTAATCGGCGGTGCAGGCAATGATTAC
TTGGAGGGCGGCAGCGGTTCGGATACTTATGTCTTCGGCAAAGGCTTCGGTCAGGATGCG
GTCTATAATTACGACTACGCTACCGGACGCAAAGACATCATCCGCTTTACCGACGGTATT
ACAGCCGATATGCTGACTTTTACCCGAGAGGGCAACCATCTTCTTATCAAGGCAAAAGAC
GGCAGTGGACAAGTGACTGTTCAGTCCTATTTCCAGAACGATGGCTCAGGTGCTTACCGT
ATCGATGAGATTCATTTCGATAACGGCAAAGTACTGGATGTTGCCCACTGTCAAAGAACTG
GTACAGCAATCCACCGACGGTTCGGACAGATTGTATGCCTACCAATCCGGAAATACCTTA
AATGGCGGATTGGGCGATGACTATCTGTACGGTGCCGACGGGGATGACCTGCTGAATGGT
GATGCAGGCAACGACAGTATCTACAGTGGCAATGGCAATGATACGCTCAATGGAGGAGAA
GGCAACGACGCCCTGTACGGCTATAATGGTAACGATGCACTGAATGGTGGCGAAGGCAAT
GATCATTTGAACGGCGAAGATGGCAACGACACTCTAATCGGCGGTGCAGGCAATGATTAC
TTGGAGGGCGGCAGCGGTTCGGATACTTATGTCTTCGGCAAAGGCTTCGGTCAGGATGCG
GTCTATAATTACGACTACGCTACCGGACGCAAAGACATCATCCGCTTTACCGACGGTATT
ACAGCCGATATGCTGACTTTTACCCGAGAGGGCAACCATCTTCTTATCAAGGCAAAAGAC
GGCAGTGGACAAGTGACTGTTCAGTCCTATTTCCAGAACGATGGCTCAGGTGCTTACCGT
ATCGATGAGATTCATTTCGATAACGGCAAAGTACTGGATGTTGCCCACTGTCAAAGAACTG
GTACAGCAATCCACCGACGGTTCGGACAGATTGTATGCCTACCAATCCGGAAGTACCTTA
AATGGCGGATTGGGCGATGACTATCTGTACGGTGCCGACGGGGATGACCTGCTGAATGGT
GATGCAGGCAACGACAGTATCTACAGTGGCAATGGCAATGATACGCTCGATGGAGGAGAA
GGCAACGACGCCCTGTACGGCTATAATGGTAACGATGCACTGAATGGTGGCGAAGGCAAT
GATCATTTGAACGGCGAAGACGGTAACGACACTCTGATCGGCGGTGCAGGCAATGATTAC
```

TTGGAGGGCGGCAGCGGTTCGGATACTTATGTCTTCGGCGAAGGCTTCGGTCAGGATACG
GTCTATAATTACCATGTGGATAAAAACTCTGACACTATGCACTTTAAAGGATTTAAAGCA
GCAGATGTTCATTTTATCCGTTCCGGAAGTGATTTGGTGCTTAGCGCTTCTGAACAAGAC
AACGTACGTATTTCCGGATTTTTCTATGGTGAAAACCATCGTGTAGATACATTTGTCTTT
GATGATGCAGCTATCAGTAATCCAGATTTTGCCAAGTATATTAATGCTGGCAATAATTTG
GTACAGTCTATGTCTGTGTTCGGTTCTAATACTGCTGCGACAGGAGGAAATGTGGATGCC
AATATACAATCCGTACAGCAGCCGTTATTGGTAACGCCATCTGCATAAGGAGCCTAATCA
CATTCATGGCTTAAACTGAAAAACAGCAATCAAGTTTATTTTGATTGCTGTTTTTCTTAA
TATTGGGATAAGGGTCGTATTTTAATTAACCTTAATCGGTGCACTTCTAGCAATATAGTG
GATTCACAAAAACCAGTACAGCGTTGCCTCGCCTTACCGTACTATCTGTACTGTCTGCGG
CTTTGTCGCCTTGTCCTGATTTTTGTTAATCCACTATAATTAATATGACTTTGCGGCCGT
TTTGCCATTGCGTAATAAAACGATGGGGAAGTGATGATAAAACGTGTGTGTAACTATATC
AGACGGCATTGTTTTTCTGTTTGACGGCCTCAATCCAAAATTTTGCCGACGATTTCGCCC
ACGTCTTTCGACAATCCTTCCTGCGCCCGAATGCGCTGCAATGCTTGTTTCACCAAGTTT
TTGCGGTGCGGCTCGAGCTTGTTGCAGAGGTTGAACGCCTGCACTAAGCGGGCGGCGACC
TGCGGGTTGAAGCGGTCGATTTCGATGACTTTGTCGGCGATGAAGCGGTAGCCGCTGCCG
TCTTCTGCGTGGAAATGCGGGACGTTGCGGCTGAAGCTGCCGATGAGCGAACGGGCTTTG
TTGGGGTTTTCGAGGCTGAATTTCGGATGCTGCAAGGCGGTTCGAACCTGTTGCAGGGTG
TCGCTGCGGCGGCTTGAGCCGACGAGGGCAAAATATTTGTCCATCACCAGCGCGTCGTCT
GAAAACTTGTCGGCAAACTGCGCCAGCAGGCGGTTGCGCGTATCGCTTTCGTTGCCGTTG
ACGGCGGACAGGATGCCCCATTCGTGGGTCATGTTTTGCGCCATTTCGCCGTATTTTTCG
GCAACGGTTTCGATGTGCGCGGGGTCGGCGCGCAGGACAAAGGCGCGGCAGACGTTGCGC
AGCGTGCGCCAGCCGGCGGCTTCGGGGCTGTATTCGTAGCTTTGGTTTTCCTGCTTCGCC
GCCTGACGGTTCAATTCGTGCCATTTCGGCAGGAAGTGGACGGCAAGCGTATCCAACAAG
GCTTCGCGCGCCTGATGGTAGCGCAGCGGGTCGATGTTTTCTGCGCCGTCCCACAGCTCG
GCTTCGGATGGCACGCCCAAAAGCAGGGCTTTGAAGGCGTTGTCTAAGAGGTCGTCTGAA
ATGACTTTTTCGACGGCGGCAAGCAGTTTTTCGTGTTTCGGCAGCTCAACGCCGTCTGAA
AGCGTGGCAAGGTTGGCGGCGACGGCGCGGCGGTAGAGCGTTTGGGCGGCTTCCCAGCGC
GTGAAGGCGTCGCTGTCATGGGCGAGCAGGAGCAGCAGGTCGTCGTCGCTGTACGGATAG
TTCAGATGCACCGGCGCGCTGAACCCGCGCAGCAGCGAGGGAACGACGGCTTCGGTTACG
CCTTCGAGCAGGAAGGTCTGTTCGGCTTCGGTCAGCAGCAACACGGCTTCGGTCGCGCGT
TTGCCCTGATAGTCGAATGCCACCGCTTCGCCGTTGCGGTTCAGCAGCCCGACCTTGACG
GGAATCATCATCGGCTGTTTATCCGTCATATCGGGCGTGGGCGGCACGGTTTGTTTGACG
GTCAACTCGAAAATATTGTTTTTCAGACGACCTTCCGCTTCCAAAACGGGCGTGCCCGCC
TGGCTGTACCACAAGGCGAACTGGTCGAGATTGATGCCGTTCGCGTCCGCCATCGCCGCG
CGGAAATCGTCGCAGGTAACGGCCTGTCCGTCGTGGCGTTGGAAATAGAGCTTCATGCCT
TTCTGGAAGCCCTCTTCGCCGAGCAGGGTGTGATACATCCGCACTACTTCCGCGCCTTTT
TCATAAACGGTCATGGTGTAGAAATTGTTCATCTCCTCATAGCTGGCGGGGCGCACCGGA
TGGGCGGTCGGGCCTGCGTCTTCGGGGAACTGGTGCTGGCGCAGCAGGCGGATGTTTTCG
ATGCGGCGCACGGCGCGGCTGGCGCGGTCGCCGGAAAATTCTTGGTCGCGGAACACGGTC
AGCCCTTCCTTCAGCGAAAGCTGGAACCAGTCGCGGCAGGTTACGCGGTTGCCCGTCCAG
TTGTGGAAATACTCGTGTCCGACCACGGATTCGATGCCTTCGAAATCGGTATCGGTGGCG
GTGCGGCTGTCGGCAAGGACGAACTTGGTGTTAAAGATGTTCAAACCCTTGTTTTCCATC
GCGCCCATATTGAAATCGCCCACGGCGACGACCATGAAAATATCCAAGTCGTATTCCAAA
CCGAAGCGCGTTTCGTCCCATTTCATCGCGTTTTTCAACGATTCCACGGCAAAGCCGACC
TTGGGCTTGTCCGCTTCGGTGGTGTAAAACTCGATTTTGACGTTTCTGCCGCTCATGGTG
GTGAAATAGTCTTCCGTTACCGCCAAATCGCCCGCGACCAAAGCAAACAGATAGCTCGGT
TTGGAAAACGGGTCTTCCCATTTCACCCAATGGCGGCCGTCTGAAAACTCGCCGCCGTCG
ATTTTGTTGCCGTTGGAAAGCAAACGGGATAGCGTTTTTTGTCGGCGACGATGGTGGTG
GTGAACTTGGACATCACATCCGGACGGTCGATGTAAAATGTGATTTTGCGGAAGCCCTCC
GGCTCGCACTGGGTAAACAAATTGCCGCCGGAAGCATACAGCCCATCAGCGATTTGTTT
TCCGCCGGCAGGATTTCGGTTTCCACTTCGACGGTGAAGCGTTCGGACGGCACGCCCGCA
ATCGTCAGCGTCTCTCCTTCCAACACATAATCCGCCGCCGCCCCGTTGATTTTGACGGAC
AAGAGTTTCGCCGAACCGTCCAACACCAGCGGCTCCCCTACCCTCTGCGGCTCAACCGTC
AAACGCGACTTCACGACGGTTTGCGGTTCATTAATATCAAAATGTAAATCGGTTTTGAGA
ATATGGTAGGCGGGCGTTTGATAGTCTTTGAGATAATGCACGGTTTTGCTCATTTTTTTC
TTTCAATGTTATTTGTTTGACTGGAAAAGGCTTCAGACGGCACGGGCGCATCCCGCGTA
TGCCGTCTGAAGCCGCAGCGGCGGCACGGGCGCGCCGCCGGACAACCGGTTTGAATTCAA
TCTTTATTCCCACGCGCGGACAAACTCTTCCCAATGCGGCTTTTCCCCGGCTTGTGCGGA

-403-

CAGGTAATTCCGCATCCGTTTGATTTCCATTTCGTATTCGTCCGCATCCAGCCTGCCGCT
GACCAGACAGAAACGCAGGTACATCAGATAAGTGTTTGCCGCGTCGGTTTCGCAATAATT
GCGGATTTCCTTCAGCCTGCCCGTATGGAATGCCTCCCAAACCTTGCTGCCGTCCATACC
CAGCTTGCCCGGAAAACCGCACAGTTTCGCCATATCGTCCAGCGGCACGTTTGCCCTCGG
CTGGTAAAGCGCGAGCAAATCCATCAAATCGCAGTGGCGTTGGTGATAACGGCTGATGTA
GTTGTTCCACTTGAAATCGCGGCTGTCGCCGAAATCGCCGTCGCCCATATCCCAATAGCG
CGCGGCGTTGATGCCGTATATCAGGGAGCGGTAATGCAGTACGGGCAGATCGAAACCGCC
GCCGTTCCAACTGACCAGTTGCGGCGTATGTTTTTCAATCAATTCGAAAATTTAGCAAT
GACCACTTCCTCGCCGTCATCCATCTCGCCGATGGTGCCGACATGTACTTTATCCTGCCC
CCAACGCATGCAGCACGAAATCGCCACAACCTGATGAAGATGATGCTGCATAAAATCGCC
GCCCGTCTGAGCACGGCGTTTTGCTGGGCAAACAGCACCACTTCATCGTCGGGCAGCGA
GGACGGCAGCTCGTACAATGTTCGGATACCCTGCACATCGGGTACGGTTTCAATATCGAA
AGCCAAAATCGTGGTCATGACAGCACCTTGTATTTAAAACGGATGCACCTATTGTGTCAT
TAAAAGGCGGATAAAAAAGAGGCAACCCCCCACAGGATTGCCCCAATACCTCAAATCAG
AGATTTACGCTTCACAAACAATACAGGCTTTCGCCTGCGGCTTTACCCGCGTAGCTCAAC
TCTACGCCGGCAAACTTTCGTTTCACCGTTTCCGATGAAACCCCGACCAATCGCAAGACT
GACCGGAAAATCCTTTCAGACGGCATTTCCTGCCTGTCGTGTAATTCCATGTAGCGAAAT
GTACGCCATTTTCTACGCTTTGCCAAGCATTTTTTACAATATAAATGTCAAAACATTAAT
TTTATAAAATTGCTGAAAATATTAAATATATGGATTTTTATTTTTATATTTCAATAAAT
ATAAATTTAATTTTGATTTATATTTAAATTTAAGCATAAAATGTCAAATATTAAAGTAAA
CATGAAAGGCATATATTAAATATTTATTTATAACGCTATGTTTTTAAAGAAAATTAATTT
TAATATATTAACTAGATTGTCTGCATATATTCATAGGTTTGCGGTATTTCTTCCAAAACC
TGCTTCGAATTTCCCGACCAAGTCTTAAAAATATTGTTTTTGAGATACTTAAATAGCAGC
GATTATCAAATGAAATCTGTTCATATAATCTGCCATTTTGCATTTAAAAAAACAATCAGG
AGTTTCGACTCGAAACGCCTGATATGTTTTGTAATTTTACGTAGTCAGTAAAAATCGGGG
CTGCCTTCCGGACGGGTTTTAAAACGCTTGTGCAGCCAAAAATATTGTTCCGGATGTTCG
CGCACCCTGTCTTCGATAAAACGGTTCATGCGCTGCGCGTCGGCTTTCGCGTCTTCACCC
GGAAAGGATTTCCAAGCAGGGTAGAAATGCAATGTAACCGTATTGTCTGCCTCGCGGACG
GGAATGGCGGGTATCACTTTTGCATTTGCAAGCGCGGCAATGCGGCTCAATCCGGTAATC
GTTGCCGTCTGAATACCGAAAAAATCCACAAAAACCGAATCGTTGCGTCCGAAATCCTGA
TCGGGCAGATACAGAAACGGCGCGCTGCTTTTGCGGAACTGTTTGACGAGGGCGCGCAGC
CCTTCGGTGCGCCCGATAAGGAAGACGTTGTGATAGCGGTTGCGGCCTTTCAAAATCTGT
TCGTCCAATATCTTGTTTTTTTGATGGGAATACATACTGATCAGCGGGATATCCTGATTA
AGCGCGTACACCGCCATCTCGAACGCGGTGAAGTGCGGATACAGGATGATGACTTTTTCC
CCCGCCGCCAGCGCGTCGTCCAAATAATGCTTATTGCGGTAGCGCACCAGCGATTTCAAA
CGTCCGGCAGGCGCGTACCAATATAAACCGTATTCCAACATCAGTTTCGCCATGTGTTTG
AAATGCTGTTTCAACACGGTTTTACGCTTTTCCTCACTCCATTCGGAAAAACATTTTGCC
AAATTGATTTCGCCGATACGGCGGCGCGGTTTGACCAGAAGGTAGGCAAGCAAACCCGTC
AGGTCGGCAATCTTGTGCAGCAGCGCAAACGGCAGAAACTGCAAAACATACAGTACAAAA
AATATAAATTTCATCTCGATACACATTTTCTTTTCAGACGGCAAAATACAAATGCCGTCT
GAAACTATTGAAACCTGCCGCGCTTGACCTGCATCCCCGAAGGATTGAGTTTGGCGGCAA
GCCCGTGGTTGCGTAAGGCGTGGGTCAGCGCGACGGCAAGACCGTCCGCCGCATCCGGCT
GGGGCGTTCCCGAAAGTCCCAACATCTGCACCACCATATGCTGCACCTGTTCTTTTGCCG
CCTTGCCCTTGCCGACTACCGCCTGTTTGACCTGCAAGGCCGTGTATTCCGAAACGGGCA
GCTTATGGCTGACCAATGCCGCCAATGCCGCGCCCCTAGCCTGACCGAGCATCAGCGTCG
ATGCCGGATTGACGTTGACGAACACCTGTTCCACTGCCGCCTGTTGAGGCTTGTAAACGG
TAACGACTTCGCCGATGTGCCGGACGATGACGGCAATCCTGTCTGCCAGAGGCGCATCGG
CAGGCGTTTTGATGCAGCCGGAGGCGACGTAAAAATGATCCCGCCCCCTGACATCGATGA
CACCGAAACCCGTTACGCGACTGCCCGGGTCGATGCCTAAGATACGGACGCTTGCAGCCA
TATTCACAACAAACCGTGTTGAATCAGCTTCTTACGCAGGGTATTGCGGTTCAGCCCCAG
CATCACGGATGCTTTGGACTGGTTGCCGCCGCATTGCTCCATCACGCACACCAGCAGCGG
TTTTTCCACCTGATGCAATACCATATCGTACACGCCGCAAGGTTCGGTACCGTTCAGGTC
TTTGAAATATTGTTCTAAATTTTGTCTGATGCATTGGGAAATATCGGGAAGGGTATGGGG
CATGATTGCACTTTCAAAGGATAATCAAGTGTTCAGAAGGCATTTGGGCGGTAGGCGCAC
GCCCAACTGTCGGTTTTTTCGGCAAGTCTTTCAAGATAACCTGCAAGCATGTCGTATTGC
GCCGCCGCACTGTCCAAGCGGTTGATTTCACGACGTGTCTGTTCGCCGTCGGGCATTTCG
TCGATGTACCAGCCTATGTGTTTGCGTGCGATGCGCACACCGGCGGTGTCGCCGTAAAAC
GCGTGTATGGCGCGGATGTGGTTCAAAATAGCGGCGGCGCATTCTGCCAAACTCAAGGCA
GGCGGCAAAACACCGTGTTCGGCATAATGTTTCAAATCGCGGAAGAACCACGGCCTGCCT

```
TGCGCGCCGCGCCCTATCATAATGCCGTCGGCGGCGGTTTGTTTGAGGACGGCTTGGGCT
TTTTGCGGCGAAGTAATGTCGCCGTTGACCCAGACCGGGATGTTCAGACGGCATTTGGTT
TCGGCGATGAGTTCGTAACGCGCTTCGCCTTTGTACATTTGCGTACGCGTGCGTCCGTGG
ACGGCAAGGGCGGCGATGCCGCAATCTTCGGCGATTTTGGCGATGACGGGCAGGTTTTGA
TGGTCGTCGTGCCAACCCAAACGGGTTTTGAGGGTAACGGGTACGCCTGCCGCACGGACG
ACGGCTTCCAAAATGGCGGCAACCAGCGGCTCGTTCTGCATCAGCGCGCTACCGGCTTGG
ACATTGCAGACTTTTTTAGCGGGACAGCCCATGTTGATGTCGATAAGCTGCGCCCCAAGG
CTGACGTTGTAACGCGCGGCATCCGCCATCTGCTGCGGATCGCTTCCGGCAATCTGCACG
GCAACAATGCCGCCTTCATCGGCAAAATCGCTGCGGTGCAAGGTTTTTCTAGTATTTCTG
AGCGTCGGGTCGCTGGTCAGCATTTCGCACACCGCCCAACCTGCGCCAAAATCTCGGCAA
AGTCGGCGGAACGGTTTGTCGGTAATGCCCGCCATCGGCGCAAGTGCGATGGGGTTGTCG
ATAAAATAGCCGCCGATGTGCATAATGGATCCGCGTTTCAAAAAAGTACGCCATTGTACA
TTTTTTAAGCAGGATTTCCAATCTCCGGACGCGCCCGCGATTGGGTCGGACACCGTTTTA
TGGCATAATCCGCACACAGATTCCCTGCCCCGCCACTCACAGGCGGGCAGTTTATAGTGG
ATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGG
TGCTGAAGCACCAAGTGAATCGGTTCCGTACTATCTGTACTGTCTGCGGCTCGCCGCCTT
GTCCTGATTTTTGTTAATCCACTATATTTCCCCGTCCTATCGGTTTCCCGTTTCAGACGA
CATAAGGTCTGAAAGAAAGACTACAATTATGAGTAATCCATTTTCCTCTTTAGGTTTGGG
TACGGAACTCGTTTCCGCACTGACCGCGCAAGGTTACGAAAACCCGACGCCCATCCAAGC
CGCCGCCATTCCCAAAGCACTCGCCGGTCATGATTTGCTAGCCGCCGCGCAAACCGGCAC
AGGCAAAACCGCCGCCTTTATGCTGCCCAGTCTGGAACGCCTCAAACGTTACGCCACCGC
CAGCACCTCGCCCGCGATGCACCCCGTGCGTATGCTCGTCCTCACCCCCACGCGCGAACT
TGCCGACCAAATCGACCAAAACGTGCAGGGCTACATCAAAAACCTGCCGCTGCGCCACAC
CGTCTTGTTCGGCGGTATGAATATGGACAAACAGACCGCCGACCTGCGTGCCGGCTGCGA
AATCGTCGTCGCCACCGTCGGACGGCTGCTCGACCACGTGAAACAGAAAAACATCCATTT
GAACAAAGTCGAAATCGTCGTTTTGGACGAAGCCGACCGTATGCTGGATATGGGTTTTAT
CGACGACATCCGCAAAATCATGCAGATGCTGCCCCGCCAACGCCAAACCCTGCTCTTTTC
CGCCACCTTCTCCGCCCCGATACGCAAACTGGCGCAAGACTTCATGAACGCGCCCGAAAC
CGTCGAAGTCGCCGCGCAAAACACCACCAACGCCAACGTCGAGCAGCACATCATCGCCGT
CGATACCATTCAGAAGCGCAACCTGCTCGAACGGCTGATTGTCGATTTGCATATGAACCA
GGTCATCGTGTTCTGCAAAACCAAACAAAGCGTCGACCGCGTAACGCGCGAACTGGTGCG
CCGCAACCTGTCCGCACAGGCGATACACGGCGACCGTTCCCAACAAAGCCGGCTCGAAAC
ACTCAACGCCTTCAAAGACGGCAACCTGCGCGTCCTCGTCGCCACCGACATCGCCGCGCG
CGGGCTGGACATTGCCGAACTGCCCCTTCGTCATCAATTACGAAATGCCCGCCCAGCCCGA
AGACTACGTCCACCGCATCGGGCGCACGGGCGCGCGGGCGCGGACGGCGTGGCGATTTC
CCTGATGGACGAATCCGAACAGAAAATGTTTGAATCCATTAAAGAGCTGACCGGCAACAA
GCTGCTCATCGAGCGCATCGAGGGCTTCGAGCCGCAATGGTGGGAACAGGGCGGCGCAAA
ACCGGAAAAACCCGAAATGCGCGAACCGAGACAACGCAACCGCTACGAATCCGCCAAAGC
GCAACGCGAAAAAAACACCCGGCCGGAAAATGCGGCAAACGATGCGGGCGCGGCTTGCGG
AAAAATTGCCGGACGCAGCCGCCGAAGCCGCCGGGAACACCGGACGTGCGCCCTGCTCCA
ACCGCGTTACGGCGTAAAATAGCCCTGAAAATCAAATGCCGTCTGAACATTTCCCGTTTC
AGACGGCATTTTTCAAACCGGACTGACGCATCGGGAGCAACCGCCCGCACCGGATAAATT
TCTGCCGCAAACAGTTTCAGACGGCATTTGCCGCCTGTACAATATAGTGGATTAACAAAA
ATTAGGACAAGGCGGCGAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTG
CTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTT
AAATTTAATCCATTAATAGTGTATATTAAGTACGTCTGATATACACGATACCCTACGAGG
GTGTAAGCTTTAGTTCACATTTAAAATGACCTCTTTAAACCTGTCTTTCGGCAGGTTTCT
TTTTAGGTTGTTTGGAAATCGTGTGCAGACAAGGTGTAAAATAGGTAACAGCATAAAATA
ATGCGGTTTTACCGCCCATATATTTACAAAAGCCAAATTTTTAAACATATATCCTTGATA
TATACACGGCGTAAACATATACTGGAAACATCTTTAAATTTTCCGAAATTTTAAATATGA
GCAACTGGAAACCCAATATTCCCTATAACGATTTACCACCCCTGCCGCCAAAACAGGATA
TTGAAAGCAAAACCATCCTGAAACGTTGTATAGCCGCCCGTGCATCCCTTGCCCGTTTAA
AGCAGGCGGCAGAATTGATACCGAATCAAGCCATGCTGATTAACACCCTTCCTGTTATGG
AAGCCCGTGCAAGTTCGGAAATTGAAAACATCGTAACCACCACGGACAAGCTGTTTCAAT
CCCTGCAAATGGATACGGAACGGCAAGACCCTGCCACGAAAGAAGCCCTGCAATACCGCA
CCGCCCTGTTTGCAGGCTATGAATCACTGACGAGCCGCCCTTTATGCACACAAACCGCCA
TCATGGTCTGCAACGCCATCAAGCACCCCTACGAAATGGCCATCCGCAAAACAGGCGGCA
CAGCCCTAAAAGGAGGCAACAGCGGAAATGTTGTCTATACCCCGCCCGAAGGAGAAGAAA
CCATACGCGGCAAGCTGGCAAATTGGGAGCGGTTTATTCACGAAAGCGGCGATTTAGACC
```

```
CGCTTATCATCATGGCGGCGGCACATTACCAATTTGAAGCCATCCATCCGTTTACGGACG
GCAACGGGCGGACGGGGCGCATATTGAACAGCCTGCTATTGATTGAAAAAGGGCTTTTGG
ATTTGCCTATTTTGTATTTGAGCCGCTACATCATCGAAAACAGGGCGGACTATTACCGCC
TGCTTTTAGGCGTAACCGAACGGCAGGACTGGGAAAGCTGGATAATCTACATCTTAGACG
GCGTAGCTGACACCGCCGATTGGACGGTATCGAAAATAGATGCGATACGCCGCCTGTTCG
AGCAGACACGGCAACACATACGGACACACGCACAAGGAATCTACACGCACGAACTGGTAA
ATCTTCTGTTTGAGCAGCCATATACACGCATTGCCAACCTAGAAGCGGCAGGGATAGCCA
AACGGCAGACGGCCTCTAAGTACCTGAAAGAGCTTTCAGACATAGGTGTGCTGCAAGAAA
TCGTCATCGGCAGGGACAAACTATTCATTCATCCGCGCCTAATGGAACTATTGCGGGGAG
AGGGCAACAGCTTTACCTCATTCCAATCCCTCGTTAAAGCATAGCCAAAATAATCAATAA
TCCGGAGGTCAATATGGCAAGAAGGTCAAAAACATTTGAAGAAGCTGCTGCTGAGGTTGA
GGAACGTTTCGGTCATCGTGGCATTAAGTTGGTCGAGTTTGAGGGTACAGCCAAGCCGTG
TGTAATCAACTGCCCTAAACATGGAAACCAAACCTGTTCGAGGTACTCCAATATGTTCAT
AGGAAGTAGCTGGGGTTGCCCCTCTTGTGGTAATGAGCAAGCTGCAAAAGCCGGTATAGC
GACCCTTAGGAAGAATCACATAGCGTTAGAAATGCTGAAACAGGCTGTAACAGGTATGAC
CAAGCAAGAGCGCATCACGACGCAAGCCTACAATGAGATGACCAAATCCGTGGCAGGTTC
AAACAGCATAGTCCTTAACGATGTCCAAGGCGATACGACCATCAACAACCATCATACGCA
TACGCACAACCACAGCGATGCCGATGGCAAAGCACTGTCGATGAGGCTCACACCCCGTCC
TTTGTTGTCAGACCGTCAGGCGGCGGCTTTCGCCCGTACAGGCAAACTCACGGGCAGTTT
CGACCTGTTTGCTTCGGTGGTCGCCCCCTCGCAGTACACGTTTGCCGTTGCCATGCCCGA
CACGTCCATGTCGCCGGTTATCGAAAAGGGAGACTTGCTGGTGGTCGAGCCGCGTATGTG
CCCTGCGGACGAAGACATCGCGCTGATTGAACTGTCCGACAAGCGGCTGGTCGTCGCGCA
CCTTGTTATCGATATTGCGGGCAGGATGCTGATTTATCAGACGGGCAGGCCGTCTGAAGC
CTTTGACCTGCCCGAAGGCAGCACGATTTTAGGTGTGGTGCTGGAGTCAAAAAAACGGTTT
ATGTCCGCCGCACAGGCAAGAAGGCGTGTTGATTCGGATTACCGCCCCTGATGTGTGGAC
GGTTGGTATGATTTCCGCTTCCAAAACGTCGTGTACGCGCCCGACCGCAGCCCGGAAATC
AGCCGTATGCTTTCTTCGATTTTGGCAGGCTACGCGTGGGATACCGAAAACCCGTTCGTG
GCGAAATCCGAACAACGCCTGACTGCCTTGTCCGAATGGGTCGGTCAGTTGGAAACCGAA
TAAATCCGTACCGCCATACAAAATGCCGTCTGAATCCAATCGGGTTCAGACGGCATTGCC
ATTTCAACTGTTTTTATGATTACTCGGGGCGCATCTGCGGAAACAGAATCACATCGCGGA
TGGTTTGCGAATCGGTCAGCAGCATTACCAAGCGGTCGATACCGATGCCGCAACCGCCGG
TCGGCGGCAAACCGAATTCCATCGCGCGGATGTAGTCGGCATCGTAGTGCATGGCTTCGT
CGTCGCCCGCGTCTTTTTGCACCACTTGCGCTTTGAAGCGTTCGGCTTGGTCTTCGGGGT
CGTTCAACTCGGAATAGCCGTTTGCCAGTTCGCGGCCGACAACGAACAATTCGAAACGTT
CGGTCAGACCTTGTTTGGTATCCGAAGCGCGCGCCAACGGTGAAACTTCGACCGGGTAAT
CGACGATGAAGGTCGGATTCCACAGCTTGCCCTCGGCGCAACCTTCAAACAGCGCGAGTT
GCAGGCTGCCGATGCCCGGGGACGGCGGCAGGCTTTCGCCGTGTTTGACGATTTCTTTTT
TCAGCCATTCCGCATCGTTCAACTGCTCGTCGGTGTAGTGCGGATTGTATTTTTTGATGG
CTTCGAGAATGGTCAGGCGTTCAAACGGGCTTTCCAAATCGACTTCTTTGCCGTTGTAAG
TGATGTTTGCCGTGCCGTTTACCGTGCGCGATGCGTTGCGGATGATGTCTTCCGCCATCT
GCATCATGCGTTCGTAGTCGGAGAAGGCTTCGTAGAATTCGATCATGGTGAATTCGGGGT
TGTGGCGCACGGACATGCCTTCGTTGCGGAAGCTGCGGTTGATTTCAAACACGCGTTCCA
AACCACCGACAACCAGGCGTTTCAAATACAGCTCAGGCGCGATACGCAGGTAAAGCGGAA
TATCTAAGGCATTGTGATGGGTAACGAAGGGTTTTGCCGTCGCGCCGCCGGGAATCGGGT
GCATCATCGGGGTTTCGACTTCGAGATAATGCTCGCCCACCATAAAATTACGCACGGATT
GGATGATTTGGCTGCGTTTGATAAAGGTATTGCGCGATTCTTCATTGGCAATCAAATCAA
CATAGCGTTGGCGGTATTTGGTTTCCTGATCGCTCAAACCTTTGTGTTTGTCGGGCAGCG
GGCGTAGGGATTTGGACAGCAGGCGGATGCCGGACACGCGTACGGTCAGTTCGCCGTGGT
TGGTTTTGAACAAAGTGCCTTCCGCGCCGACGATGTCGCCCAAATCCCAATGGTTGAAGT
CGTCCAAAACTTCTTGGCTCACGCCTTTGTTGTTCAGATAAAGCTGGATTTGCCCGGACA
CGTCTTGAATGGTGGCAAAACTCGCCTTGCCCATTTGACGCTTCAGCATCATGCGGCCGG
CCACTTTGACGGGAATGCCTTGCGGATCGAGTTCTTCTTTGCCGATTTCGCCGTATTGGG
CGTGCAAATCGGCGGCGAAGCTGTCGCGTTTGAAGTCGTTGGGATAGGCGTTGCGCTGTT
GGCGGATGTTGTGCAGTTTTTCGCGGCGCAGGGCGATGATTTGGTTTTCGTCCAACTGCG
GCTCGGTTTGCGGATGGTTTTGTTCGCTCATAAGGTTTTCCGAAAAAATAAATCAGGCGC
AATCTGTTTCAGACGACCTGACCGAATCACAAAATTTGCGCATATTTTACGCGATGTCGG
CATTTTTTTCCATAAACGCGACAATGCCGTCTGAAAGCGGTTTGCGGTTTCAGACGGCAT
CGTTATCATTTGAACATTCCCGCCAAATTCAATAAGAACAAAACGGTAAAACCGGTCAGA
TAAATCAAGCCTGCCAATGCAAGGGCATTCATACCTGATGTGAGTTTGTGTTTTTCATCA
```

```
CCTTTAACCAAACGGTAATTCAGCCAGGCAAACACAGGGGCGGACACAAAAGCGGCAATC
ATCGCAAATTTGAGCAGATTCGCCATTACGCCGTCAAACCAGAAAATCACCGCCAAACCG
CTGCCCGCCACCCAAATATTCCAGGCAAAGAATTCGGCGTTGCCCGTTTTGTCTTTTCCG
CGCAGCAGGCGCACGGGTTCGGCAATGGCACGGGCATAGCCGTCCACGACGGTAATCGTC
GTGCCGTACATACAGGCAAACGCGATAAACGCCACCAGCGGGCGCGACCAGCCGCCGATG
GTAACGGCGTACATATTGATCAATTGCCCGATATATTTGCCGCCCGCCATCTGCACTGCT
TCGCCGTTGCCGTATTGCACAAACGCGCCCAGTGCAAGGAAAACCAAAGCCAAAACCGCA
CTGGCGATATAACCGACGTTGAAATCAAAAATCCCGTCGCGGTATTCGGAAGGATTGATG
CGTTGTTTTTCGGTTACCCACAAGAATTGATGGCGGAAATTTCAATCGGCGCGGGCATC
CAGCCCATCAGCGCGATCAGGAAGCCCAAACCGGCAAGCGTCCACGGTGTCGGCTCGATA
AAATCGGACTGCATCTGCATACCGCGCGACATAGCGATGCCGGCGGCGGCAAGCGTGGCG
ATACTCAAAGTAACGATGATGATTTTGGAAACGCGATCCAAAGCGCGGTAACGTCCGCTC
ACCAAAATAATCAGGCAGGATGCCATAATCAAGGCGGCAACCGTGCCGGCATCAAACATC
AGCGAGGGAATCGCCATTTTGACGATGGCGGCGGTTACAATGGCGACCGCGCCCGCGTTA
ATCGTGGCGGAGAGGATGCACAAAATCAGGAATACCCACAAATAAACGCGGCTTTTCTCG
GCATAACCTTCAATCAGGCTCTTGCCCGTGTCCAGCGTGTAATGCGCGCTGAAGCGGAAA
AACGGGTATTTGAAGAGGTTGGTCAGGATGATGATGAGCGCGATCTGCCAGCCGTAAAGC
GCGCCCGCCTGCGTCGAGGCAATCAGGTGCGAACCGCCGACCGCCGCCGAAGCCATCATG
ATCCCCGGACCCAATGCGTTGATTTTACTTTTCCAAGTCGAAATATGTTGTTCGGACATA
AAGTCTTCCGTATTTTTAACTGTGTTTCAACACACAGAGCCGCATATTCGGACACAGCCC
TATCTATTGCTCCAATTTGGGCGGGATTGCCCCCAAACAAACCCAAATCCTACCGTCTTC
AAAAACAGGATACCGCCCGGTAGGGAAATTTTGATGAAAACACGTATTGTAACGTAATCC
AAATACCTGCCAACACACACTATTAGAACTTCATGCTCAAACTTGACTATATTTTCCATA
TTACTTCCAAAAAAAGGCATAAAACGACATTTTATGCCTAAAATTTTACAACAAACAACC
TTACATCGCTTTTTTTCGCGCAAACACGCACCATCCGATCAGCCCGTCCGTTTTGCAGCAG
GCTGGCGATTTGATAAGATGGTTATGTTTTTCAGACGGCATTTCAGATTTCCGTCCATGC
CATCTGAAGCCGCAAAACCCGATTGGAGGAACTGTTATGAATACCGTATCGAATTATCTG
TCCGCATTACGCGAAGCCATGAAGGCGCAAGGCTTGGATGCACTCGTCATCCCTTCCGCC
GACCCCCACCTGTCCGAATACCTGCCCGAGCATTGGCAGGCGCGCCGCGAATTATCGGGC
TTTACCGGCTCGGTCGGCACGTTTGTCCTGACCACCGATGAAGCGGGCGTGTGGGTGGAC
AGCCGCTATTGGGAACAAGCCGCCAAACAGCTTGCGGGCAGCGGCATTGTGCTGCAAAAA
AGCGGGCAAGTGCCGCCGTACAACGAATGGCTCGCGGCAAGCCTGCCCGAAAACGCCGCC
GTCGGCATCCCTTCCGATATGGTCTCGCTCACCGGCAAACGCACTTTGGCGCAATCACTC
GCCGCCAAAAACATCCGCATCGAACACCCGGATAATTTACTGAATCAAGTGTGGACAAAC
CGCCCCGCCCTCCCCGCCGAAACGGTGTTCATCCACGACCCCGACTATGTTTCTGAAACC
GCCGCCGAAAAACTCGCCCGCGTGCGCGCCGTGATGGCGGAAAAAGGCGCGGATTACCAC
TTGGTTTCCTCGCTTGACGACATCGCCTGGCTGACCAACCTGCGCGGCAGCGACGTGCCT
TTCAATCCCGTTTTCGTGTCCTTCCTGCTGATTGGCAAAGACAACGCCGTCCTGTTTACC
GACCGATGCCGTCTGAACGCCGAAGCCGCCGCCGCGCTGCAAACCGCCGGCATCGCGGTC
GAACCTTACGCCCAAGTTGCCGACAAACTCGCGCAAATCGGCGGCGTGCTGCTCATCGAG
CCGAACAAAACCGCCGTCAGCACGCTTGTGCGCCTGCCCGAAAGCGTGCGCCTTATCGAG
GGAATCAACCCATCCACGCTGTTCAAATCCTGCAAATCCGAAGCCGACATCGCCCGCATC
CGCGAAGCGATGGAACACGACGGCGCGGCGTTGTGCGGTTTCTTCGCCGAGTTTGAAGAC
ATCATCGGCAACGGCGGCAGCCTGACCGAAATCGACGTGGACACCATGCTTTATCGCCAC
CGCAGCGTGCGCCCAGGCTTCATTTCATTGAGTTTCGACACCATCGCAGGCTTCAACGCC
AACGGCGCACTGCCGCATTACAGCGCGACACCCGAAAGCCACAGCACCATCAGCGGCAAC
GGGCTTTTGCTCATCGACTCCGGCGCGCAATACAAAGGCGGCACGACCGACATCACCCGC
GTCGTCCCCGTCGGCACGCCGAGTGCCGAACAAAAAAGCGACAACACCCTCGTTCTCAAA
GCCCATATCGCGCTTGCCGAAGCCGTGTTCCCCGAAAACATCCCCTCGCCGCTGATTGAT
GCGATTTGCCGCAAACCCCTGTGGCAGGCGCAATGCGACTACGGCCACGGCACCGGACAC
GGCGTAGGCTATTTCCTCAACGTCCACGAAGGCCCGCAGCGCATCGCCTTCGCCGCCCCC
GCCACGCCCGAAACCGCCATGAAAAAAGGCATGGTTACCTCCATCGAACCCGGACTCTAC
CGCCCGGGAAAATGGGGCATCCGCATTGAAAACCTTGCCGCCAACCAAGCCGTCGCCGCC
CCTCAAGAAACCGAATTCGGCAGCTTCCTCTGTTTTGAAACCCTGACCCTCTGCCCCCATC
GACACCCGCCTGATGGACACCGCCCTCATGACCGACGGCGAAATCGACTGGGTCAACCGC
TACCACGCCGAAGTCCGCCGCCGCCTCGAGCCGCTGACCGAAGGCGCGGCAAAAGCGTGG
CTGATCAAACGCACCGAACCGCTGGCGCGTTAAACAGCACGGCGCAAAAAATGCCGTCTG
AAAGCCCTTCAGACGGCATTGGTTTCCCAAAACATCCCGCACCGTTTTCATCTTGCCGCA
AGCAAATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAA
```

```
TAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTA
AGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCGCTATATTCCGCCATCTCTAAGATT
TACAGCGATACACGGGTGATTTAAGGAATGCCCGAACCGTCATTCCCGCCACTTTTCGTC
ATTCCCACGAAAGTGGGAATCTAGAAATAAAAAGCAGCAGGAATTTATCGGAAATAACTG
AAACCGAACAGACTAGATTCCCGCCTGCGTGGGAATGACAATTCGAGACCTTTGCAATAA
CATAGGTTACTAAAATTTTATGCTCAATCTCATTTTCAAAATGCAAAACTTTTCTGATTT
TTCCTACTTTTTGCTCAATATTAGGAAGGTTTTAGGCAATTGAAAATTTTTTGGCGCATT
TTTATGCGTCAAATTTCGTTAACAGACTATTTTTGCAAAGGTCTCACTATATGTGCAAAC
CAAGCCAAAAATGCGAAATACCGTCTGAAAATCTTTCAGACGGTATTTGCTGTCTTTATT
GCCGTTTTTCTTCCGTATCCGGATTTTTGTTTGGGGCTGAAGCAGATTGGCAGTCAGATT
GCAATCAAAGAATGAAGGCGAGCCGTCAAAAACAAAGCTATCCGCTTCACCGCCCCGATA
TTTAGAATTTGTGGCGCAAACCGACGGAGGCGGCATTAATTTGAGTGTAGTTGCCGATGC
CGGTATTGCGTTTCAGCCAAGCGCCAGACACGATGGCGGAAGTGCGTTTGGAAAAATCAT
AATCAACGCCGGCGATGATTTGATCGTAGCTGGTATTTTCGCCTTTTTTACCGCGTTCGA
TAAAGTCGAAACCATGGGCATAGCTGATGCGTGGAACTGCATTACCGAAGCGGTAGGAAG
CAGTGGCGGCAATTTCGGTCGTACTGTTTTTGGTTTTGTCGCCATTTTCAGACAAATCCA
ACTGAGCCGCCAAGGCGAGATTCAAGCCGCCTTCCTCATAGCCGCCCGTCAGACGGTGTA
CCTGATGGTTTTTCAAGGGATCGGTACCTTTGGCTTGATCACTCCCGCTGCCGATCAAGA
ACAACTCAAAAGCATTACGTCCGACATTGGCGTGTCTCGCATATTTAAGGCATAGTTCC
CGGCAAAACCGCCATTTTTGTAATTCAGACCGGCATAATACACATCCGATCCGGGCTTGC
CGACAACAGCCGGAACGAGAGTAAGATTATTGTTTGTATTCTTAGTATAATAAGCCGGCG
TATAGGCGGACTTGCTGTTTTGGATCGGAACGAATTGAACGCTGCCGCTGAAACCGGAAA
ATTCGGGGGAATCGTAGCGTACGGAAACCGGCATGTCGTCGTGGCGTTTGAAAATACCCA
ATTGCGAAGCCACATCATTATTGCTGTCCCAAGGATCAATGGCTTGGCTGGCATCGTCAA
ACTGATTCGCAACGCGACCGGCGCGCAGCGTACCGAATTCGCCTGCCAAGCCGATAAAGG
ATTCCCTGTTGCCCCACTGGGTCGCGCCGCCGCCGGCAACGGATACGTCTTGCTCAAGCT
GCCAAACAGCCTTCAGCCCGTCGCCCAAATCCTCACTCCCCTTAAAGCCGATAAACGAGC
CGAAATCACTGATTTTCGTCCTGATGCGGCTTTTGGCCTTAGTAACTTTAGTAACTTTTA
CCTGACCGCTCGCTCCACCGTTAGCGGCTTGTGCTTCAGTCAATTGCAGCTGGTAGTTCC
TGCCTTCCACGCCGGCTTTGATTTCGCCGTATAGGCTGACATCGGCAACGGCCGCAAGCG
GCAGTGCGGACAATACGAGGGCGGTAAGTTTTTTTCGCATATCGGCTTCCTTTTGTAAAT
TTGATAAAAACCTAAAAACATCGGGCAAACACCCGATACGTCTTCAATTATACCCCCCCC
CCCGCAAAAAACCATTTTTCAGAACAAATATCTGATAAATGCCGCAACCTTTATTTTAAA
AATGATTATATTTTGATATAAAACAATAGCTTATTTTTTCAAAAACGTTGTGTTTCTACA
ACACAATTCAAGCGCAGACCTCGTGCGAGCCGATGCGCTGCTGCCCGGATGCAGTCTCGG
CTTTTTAAAACGCCATAAAAAAACACACGCGGCACTTTATAGTGGATTAACAAAAACAAG
TACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAG
TGAATCGGTTCCGTACTATCTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGT
TAATCCGCTATAAAGACCATCGGGCATCTACAGCCGTCATTCCCGCGCAGGCGGGAATCT
AGAATTTCAATGCCTCAAGAATTTATCGGAAAAAACCAAAACCCTTCCGCCGTCATTCCC
ACGAAAGTGGGAATCTAGAAATGAAAGCAGCAGGAATTTATCGGAATGACCGAAACTG
AACGGACTGGATTCCCGCCTGCGCGGGAATGACGGGATTTTAGGTTTCTGATTTTGGTTT
TCTGTTTTTGAGGGAATGACGGGATGTAGGTTCTTAGGAATGACGTGGTGCAGGTTTCCG
TACGGATGGATTCGTCATTCCCGCGCAGGCGGGAATCTAGAATTTCAATGCCTCAAGAAT
TTATCGGAAAAAACCAAAACCCTTCCGCCGTCATTCCCACGAAAGTGGGAATCTAGAAAT
GAAAAGCAGCAGGAATTTATCGGAAACGACCGAAACTGAACGGACTGGATTCCCGCCTGC
GCGGGAATGACGGGATTTTAGGTTTCTGATTTTGGTTTTCTGTTTTTGAGGAATGACGGG
ATGTAGGTTTTCTTAACCCTGCGTCCTAGATTCCCACTTTCGTGGTAATGACGGGATGTG
GGTTCGTGGGAATGACGTGGTGCAGGTTTCCGTGCGGATGGATTCGTCATTCCCGCGCAG
GCGGGAATCTAGACCTTAGAACAACAGCAATATTCAAAGATTATCTGAAAGTCCGAGATT
CTAGATTCCCGCTTTCGCGGGAATGACGAAAAGTGGTGGGAATGACGGTTCAGTTGCTAC
GGTTACTGTCAGGTTTCGGTTATGTTGGAATTTCGGGAAACTTATGAATCGTCATTCCCG
CGCAGGCGGGAATCTGGAATTTCAATGCCTCAAGAATTTATCGGAAAAAACCAAAACCCT
TCCGCCGTCATTCCCACGAAAGTGGGAATCTAGAAATGAAAAGCAACAGGAATTTATCGG
AAATGACCGAAACTGAACGGACTGGATTCCCGCTTTTGCGGGAATGACGGGATTTTAGGT
TTCTGATTTTGGTTTTCTGTTTTTGAGGGAATGACGGGATGTAGGTTTTCTTAACCCTGC
GTCCTAGATTCCCGCTTTTGCGGGAATGACGGGATGTGGGTTCGTGGGAATGACGTGGTG
CAGGTTTCCGTGCGGATGGATTCGTCATTCCCGCGCAGGCGGGAATCCAGACCTTAGAAC
AACAGCAATATTCAAAGATTATCTGAAAGTCCGAGATTCTGGATTCCCGCTTTCGCGGGA
```

```
ATGACGAAAAGTGGTGGGAATGACGGTTCAGTTGCTACGGTTACTGTCAGGTTTCGGTTA
TGTTGGAATTTCGGGAAACTTATGAATCGTCATTCCCGCGCAGACGGGAATCTGGAATTT
CAATGCCTCAAGAATTTATCGGAAAAAACCAAAACCCTTCCGCCGTCATTCCCACGAAAG
TGGGAATCTAGAAATGAAAAGCAGCAGGAATTTATCGGAAATGACCGAAATTGAACGGAC
TGGATTCCCGCCTGCGCGGGAATGACGAATTTTAGGTTTCTGATTTTGGTTTTCTGTTTT
TGAGGGAATGACGGGATGCAGGTTTTCTTAACCCTGCGTCCTAGATTCCCGCTTTTGCGG
GAATGACGGCGACAGGGTTGCTGTTATAGCGGATGAACAAAAACCAGTACGGGGTTGTCT
CGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTTCG
TACTATCTGTACTGTCTTCGGCTTCGTCGCCTTGTCCTGATTTTATTAATCCACTATAA
TTTCCTGCGTGTGTCGGGTGTATCGAAATCAAGCCGAATCAAATATATCGGACTTCGATA
ATGTCGTATTCGCGCACGCCGCCCGGGGCTTGGACTTCCGCCGTATCCCCCTCTTCCTTG
CCGATTAAGGCGCGGGCGATGGGTGAGCCGACATAGATTTGCCCTGTTTGATGTCGGCT
TCGTCTTCGCCGACAATTTGATAGATAACGTGTTCTTCCGTTTCCAAATCTTCCAGCGTA
ACCGTCGTACCGAACACGATTTTGCCTTCGGCGTGGATTTCGGTCGGATTGATGATGTGG
GCAACGGAAAGTTTGTGTTCCAGCTCGGAAATGCGGCCCTCGATAAAGCCTTGGCGTTCT
TTGGCGGCTTCGTATTCGGCGTTTTCGGACAAATCGCCGTGCGAACGGGCTTCGGCAATC
GCTTCGATCACTTCGGGACGCGCCACGCTTTTGAGCTGCTGCAATTCCTGTTTCAGCAAT
TCCGCACCGCGTACGGTCAGGGGGATTTTTTGCATCGGTCTTTTTTCTCCATATTCCGGC
ACACCGGTTTGCGGCAGCAAGCATACCGCGTACCGTCTTGTTTTGTGCGTCCGGATATTA
AAATAAAAATACAAGCCGCCCGGAAAATCGGCGGCTTGTCTGTCGTTGAACAGCGGCTAT
TCTACCAAATTCTATGAAATTGGCAATCGTGCCGCGCCGCCGGCAAACGCGCCATGTCCG
CAACAAAAGCTGAAAATATGCCGACAAAGAAATTTTAGAAACAAAAAATTTAAAAATAAT
CAATTTTCGGCATAAAAAACCACATTTACGGACTTTAAAACCGAAAATGCCAAGCCTGAG
ATTTTTCATACAGCATTTGCACCAGTATAATGCAGGCTGTTTTTATCTTTAATAATATTG
ACGTTTTGCCATGACCGAATCCGTCCGCCTCCCCGTCGCCCGTCTCAAACCTTCCACCGT
CGCCCTGCCCGGCTCCAAAAGCATCAGCAACCGCACCCTGCTGCTTGCCGCCTTGTCCGA
CAATGCTTGCGAAATCCATTCCCTGCTCAAATCCGACGATACCGACCGTATGCTCGAAGC
ACTCGATAAACTCGGCGTTCAAATCGAATATCTTGCCGAAGACCGTCTGAAAGTGCACGG
CACAGGCGGACGCTTCCCCAACCGCACTGCCGATTGTTTTTGGGCAACGCGGGCACGGC
GTTCCGCCCGTTAACCGCCGCTCTGGCCGTTTTGGGCGGCGATTATCATCTGCACGGCGT
GCCTCGTATGCACGAACGTCCTATCGGCGATTTGGTCGATGCGTTGCGGATTGCCGGGGC
CGATGTCGAATATCTCGGCAAGGAACACTATCCGCCGCTTCATATCGGCGAACGCCAAGA
CAACGGCGAGCGCGTGATTCCGATTAAAGGCAATGTGTCCAGCCAGTTTCTGACCGCCCT
TTTAATGGCGTTGCCGCTGACCGGGCAGGCGTTTGAAATCCGTATGGTCGGCGAATTGAT
TTCCAAGCCCTATATCGACATTACTTTAAAACTGATGGCGCAATTCGGCGTACAGGTTAT
CAATGAAGGCTACCGCGTCTTCAAAATTCCCGCCGATGCGCACTACCACGCGCCCGAACA
CTTGCACGTCGAAGGCGATGCCTCCAGCGCGTCCTACTTCCTCGCAGCCGGTTTGATTGC
CGCCACGCCCGTCCGCGTTACCGGTATCGGCGCAAACAGCATACAGGGCGATGTCGCCTT
TGCCCGCGAGCTGGAAAAAATCGGGGCGGACGTGGTTTGGGGCGAAAACTTCGTCGAAGT
TTCACGCCCGAAGGAACGTGCCGTCCAATCCTTTGATTTGGATGCGAACCATATCCCCGA
TGCCGCCATGACCCTCGCCATCGTCGCGCTTGCTACAGGGCAAACCTGCACGCTGCGCAA
CATCGGTTCGTGGCGCGTCAAAGAAACCGACCGCATCGCCGCAATGGCAAACGAGTTGCG
CAAACTCGGGGCAAAAGTCGTCGAAGAAGCCGAAGCAATTCACATCACCCCGCCCGAAAC
GCTGACACCCGACGCCGTCATCGACACGTACGACGACCACCGCATGGCGATGTGTTTCTC
GCTGGTTTCGCTGTTGGGCGTACCCGTCGTCATCAACGATCCGAAATGCACCCACAAAAC
CTTCCCGACTTATTTCGACGTGTTCTCATCGCTGACCGAAACAGCGGAATAAGGCGGCAT
TTTGCCGCGATTCCGGCGCGGCGCGGCGGGCGGCTCATTCTGTAAAAAAAGTATGTGCGC
CGAGGTAGTTTTTGGCGTAAAACGGTGTGGAGAGTTTTTCGGTTTTGATGGTTTTGCCGC
TGCTGGGGGCATGGATGAATTCGCCGTTGCCGATGTAGAGTCCGACGTGTGAGTAGCGGT
GTGCGCCGCCGGTGTTGAAGAATACGAGGTCGCCGGCCTTGAGGCGGCTGTCGGGGATTT
TGCGGCTTGCCGCCGCCATGTCGCGGGCGGTGCGCGGCAGCTTGACGTTGAGGGCGTTTT
TGTAAACGAATTGAATCATGCCGCTGCAATCGAAGCCGGTTGCGGTGCTGCTGCCGCCCC
ATTTGTAGGGCGTGCCGATGAGTCCGAGGCTGTGGAGCATGAGTTCCTGCGAGCCTTGTG
TGCGGTCGATGTGGCTGATGCGGACGGCTTGGATTTGCCGGACTGTCTGTTTGGGTTTCG
GTTGGCGGTGTTTGCCGGAGGTCGTGCCGCATGAGGCGAGGAGCAGTGCGCTGAGACAGA
GGAAAAGGGTTTTGTCGGGGGGAAACATGGTTTTTCCTTTGCGGGTTCGGATATCCGTCT
GAAGGTGTTTCAGACGGTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCA
GACAGTACAAACAGTACGAAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTC
TCTTTGAGCTAAGGCGAGGCAACGTCGTACTGGTTTTTGTTAATCCGCTATATTTCTATA
```

-409-

```
ATAAACCTTCTATGGGCAGCAGGGATAGGATTTTTGCGGCGATGCGTTTCCAAAGTTTGG
CTTCGGGTTCGTTCGGGTAGGTTTTTCGGGTGGCGGGATCGTGCCATTGCAGGCGGTTGT
GCCTGTCGAGGGTAACGCGGTAGGCGTAGGCGGGTGTGGTATCGGCAAGGGTGCGCTCCA
TCTGTTCTGCGATTTTGGGGCTTTCGATAACAACGCCCATTCGGTGTTGAGACGCGCGG
AACGGGGGTCGAGGTTGAACGAACCGATGAAGATGCGTTTGCCGTCCACAATGAAGGTTT
TGGCGTGCAGGCTGGTTACGGAGCTGCCGGTCAGGCCTTTGTCTTTTGTGGCGGGGACGG
CATGGTTGGGTTGCAGCTCGTAGAGTTTGATGCCGGCTTTGAGCAGCGGTTTTCGGTATT
TGACATAGCCGGAATGGACGGCGGCAACGTCGGTCGCCTGCAGCGAGTTGGTCAGAACGG
TAACGTCTATGCCGTCCTGCACCAGTTTTGCCAGTGCGTCTGTGCCGGATTTTGTGGGAA
CGAAATAGGGTGAAACCAGATAGACGCTTTTTTCGGGCTGTTTGAGCGCGTCTTGCAGCC
GCCCGGCAATCGGCGGTTTGCGGCGGTCGCGGTCGAGTCCTTTTGCAGGGTCGTCGCTGA
TGAGGCGGGTTCGGACGCTCTGCCAGTCGATGCATCCTGTCTGTATTTTTTGGTAGAGGG
GCGACTGTTCGACGGTTTCGCGGTAGCGCAGGAGCGCGTGTCTGGACGTTTCGTCGTTGT
ATCCGAGTGCTTGAAGACCCTTGCCGATGTCGCCGCTGCGGATGATGCGCGTGGCGTTGT
GGGCGGAATGGCTTGCCCAGTAGCGGTCGAAGTCGTGCGATACTTCGCCGACGACGCTGC
CGGTGGCGAGGATGTCCAAATCGGCGAAAACGGTGTCCTCACCGACTTTGAAGTATTCGT
CGCCGATATTGCGTCCGCCGAGTATGGTGGCGCGGTTGTCGGCGGTAAAGGATTTGTTGT
GCATGCGGCGGTTGAGGCGGGGGAAGTCGGTCAGGTAGCCGAGTGCGCGCCATTTTCGTA
AGACGAAGGGGTTGAACAGGCGCACTTCGATATTGGGATGGCTGTCGAGGGCAAGCAGGA
GGTCGTCCAATCCGCGCGTGTTGTTGTCGTCCAACAGCAGGCGTACGCGCACACCGCGTT
CTGCGGCAAGGTACACGAGGTTGAACAGCAGCCTGCCGGAAATGTCGTTGCGCCAGATGT
AGTATTGCAAATCGAGGCTGTGTTCGGCAGATTCGATAAGGGCGGCGCGGGCGGCAAAGG
CTTCGTGGGGGTCGTTCAACAGATAGATATCGGATAGCCCGTTGGTATGAGGGGTGTGCC
GGATTTGCAGGATGTTGTCCAGGCGGACGGGTTTGGAAGTATTGAAATGACGGCTTTCCG
TCCGTTCTTCCAGTGGGGGCAACCATGAAGAACATGAACAGAGAAGGAGGCATAAAAGGG
AAATTAGGCTGCGTGTTTTCATCAGGGATATGGTTTCAGACGGCATTGCCTGTGTTTTGG
GGTTGGCGCGCATGGAAGTGCGGTATCATAATCCAAACGTTGAAACGGGTAAAAGTTTTG
CGTGTGGACCGCTTCAGGACGGTGTGTTCCGTGTCAGGTTGGTGCCGTCTGAAACGTGCA
GCCGTTTGAAAACCAGCGATGATGCAAGGGTGATGCCGCCGATGCTGAGCAGGGTCATAC
GGAAGGCGGAATGCAGACCTGAAGAAGCCGGTATCAGAAATGTCCAGTTTTTAAGGATTA
ATGCGCCGGCAACAATGCCCATGCTGATGGCAAGCTGTTGGTTGACCGCCATCAGGCTGT
TGCCGCTGCCTGTTTGTTGCGGGCGCAAATCGGCGAGGGTCAGTGTGTTCATGGCAGAAA
ACTGTAGGGAGTTGCACGCGCCGATCGCCAGCGAGAGGAAAACCCAAATCCACAGCGGCG
AGTTTCCGTCAGGCAGGGCGAGCAGCATGATGAAGCGGCAAGCAGCTTGGTGTTCCAAA
GCAGTACCGTGCGGTAGCCGAAACGTTTCATGAGCGGTGCAATCAGCGGTTGACCAGCA
GCGAAGACAGGGCGACGGGTGCGACCAGCCAACCCGACAGGCTTGCGCCGAAGCCGAAAG
CGATTTGAAACATCAGGGGCATCAGAAAAGGAATCGAGCTGATGCCGAGACGGCTGAACA
GATTGCCCGCCAGTCCCAGACGGAAAGTGCGTATCAGAAACAGGTCGGCGGAATAAATCG
GTTTGGACGCGGTTTTCATATGTCGGAAATAACGGCGTGCAAACAGCAGTCCGCCGCACA
GCGGCAACAGTGCAAAATACGGAGGCAGCGCGTGCGACAGGCTTTCTGCCGAAAGTAACA
AGAGGCACGCGGCGGCAGAAAAAATCAGATAACCTTTGAAGTCTAAAGAGATATTACTGC
CTTTAATATCGGGCATGATGTTGCGTCCCAATATGAAACCCAGCAGACCGATGGGCAGGT
TGAGCAGGAAAATCCAGTGCCACGAAGCGTATTCGACCAAATAACCGCCCGCCAAAGGCC
CTAAAACCGGCCCGATTAATGCGGGCATAACCGCATAATTGATGGCATTGAGCAGCTTGG
ACTTGTCGTACACACGCAAGATGGTCAGACGCGGTATCGGAACCAGCATCGAACCGCCGA
TGCCCTGAACGACACGGGAAAGCGTCAATTCAAACAGCGAACCCGATGCGGCGCACAATG
CCGATCCGAGCATAAAAACGGCAATCGAACCGAAAAAGACTTTTTTCGTTCCGAACCTGT
CCGCCAAATAACCGCTCAAAGGAATCAGCAGGGCAACCGTCAGCGTGTAGGAAATAACTG
CCAGTTGCATATCCAGAGGCGACTCATTCAGGTCGGCGGCAATTTCAGGCAGTGCGGTAT
TTAAAATGGTCGCATCCAACATCTGCATAAAAATGGCAATTGCCAGCAGAAGCGGCAGCC
AAGGGGATGGTGCGCGGCGGATAGGGTGTTTTTTTCCATAGGGCGATTGTACCCCATCC
TTGTGCCGTTATTGTTTTCAGATGCTGTCTGAATGCCGTCAGAGTCGGCATCTTGAATGT
TCACAAGCAAACGAACCGGCATTGCATTGTAATGATAATTATTATCGAAAACCATCAGAT
TAAGGTACAGTAAGCGTTATGGGGGCAGTTTGTAAGAAAAACCGGATTATTTTTTAAAAT
TAGACTTGACCCGCAACAGTCAATTACTTAAAGTAAACGCTTACCTTTCTACAGAGAAAA
ACGGGTTTCCCGTTATCAAAAAACATGAGCGCAACCATTCCCCCAAAAATCATCCGATAC
GACAGCAATCCGACCGATGTCTATTTTTTCGGCACTTGCGTCCTTGATCTTTTTATGCCC
GAAGCAGGCATGGATGCCATTACCCTAATCGAGCAGCAGGGCATACGCGTCCATTTCCCG
ATGGCGCAAAGCTGCTGCGGCCAGCCTGCCTATTCATCCGGCCATCCGACCGAAGCCTTC
```

-410-

```
GATGTCGCCAAAGCACAACTCGACCTTTTCCCTGAAAACTGGCCGATCGTCGTGCCGTCC
GGCTCGTGCGGCGGCATGATGAAACACCACTGGCCGACGCTGTTTAAGGCAGCGAGTAC
GAGGAAAGGGCTGTGGATTGCGCCGGCCGCATCATCGAGTTTACCCATTTCCTGCTTGCC
ATCGGTTTCAAACCCGAAGACAAGGGCGAACCGCTCAAAGTCGCCGTTCACACTTCCTGC
GCCGCCCGCCGCGAAATGAATGTCCATCTTTCAGGCTGGCAACTGATTGACGGTATGGAA
AACGTCGAACGCATCGTCCACGACCACGAAAGCGAATGTTGCGGCTTCGGCGGCACATTC
TCCGTCAAACAAGCCGATATTTCCGGCGCAATGGTAACAGACAAAGTCGCCGCGCTGAAA
GAAACCGGCGCAACCGAAATCATCAGCGCGGACTGCGGCTGTATGATGAACATCGGCGGC
AAAATCGCCAAGGACGAGCCGGATATGCCGCGTCCGAAACATATCGCATCCTTCTTGTTG
GAACGCACCGGAGGCAAAGCATGAGCGCGCGTGAAAATATTTTGGCAAAACTGAAAAAAG
CCGACGCATTGCCGATGGAAGAACCTGCGGTTTTTGATTATTACCGTGAAATGGGTGTTT
CTTGGGGCAGCGAAGTTGAGCGTCTGAAACATTGGGCTGCCGCTATGCGTGCGGTCAAAA
CCGAAATTTATTGGGTGACGAAAAGCAATTGGATGCAGGTTTTCCGCGAAGCGGCAGAAG
GCAAGGGTTTGAAAAACATCCTGCTGCCCTTGGCGACCGAACACGGACAAATTGCCCGTG
CCGCATTGGCGGACAGCAATATCGAACCGATTGCCTTCGAGCGCGAAATCGATACTTGGA
AAACCGAGTTTTTCACGAACATCGATGCGGGCTTCAGCGGCGCGCAATGCGGCATCGCCC
GCACCGGCACGCTGATGCTGTTTTCCAGCCCCGAAGAACCGCGTACTTTAAGCCTCGTTC
CGCCCGTGCATTTCTGCCTGTTCGATACGTCCAAGATGTACAACGAGTTTCATAATGCCG
TCGAAGGCGAAAAACTGGTGGAAAACGGTATGCCGACCAATGTATTCCTGATTTCCGGCC
CGTCCAAAACCGCAGACATCCAACTGACGCTTGCTTACGGCGCGCACGGCCCGCGCGATT
TGGTCATCCTCGCCATCCTGCCCGACCACATTTCCCCTGCCGATTTGGAGGAAAACGCAT
GACTACGCAAACCATCAAATTTCACATGAAGCCGGAAACTTTCAAGCAAAACGCCGCAAT
TTCCCTTCAAGACAAGCCTTTGCGCAAAAGCCTGCGTACCGCGATGGATATGCTGATGAC
CAAACGCAAAGCCGTTTTGACCGACGAAGAAGAGCTGCAAAGCCTGCGCGATTTGTGCGA
ACACGTCCGTCAGCGCTCATTGTCTAAATTGCCAGCCCTGCTGGAGCAGCTGGAAGAAAA
CCTGACTAAGTTGGGCGTGAAAGTGCACTGGGCAGAAACCCCGACCGAAGCCTGCCAAAT
TATCCACGACATCATCACAGCCAAAAACGGCAAGCTGATGGTCAAAGGCAAATCGATGGT
CAGCGAGGAAATCGAGCTGAACCATTATCTTGAAGCAAAAGGCATTAAAGCGGTAGAAAG
CGACTTGGGCGAGTTCATCGTCCAAATGGCAGGCGAAAAACCGACCCATATCGTGATGCC
TGCTATCCACAAAACCAAAGAACAGGTTAGCGAACTGTTCCACCAAAACCTCGGTACGCC
GCTGACAGACGATGTAGACCAACTGACCGGCTTCGCCCGTAAAGCACTGCGCGGATATTTA
CAGCACTGCCGATGTCGGTTTGAGTGGCGTAAACTTTGCCGTTGCTGCTGAAACAGGTACGCT
GTGTCTGGTGGAAAACGAAGGCAACGGTCGCTTGAGTACCACCGTACCGCCCGTGCATAT
CGCTATTACCGGCATTGAAAAAGTGGTGGCGAAATTGTCCGACATCCCACCCTTGTACAG
CCTGCTGCCGCGCGTTCTGCCATTGGTCAGAACATTACCACTTATTTCAATATGATTACCGG
CCCGCGCCGCAGTGAAGAATTAGACGGTCCGCAAGAAATGCACTTGGTTCTGCTCGACAA
CGGCCGCAGCCAGGCTTATGCCGAAGACCAAATGCGCCGCACCCTGCAATGTATCCGTTG
CGGCGCGTGTATGAACCATTGCCCGGTTTATACCCGCATCGGCGGCGCGGCATACGGCAC
AACCTATCCCGGTCCGATTGGCGAGATTATTTCCCCGCACCTGTTAGGCTTGGATGCCAC
TCGCGACCTGCCGACCGCCTGCACGATGTGCGGCGCGTGCGTGGAAGTTTGTCCGGTACG
CATCCCGATTACCGAACAAATGCAGCGTTTGCGCGTTGAAGCGCAACGTTCGCCGACCGA
AACCGTGCCGCACCCCATCCGGGGGCAAGGCGCATCGCATACCTTCGGCGAACAAATGGC
GTGGCGCACATTCAACGGTATTTTCAGCGGCAGCAAAACCTACCGCGCCTTCGGTTGGGC
AGCCACCAAGTTCCGCAACCTGACCCCGCGCAAACAGTTGGGTTGGACGCAAAACCGCGT
GCCGATGAAACCGGCGAAGAAACCCTGCACGAACTAATGGCAGAAAAAATGCGCCAAAA
AGAACAGGCATAAAAAGTTGTTCGCAAAAATGCCGTCTGAAACCCGAAACAGGGCTTCAG
ACGGCATTTGTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTA
CAAATAGTACGGCAAGGCGAGGTAACGCCGTACTGGTTTAAATTTAATCCACTATATATT
CGCAGACGGTGGGTTTTAAATTTGTTCCAATTCCATATTCAAAACAGCCTGTTCCTGTTT
GGCTCGGAAGTCTGCCAGTTTTTGCGCCAGTTCGGGGGTTTCGTTGGCGAGCATGGAAAC
GGCGAACAATGCGGCATTTGCCGCGCCTGCCTCGCCGATGGCGAATGTGGCGACGGGTAC
GCCTTTGGGCATTTGTACAATCGATAAAAGCGAATCTTCGCCGCGCAGGTATTTGCTGGG
GACGGGTACGCCCAAAACGGGGACGGTGGTCTTGGCGGCAACCATACCGGGTAAATGCGC
CGCGCCGCCCGCACCCGCGATGATGGCTTTGATGCCGCGCGCCCGTGCGGTTTCGGCGTA
TTGGAACATCAAATCCGGGGTGCGGTGTGCGGAAACAACGCGCGCCTCATATTCTACGCC
GAACTCTTCAAGAAACTGCGCTGCCTGCCGCATAACGGGCCAATCGCTGTTGCTGCCCAT
GATGATGCCGATTTGTATCATAAATCCTCCTTGGTGCGGATGGGGTAAAAAGCGGAAAAA
TGGAAAAACTATCGTTTGCGCACGGCTGCGGCGGCGCGTTTTGCCGCCGGGCTGCCGGGA
TAGGTCTGTATCAGGCTGCGCCAAGTCGCCCTTGCAATGTCTTTTTGCTGAAGCCTGTAT
```

```
TGGCATTCGCCGATTTTGAACATGGCTTCAGGCGCGGTTGGGCTGTCTTTGAAACGGTTG
GCGTAACGCCCTCCGATTTCGATGACGGATTCGCAGTTGCCCATACGCGCCCTGCTTTGC
AGCAACAGGTACATACTGCGTTGCGCGATGCTGCCGCCGTCGCCTCCGTCCGCGCCTTTC
AACAGGGAGGCAGCGGCAGAAAACTTGCCGCTTTTATAGTGTTTGAGTGCCTGATTGTAG
AGGTTTTGTGCGGTTTCGACAGTATGTGCGGATGCGCTGCCGCCTTCGGTATTGAGGTAA
TGCTCTTTCAACTTGCGGTCGTCGAGTTTTTGGACGTATGCCCTGCCGGAAGAATGTGTT
TTTGCGTGTTCCAGTGCTTTGACTTTGCCGTTTAAGGTTTCCACTTCGTTCGACAGCCGG
ACGATTTTGCCTTCCAGATAGTCCAAACGGTCTTGCAAGGTCGGAACGGGATAGGGAATG
CCGTCTGAAGCATTTTCCCGTGTCGACATTTCGGTTTGGCTGCCTGCCGGAACGGGTGAA
ACGGAAGCACAGGAGGCGGACACAGACAGCCAAATGATAAAAAGCGGTAATTTGATCTTC
ATTATTTTTCAGAAGCAGGGTCAAGCCGTCGCCGACGGGCAGGGTGATGGGGACGATGC
GCGGGTCGTTCGGCAGGTTTTGATTGAAATCTTTGAGGATGCCGACGCTGGGCGGCGCAT
CGGAAGCCGCTTCGCGCATCACCCTTCCGTTCAGCAAAATATTGTCGATGGCGATGATGC
CGCCTTGACGGACGAGTTTGAGGCAACGCTCGAAATATTGCGGCGTGGGCGGTTTGTCTG
CGTCTATCAGTGCCAAATCGTAGCTTCCGGCTTCACCCTGTGCAATCAAATCATCCAATG
TCAGCAATGCGGGTTGCAGGTGCAGGCTGATTTTATGTGCCACACCGGCCTCGTTCCAAA
CCTGACGCGCCGTATCGGTAAAGGTTACATTGATGTCGCAGGCGGTAATCCGCCCGTGTT
CGGGCAGTGCCAATGCAAGCGCGGTGCTGCTGTATCCGGTAAATACGCCGATTTCCAGAT
ATTTTTCCGCACGGATCAGCTTTGCCAGCCAAACCAAAACTGCCGCCTGTTCGCGCGCAA
TCGCCATTTTGCCCATACGGTGATGCCCGGTCTTCTCGCGCAGCCGCGTCAAAACGGGAT
GTTCGGGTTCGCCGATGGCGTTCAAATAGTTTTGCAGGTCCGGTGCGACATTGGACAGAT
GGGTCGTCATTTCGGCGGATTCAGTCTTGGTAATAGGTATAAGGTTTTTTCGCCACTTTT
GCCGCCTCGAAGTTTTCCTGTTCTTCGGGATTGAGTTCGACATCCCACAAAAGCCCCTG
TTTTCCAAACGCTGCTGTTCCAACTCAGGTTTTTCTTCAATCAGGCGGTTGAGGAATTGT
GTGGCATCGGATTGGTAGTGATACATCTTTGTGCTCCAATTTTACGGAATATGGCGTGAT
TATACTGGTATTTTCCAAACGGGATAAACGGCTTTTATCAAGAATACGGGCAGAAAGATA
AGGGGTTTTATTATAGAATAAGACGTTTTTTGCAACGGAAGCCCGCCTTATGTCCCGAAT
CGCCGCCCTGCCCGACCATCTTGTCAACCAAATCGCCGCCGGCGAAGTGGTCGAACGCCC
TGCCAACGCCTTGAAAGAAATCGTTGAAAACAGTATCGATGCAGGCGCAACGGCGATTGA
AGTCGAGCTGGCGGGCGGCGGCATCCGCCTGATTCGCGTCAGCGACAACGGCGGCGGCAT
CCACCCCGACGACATCGAACTTGCGCTCCACCGCCACGCCACCAGCAAAATCAAAACCTT
AAACGATTTGGAACACGTCGCCAGTATGGGCTTTCGCGGCGAAGGTTTGGCAAGCATCGC
CTCCGTCAGCCGCCTGACCCTGACCAGCCGTCAGAACGACAGTTCGCACGCGACCCAAGT
CAAAGCCGAAGACGGCAAACTCAGCAGCCCCACCGCCGCCGCCCACCCCGTCGGCACCAC
CATCGAAGCCGCCGAACTCTTCTTCAACACCCCCGCACGGCGCAAGTTCCTCAAATCCGA
AAACACCGAATACGCCCACTGCGCCACCATGCTCGAACGCCTCGCGCTGGCGCATCCGCA
CATTGCCTTCTCGCTCAAACGCGACGGCAAACAAGTGTTCAAACTCCCTGCACAAAGCCT
GCATGAACGGATTGCCGCCATTGTCGGCGAAGACTTTCAGACGGCATCATTGGGAATCGA
CAGCGGCAACGGCGCGCTGCGGCTCTATGGTGCGATTGCCAAACCGACTTTCGCCAAAGG
TAAAACCGACAAACAATACTGCTTCGTCAACCATCGCTTCGTGCGCGACAAAGTGATGCT
CCACGCCGTCAAGCAGGCATACCGCGACGTATTGCACAACGCACTCACTCCCGCCTTCGT
CCTCTTTCTCGACCTGCCGCCCCGAAGCCGTGGATGTCAACGTCCACCCGACCAAAACCGA
AATCCGCTTCCGCGACAGTCAGCAGGTGCACCAACTTGTGTTCCACACGCTCAACAAAGC
CCTTGCCGACACACGCGCCAACCTGACCGAAAGCGTCGGCAACGCAGGCGAAGTGTTGCA
TGACATTACCGGCGTTGTCTCCACCCCAATGCCGTCTGAAAACGACAGCGAAAATCTGTT
TGATAGCGTATCCAACTACCCGACAGGCAACAAATCAGATACACACAATGCCTTTGGTTC
ATCAGGCAAAACCGCGCCCATGCCCTATCAGTCCGCATATGCGCCGCAACAACGCAGCCT
GTCCCTGCGCGAAAGCCGCGCGGCAATGAATACTTACGCCGAACTTTACAAAAAAACCGA
CGACATCGACCTTGAGTTAAGCCGATTCGAGCAGGCACGTTTCGGCAATATGCCGTCTGA
AACGCCTGCTCCCCAAACAGATACGCCGCTTTCAGACGGCATCCCGTCCCAATCCGAACT
GCCGCCGCTCGGTTTTGCCATTGCCCAATTACTTGGCATCTACATTCTTGCCCAAGCCGA
AGACAGCCTGTTGCTCATCGATATGCACGCCGCCGCCGAACGCGTCAACTACGAAAAAAT
GAAACGCCAACGTCAGGAAAACGGCAACCTGCAAAGCCAACGCCTGCTTATTCCCGTAAC
CTTTGCCGCGTCCCACGAAGAATGCGCCGCCCTTGCCGATTATGCCGAAACGCTGGCAGG
CTTCGGGCTGGAATTATCCGATATGGGCGGCAACACCCTCGCCGTCCGTGCAGTTCCCGC
CATGCTCGGCAAAGCCGATGTCGTCTCGCTCGCCAAAGACGTATTAAACGAACTCGCCCA
AGTCGGCAGCAGCCAAACCATCGAGGAACACGAAAACCGCATCCTCGCCACCATGTCCTG
CCACGGCTCGATCCGCGCCGGCCGCCGGCTCACCCTGCCCGAAATGAACGCCCTTCTGCG
CGATATGGAAAATACGCCGCGCAGCAACCAGTGCAACCACGGCAGGCCGACTTGGGTCAA
```

```
ACTGACTTTGAAAGAATTGGACGCACTGTTCTTGCGCGGACAGTAAGCCGAAAGTGCTAG
AATACGCCGCCCGAGACCGCCGTTCAGACGGCATTCCGACGCACCGACAGAAACATCACG
ACCGAAACCAAGAGAAAAACATGGCCTATCAAGTTCTCGCCCGAAAATGGCGGCCCAAAA
CCTTTGCCGACTTAGTCGGTCAGGAACACGTCGTCAAAGCCCTGCAAAACGCCCTGGACG
AAGGCAGGCTGCACCACGCCTACCTGCTGACCGGCACGCGCGGCGTAGGTAAAACCACCA
TCGCCCGCATCCTTGCCAAAAGCCTCAACTGCGAAAACGCGCAACACGGCGAACCTTGCG
GCGTATGTGAAAGCTGTACGCAGATCGATGCCGGACGCTACGTCGACCTGCTGGAAATCG
ACGCCGCCTCCAACACAGGCATCGACAACATCCGCGAAGTCTTGGAAAACGCCCAATATG
CACCGACCGCCGGAAAATACAAAGTCTATATCATCGACGAAGTGCATATGCTTTCCAAAA
GCGCGTTCAACGCTATGCTCAAAACGCTGGAAGAGCCGCCCGAACACGTCAAATTCATCC
TCGCCACCACCGATCCGCACAAAGTTCCCGTTACCGTCTTGAGCCGCTGCCTGCAATTCG
TCTTACGCAATATGACCGCGCAACAGGTTGCCGACCACCTCGCCCACGTCCTCGACAGCG
AAAAAATCGCCTACGAACCCGCCGCCCTGCAACTTTTGGGACGTGCCGCCGCCGGATCGA
TGCGCGATGCCTTGAGCCTGCTCGACCAAGCCATCGCCCTAGGTTCGGGCAAAGTTGCCG
AAAACGATGTCCGCCAAATGATCGGCGCGGTTGACAAACAATACCTTTACGAACTGCTGA
CAGGCATCATCAACCAAGACGGCGCAGCCCTGACCGCCAAAGCGCAGGAAATGGCGGCGT
GTGCCGTCGGCTTTGACAACGCCTTGGGCGAACTTGCCATACTGCTGCAACACCTCGCCC
TGATACAGGCAGTGCCGAATGCCTTGGCGCACGACGACCCCGATTCCGATATTTTGCACC
GCCTCGCCCAAACCATAAGCGGCGAACAAATCCAGCTTTACTACCAAATCGCCGTCCACG
GCAAACGCGACCTCAGCCTCGCCCCCGACGAATACGCCGGCTTTATGATGACCCTGCTGC
GTATGCTGGCGTTTGCGCCCTTGGCGGCAGCATCGTGTGATGCAAATGCCGTGATTGAAA
ATACCGAACTAAAATCCCCATCGGCACAAACCGCCGAAAAGGAAACCGCCGCAAAAAAGC
CCCAACCGCGCCCTGAAGCGGAAACCGCCCAAACACCCGTTCAGACGGCATCCGCAGCAG
CAATGCCGTCTGAAGGCAAAACTGCCGAACCCGTTACCAATCAAGAAAACAACGATATTC
CGCCTTGGGAAGACGCGCCGGACGAAACCGCAGCCGGCACGGCGCAAGCATCGGCAAAAA
GCATTCAGACGGCATCCGAAGCCGGAACGCCGCCCAAAAACCAAGTTTCCAAGAACGAAG
CAGCCGACAACGAAACCGATGCCCCCTTGTCCGAAGTGCCGTCTGAAAACCCCATTCAGG
CAACACCGAATAATGAAGCCCTTGAAACAGAAGCATTTGCACACGAAGCTCCTGCAAAAC
CTTTCAACGGTTACAGCTTTCCGAATGATGACTACCTCGTAGAAGACGGCGCAGAAATCC
CACCGCCCGATTGGGAACACGCCGCCCCTGCCGATGCGGAAGAAGAAAACAACGCCGACG
AAAGCAGCAACAACGAAGACCACACGCCATACGCCCCGCCGCCCGAATTTTCCACCGAAA
ACTGGGCAGCCATCGTCCGGCACTTCGCCCGCAAACTCGGCGCGGCGCAAATGCCGGCGC
AACACTCCGCGTGGACGGAATACCATCCCGACACCGGTCTGATGGTTTTGGCAATGACCG
CCGAAGCACGCGCCACCGCCGACAAAAAAACGCCTCGACAAAATCCGCGACACCCTTGCCC
AAGCCTACGGGCTGCAACTCACCCTGCAAACCCAAGACTGGCGTGACGAAGCCGGCCGGG
AAACCCCCGCGATGCAGGACAAGCGCGTCCAAGCCGAAGACAGGCAAAAAGCACAAGCAT
TGCTCGAAGCCGACCCCGCCGCACAAAAAATCCTCCAAGCATTCGGCGCGCAATGGCAGC
CCGAATCACTGGAATTGGCGGCAAACCGGCCATAAACAGATATAATGCCGCCCGAACCCT
TCGGACGGCATTGCCGTTTCCCTTATTCAATCAAAACAGACAGGAGTATTCAGTATGTTC
GGAAAAGCCGGATTAGGCGGCCTGATGAAACAGGCGCAGCAAATGCAGGAAAATATGAAA
AAAGCGCAAGCCAAACTCGCCGAAACCGAAATCGAAGGCGAAGCAGGCAACGGCCTGGTC
AAAATCACAATGACCTGCGCGCACGAAGTACGCAAAATCGACATCAGCCCCGATTTGATT
CAAGAAGCCGCCGACGACAAAGAAATGCTTGAAGACCTCATCCTCGCCGCCCCTCAAATCC
GCCCGAGGCAAAGCCGAAGAAACCGCAAACAAAACAATGGGCGCATTCACGCAAGGTCTA
CCCCCCGGAGTGGGCGACTTCTTCCGCTGATCCCCGACCGTCATTCCCACGCAGGCGGGA
ATCTAGAACGTAGAATCTAAGAAACCGTTTTACTCGATAAATTTCCGTGCCGAGGGGTCT
GGATTCCCGCCTTCGCGGGAATGACGGCATCAGTTTGCAGGATTCGGCGTGAACGGTAAA
AACAGTGAGAATGATAAGAACGCAAAAACGGCAAGAATAGCGGGAATCGGCAGGCTGAAG
CCCACCCTACCATTATTTACACATCCGTACCGCTTAAATGCCGTCTGAAACTTCGTCATT
CCCGTGAAAGCGGGAATCCAACCCCGTCGGAGCAGAAACTTACACCCCGTCATTCCCGCG
AACGCGGGAATCCAGTAACCGAAAAACCACAGGAATCTATCGGAAAAACAGAAACCCTCG
ACCGTCATTCCCGCGAACGCGGGAATCCAGTAACCGAAAAACCACAGGAATCTATCGGAA
AAAACAGAACCCCCGACCGTCATTCCCGCGAACGCGGGAATCTAGAACGTAGAATCTGA
GAAACCGTTTTACTCGATAAATTTCCGTGCCGACGGGTCTGGATTCCCGCCTTCGCGGGA
ATGACGGCATCAATTTGCAGGATTCGGCGTGAACGGTAAAAACAGTGAGAATGATAAGAA
CGCAAAAACGGCAAGAATAGCGGGAATCGGCAGGCTGAAGCCCACCCTACCATTATTTAC
ACATCCGTACCGCTTAAATGCCGTCTGAAATTTCGTCATTCCCATGAAAACGGGAATCCA
GCCCCGTGGGAGCAGAAACTTACACCCCGTCATTCCCGCGAACGCGGGAATCCAGTAACC
GAAAAACCACAGGAATCTATCGGAAAAAAACAGAACCCCCGCCGCCGTCATTCCCGCGAA
```

```
CGCGGGAATCTAGTAACCGAAAAACCACGGGAATCTATCGGAAAAAACGGAAACCCCCGA
CCGTCATTCCCGCGAACGCGGGAATCTAGAACGTAGAATCTGAGAAACCGTTTTACTCGA
TAAATTTCCGTGCCGACAGGTCTGGATTCCCGCCTTCGCGGGAATGACGGCATCAGTTTG
CAGGATTCGGCGGAAACGGTAAAAACGGCAGAATCGATGGGATGCGGCAGGCTGAAGCCC
ACCAAAACACAAAAATTCCGATGCCGTCTGAAATTTCGTCATTCCCGTGAAAACGGGAAT
CCAGCCCCGTGGGAGCAGAAACTTACACCCCGTCATTCCCGCAAAAGCGGGAATCCAGTA
ACCGAAAAACCACGGGAATCTATCGGAAAAAACAGAACCCCCCGCCGCCGTCATTCCCGC
GAACGCGGGAATCTAGAACGTAGAATCTGAGAAACCGTTTTACTCGATAAATTTCCATGC
CGAGGGGTCTGGATTCCCGCGTTCGCGGGAATGACGGCATATTTTTGCATTTGATATAA
AGGGTCGTTTGAATTTTGTTCAGCAAGTGCAAAGTGTTGCACATAAAAGGGCGCAGGATA
GAGGCAAAGCGGGCGTAGGTCGGGCTGTAGCAACTGTATTTTTCACCCCGTCGGGCAAAA
ATATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGAT
TCTCTAAGGTACTCAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCT
TCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATACCAAAACTCAAATCAAGCCGTTCG
GAGGCGGCTCAAAAAAACGGTACTTCGCAGCAGAAGTACCGTTTATCGGGATTTCAGGTT
TTATTCTTCGGGGCGTTCGCCGTCGGTTTCGTCCTGCGTCCCTTCGGTGATGTGCATTTC
TACGCCGTTGAGGGCGCGGATTTTTGCGTCGATTTCATTGGCGACTTCGGGATTTTCCTT
CAGCCAGACGCGGACGTTGTCTTTGCCCTGACCGATTTTCGCGCCGTTGTAGCTGTACCA
CGCGCCGGATTTGTTGATGATGTCGTTTTTCACGCCGATGTCGATCAATTCGCCTTCCCA
ACTGATGCCTTCTCCGTAGAGGATGTCAAACTCTGCCTGACGGAACGGGGGGGCGACTTT
GTTTTTGATGACTTTGACGCGGGTTTCGTTGCCCAATACCTCTTCGCCTTTTTTGATGGA
TCCGGTGCGGCGGATGTCGAGGCGGACGGAAGAATAGAATTTCAGCGCGTTGCCGCCGGT
GGTGGTTTCGGGGCTGCCGAACATTACGCCGATCTTCATCCGGATTTGGTTGATGAACAC
AACCAGCGTGTTGGTTTTTTTGATGTGTCCGGTCAGTTTGCGCAAAGCCTGGCTCATCAG
GCGCGCCTGCAGTCCGACATGGCTGTCCCCCATATCGCCTTCGATTTCGGCTTTGGGGAC
GAGTGCGGCTACGGAATCGACGACTACCATATCTATGCCGCCCGAACGGACGAGTGTGTC
GCAGATTTCCAAAGCCTGTTCGCCGGTATCGGGCTGGGACAGGTAAAGCTCTTCGACTTT
TACGCCGAGTTTGCGGGCGTAAACGGGATCAAAGGCGTGTTCGGCATCGACAAAGGCGCA
CACGCCGCCGTTTTTCTGGCATTGGGCGACGGCTTCGAGGCAGAGGGTGGTTTTGCCGGA
GGATTCGGGGCCGAAGATTTCGACGATGCGCCCGCGCGGCAGACCGCCGACTCCGAGGGC
GAGGTCTAATCCGAGCGATCCGGTGGAAATGACTTCGAGGTTTTCTTCCTGCTGGCTGCC
GTCCATTTTCATGATGGCGCCTTTGCCGAAACTTTTTTCGATTTGCGCCAGTGCGGCGGC
AAGTGCTTTGCTTTTGTCGTCTGACATTGGGGTTACTCCGGAACAAATGCGGTATGTGGG
ATGCGGCGCAACACGGGCTGCGGCGCGGGATGTGTATCGTTTTCCCGATGTGCGGGCTAT
CGGTAATGCTGCTTCACGAGGTTGCCATTATCGCATATTTCCTTGCTTGCCGATATGCGC
CAGGACGCGGCGGCTTGTGCCGGAATGGAATCTGGATGCCGTCTAAAAGGCGGCCGGCTT
TGTTATAATGGCGGCTGTTTTTTCTGTGTGTGCCTGTTTTATGTGTTCCTGCCTTGTTGT
CAAAAATACCGTTATCGGAAGCGGACGCACCAAAATCGCCGTGCCGCTTGTCGCCCGCGA
TGCCGCCGAACTTTCCGCCGTACTTGAGCAAATCAAAAATATGCCCTTCGATATTGCGGA
GTTCCGCGCCGACTTTTTGGAATGCGCGGGCAGTATCGGCGAAATATTGCACCACACGCA
GACCGTCCGCGACGCGCTGCCCGACAAGCCGCTGCTGTTTACGTTCAGACGGCATGGCGA
AGGCGGCTCGTTCCCGTGTTCGGACGATTATTATTTTGAACTGCTCGACGCGCTGATCGA
AAGCCGCCTGCCCGACATCATCGACATCGAGCTGTTTTCCGGCGAAACCGCCGTCCGGTG
CGCCGTGGCAAATGCTCAAAAAAACGGCATCGCCGCCCTGCTCTGCAATCATGAGTTTCA
CCGCACGCCGCCGCAAGAAGAAATCGTATGCCGTCTGAAACAGATGGAGGACTGCGGCGC
GGACATCTGCAAAATTGCGGTGATGCCGCAAAGCGCGGAAGATGTGCTGACTTTGCTTTC
CGCCACGCTCAAAGCGAAAGAGCTTGCCGCCAAACCGATTGTTACGATGTCGATGGGGCA
GACGGGGGCGGTCAGCCGGCTTGCCGGACAGGTGTTCGGCTCAAGCATCACGTTCGGTTC
GGGAACGCAAAACTCCGCGCCGGGGCAAATCGGCGTATCCGCCCTCCGTGCGACACTCGA
CTGCCTCGAAAACGGCGCAGACTGATTTCAGACAGCATCAAAACATGATGAAACTCAATC
CCCAACAGCTCGAAGCCGTCCGCTACCTCGGCGGCCCACTGCTCGTCCTTGCCGGTGCAG
GCAGCGGCAAAACCGGCGTGATTACTCAAAAAATTAAGCATTTGATTGTCAATGTCGGCT
ACCTGCCGCATACCGTTGCCGCAATTACCTTTACCAACAAAGCCGCTGCGGAAATGCAGG
AGCGCGTTGCCAAAATGCTGCCCAAACCGCAAACGCGCGGGCTGACGATTTGCACGTTCC
ACTCTTTGGGCATGAAGATTCTGCGCGAAGAGGCGAACCATATTGGTTACAAAAAAAACT
TCTCCATTCTCGATTCTACCGACAGCGCGAAAATCATCGGCGAACTCTTAGGCGGTACGG
GCAAAGAAGCCGTATTCAAGGCGCAGCACCAGATTTCCTTGTGGAAAAACGATTTAAAAA
CGCCTGAAGATGTCGTTCAGACGGCATCGAACATTTGGGAACAACAAACCGCACGCGTGT
ATGCGAGCTATCAGGAAACCTTACAAAGCTATCAGGCAGTGGACTTCGACGACTTAATCC
```

```
GCCTGCCTGCCGTGCTGTTGCAGCAAAACAGCGAAGTGCGCAACAAATGGCAGCGGCGGC
TGCGTTATCTGTTGGTTGACGAATGCCAAGATACGAATACCTGCCAATTTACGTTGATGA
AGCTGCTGACCGGCGCGGAAGGTATGTTTACCGCCGTCGGCGACGACGACCAGTCCATCT
ACGCATGGCGCGGTGCGAACATGGAAAACCTGCGTAAAATGCAGGAAAACTATCCGCAGA
TGAAGGTCATCAAACTGGAGCAAAACTACCGCTCCACCGCGCGGATTCTCAAAATCGCCA
ACAAAGTCATCGAAAACAACCCCAAGCTGTTTACCAAAAAACTTTGGTCGCAATTGGGCG
AAGGCGAGCCGGTCAAAGTCGTTGCCTGCCAAAACGAGCAACACGAAGCCGACTGGGTCG
TCAGCCAAATCGTCAAACAAAAACTCATCGGCGGCGACAAAACCCAATATGCCGATTTCG
CCGTGTTATACCGGGGAAAGCATCAGGCGAGGATTTTCGAGGAAGCATTGCGCGGCGCGC
GCATCCCCTACCAGCTCTCCGGCGGACAAAGCTTTTTCGACAAAGCCGAAATCAAAGACG
TGTTGTCTTATGTGCGGCTGCTTGCCAACCCCAACGACGATCCCGCCTTTCTGCGTGCCG
TTACCACGCCCAAACGCGGCATCGGCGATGTCACGCTGGGCAAGCTCAACACTTACGCGC
ACGAACACGAATGCAGCCTGTATGAAGCCGCGCAAAACGAAGAAGCCCTTGCCACGCTGA
ACAATACCAACCGCCAACACCTGCAAACCTTTATGGATATGTTCGTCAGCTACCTCGCCA
AAGCCGAAACCAGCGAAGCGGGCGAGTTCATCAACAGCCTGCTCGAAGAAATCGACTATG
AAAACCATTTGATGCAAAACGAAGAAGGCAAAGCCGGCGAAATCAAATGGCGCAACGTCG
GCGATTTGGTATCATGGTTTGCGCGAAAAGGCGGGGAAGACGGCAAAAACATCATCGAAC
TCGCCCAAACCGTCGCCTTGATGACGCTTTTGGAAGGAAAAGACGAAGAAGAAACCGATG
CCGTCTCGCTATCCACGCTACACGCCGCCAAAGGTTTGGAGTATCCGTATGTTTTCCTTG
TCGGTTGCGAAGAAGGCGTTTTGCCGCACAACGACAGTATCGAAGAGGGCAACGTCGAAG
AAGAACGCCGCCTGATGTACGTCGGCATCACCCGCGCCAAACGCCAACTCACACTGACCC
ACTGCGTCAAACGCAAAAAACAAGGCACATGGCAGTTCCCCGAACCCAGCCGATTCATAG
ACGAAATGCCGCAGGAAGATTTGAAAATCCTGGGGCGCAAAGGCGGCGAACCGATTGTCA
GCAAAGAAGAAGGCAGACGCAACCTTGCCGATATAATCGGAAGGCTCGACAACCTAAAAA
AAAGCGGCGCGGCGGATTAAACCGGAGCCGCAATGCCGTCTGAAGGCTTCAGACGGCATA
TTTTTTGGACGGCGCGCGTAAAGCGGTTTACGCCCACAAATCCTGCTGCTGGTTTTTCGG
CACAAGATGCCCCACGCCGATACCGATAAGGCGGAACGCGTCTTCCGTCTGCGGCGAGAC
GCGCGCCATCAACATTTGCGCAGCCTGCAGCAGAGTGCGCAGTCGGGCAATACGGAGGAA
TAAGTCAGTGTGCGCGTGATGATGCGGAAATCGTAGGTCTTCAGCTTGAGCGTTACGCTT
TGGGCTTCGACGTTTTTGCGCGTGATTTGCCGCCCACAAGTCTTCGGCAAGATGGGGGAGG
TGTCCGGCAGCCTGCTCGAGCGGCAGGTCTTCGGGCAGGGTAATTTCTGTGGAGATTTGG
AGGCGTTCGCGTTCGGCTTTGACGGGGCGTTCGTCCGTACCGCGCACCAAATCATAGAGG
CGGTATCCGTAGCGTCCGAAATGGTTTAAGAGTTCGCCGCGCTCGAAACGGCGCAAGTCG
CCCGCCGTCCGCATACCCAGCGACTGCATTTTTTTCAGCGTTACCTTGCCCACGCCGGGG
ATTTTGCCCAAAGGCAGGGTTTCCAAAAATGCCATGACTTTGTGCGGCGGCAACACAAAC
TGCCCGTTCGGCTTGCGCCAGTCCGACGCGATTTTCGCCAGAAATTTGTTCGGCGCGATG
CCTGCGGATGCAGTCAAACCTGTTTCCGCAAAAATGGCGGCACGGATTTCTTTGGCAACG
TCGCCGGCGTAAGGGATGTTTTTGAAATTACGGGTAACGTCAAGATAGGCTTCGTCCAGC
GACAAGGGTTCGATTAAATCGGTATAACGCCTGAATACGGCGTGAATCTGCGCGGAAACC
TGACGGTACAAATCGAAATGCGGCGGCACATACACCGCTTGCGGACACAGCCTTTTCGCC
GTTGCCACCGACATCGCGGAATGCAGCCCGAACTGCCGTGCCTCATACGATGCGGCGCAA
ATCACCGAACGCGCGCCCTCCCACGCGACGACCACCGGCCGCCCTTTCAAATGCGGCTGT
TCGCGCAGCTCTACCGATGCGTAGAATGCGTCCATGTCGATGTGGATAATTTTGCGTGAA
GACATCGGCTCTTCTGAGGATAAAAGGGATATTCTACTGCCGGCATCGGGCAAATTCCAA
ATATACGCCCCGATAGACCTGCCTCCATAAAAATGCCGTCTGAAACATACCCTGTTTCAG
ACGGCATCCGCAAAACTACGGTTTTCAATTAAAACTGCCAATCCAGTTTCATGCTGACAG
TGCGCGGCTCTCCGTAGAAGTTGTTTGCGCCGCGCGTACGGTTGTAGTTGTTCTCAAAAT
AAGTGCGTCCGTTTAAGTTCGTACCGATGAGGCTCAATTTGGCGTGTTTGCCCAATTCGT
AACGGACGAAACCGTCTATCAGCCCGTAGCCGCCCTGCCTGATGTTATACAGACTGCTTG
TGCCGCTTTGTGCGGACACGCCGCCGCCGACGGTCAGCCCCGTATTCGGTATATGGAAGC
TCGTTCCGAAACGGAATATGTGCACGGGTGTGAAATTGCTGAAGTTGTACGGGTCTGCAC
TGGAATTTTTGGCAAGGCGTTCGGCGTTGACTTCGGCGGCGTTTTTGTAGCGGCTCTTGT
TGTAGGTGTAACCCGCAAAGACTTTCCAATCTTCGTTCAACTCACCCGACAACTCGAATT
CCGCACCCCTGCTGACCACTTTGCCTATCGGTTTGGCAACGGTTTGGAACGACCCCTGCT
TGCCGCCTGCTCCGGGAACATAGCCGAAATCGACGACCGTGCGGTTTTTCTGTTCGAGGT
AAAACAATGCGAACGAAGCATTCAGCCGTCCTTGCAAGAACGCGCCTTTCCAGCCTACCT
CATAGTTTGTGCCGACCAAAGGCGGTAAAACGGTTTTGGCACTGACATCGACATTATCCT
GCTGTTTGAAGATTTTGGTATAACTTCCGTAAATACTCTGTTGCGGTGTCAAGTCATAGG
TAATGCCTGCATAGGGCGTCAATTTATGACCTTGCATCTTGGCCGTGTAATGGTCCTGAT
```

-415-

```
CCGCCCTAATGCTCGATGCCGTCTGAAAATCGCTTGCCGGCTGCCCATAGCGGACAGGCA
TATCTTTGGTTTGCGAAGTCTCATAGCGCGTGTAGTGCAGCCCGCCCAAAAGGTGCAGTC
GGCCGGTTACGTTGAAACGCGTGCTGGCAGTCAGCGAATGGGTTTTGTTGGTGTTGAGGT
ATTTGGCGTAGTTATACAGCGCAGGAACATGGTCGTCTGCCACTTTGACGGTTTTCCAAA
CCGGCACCGTACCGGAAAAACCGGTAAAGGCAGGCGTGCCGTCGGGATTGGTCTCCTGAA
TCTTGTTGCCTTTTTCGTCCAGCTCATATACATCGACATATACCGGTGTCCGGCTGCCGC
TGTATTCGTCATAGTAATACACCTGCTTGCCTTCGGCATCGAGCTTGGGCTCGGTTTTTA
TTTTCTTGGCGTTCCTGCATTCTTCGGCATAAACGGTACGGTTGCCTTTTTCATCGTACG
CCTGCCAATCGGGTTCTTTATGCCCCCTGACCAAAGGAGACGACAAATCGCCGTCCGGCT
CCTCCTGACAACTTCCCGCATACACGCCGTGCGTTGCCCCCGTATTCGGACGTACTCTGT
AGCGGCGTTCGTAGATTTCTAGATATTCCGAACGTATCTTTTCATCACCGTAGGCATAGC
CGACAAAGAAATCATGCTCCCGCCCGAACAGCCCATATGTGCCGGTCAGGTCAAGTTTAA
TTCCCCATTGGCGGTCGTCTTTGGTATGCCGCAACGGCATATAACTGTATCGTCGGTTGG
CGGTAGCCTTCCGATTAAAGGAAGAGTCATACAGGCTGTTTGGAAAACGTTGTGCCGCAT
TATTAAAGATGCCCTCCTTCGCAAGGGCTTTATCGACAAATTCCGCCTTGTCGGCATCAA
CGCCCGGATCCCCCCAAGAACCTTGACAGATAAAGTCCAGCGCGAAAGGGTCACTCATAC
ACTTGTCAAAACCGGCTTTGCGTTCTGCGGCACGGCGGCTGCGATACTGTTCGAAAGCAG
TATTATCGAAACGGTTTTTAACAAAATCGTCTTTGCGCTCCCGGTATTCCTTGGCGGTTT
CATCACGATATGCTTTCAGTTTCTCCAATGCCTTATCTTTCGGCTCGAACGGGATGACTT
CGTTTTTTTCAGTCAAAAAGCCTACCGCATCCTCACCCGACAAACCCGCCGCATATTCGT
TTTTCAGAAAAAACTGCCCCACCTTCGCATCGGATTCATTCTTGGTATAAGACACTTCGG
CATTGAGCTGCCAACCGTTGTCAAACACATGTTTGAATCCTGAGAAAGGTTGTATTTGT
CGGCACTTAACCGCGACCAATCCTCCCCCAAATAAGTGTTGCGCGGCAGTTGCAAAGGCC
GGTTGCAGGCAGGCGTTGAACTGAACGGGGCAGTTTTCTGATTTTCACAGGGCAAAATAA
TGCCCGAAAAATCAGGAACCTCCCTACTCTTCTGATACATGCCGCCCAAAGTAAGCACAC
TGCTGTCGCCCGCATCGGCTTCGGCAATGCCGTAAACCATATGTTTCCTGCCCCAAACTC
GGTCTTTAAACGATTTTTTATACTCTTCCGCACCCACCAACCTTCCGCGTAAGGTATTCG
CCTTATTCAGGCTGCCTGAAACATCCAACACTGCACGCCGGCTGCCGCGATGGTCGGCGG
TCAGCTCTCCGGTATGTTTGAAAGAAGCGGTAGGTCACTTACGGATCAAATTGACGGTTC
CTCCCGGCTCTGAATTGGATTGGGTCAACCCCGTTGCACCCCGTACAACTTCAATATGGT
CATAAACCGCCAAATCGGTACTCGGAGACACGTCGATTTTCGCCGTATATCCCGAACGGC
CTGCAACATTGACGGTCATACCGTCTTCACCAATCTGATCAATATAGAAACCGCGTGACA
AAAACCGCGTCTGCAAGCCTGAATCGCGCACAACGTTGACACCCGTCGTGTTTTTCATTG
CCTCTTCAAGCGTATGCACCGCCTTATCGTCAAGGCGGCTGCGCGTGATGACGCTGACCG
ACTGCGGCGTATCCTTGCCCGCAATCCTCATACCTGTGGCGGTGGACATCCGATCTATCG
TATAAGAACGGGTCTTTTCGGTCTTGCCCAACAAAGCATGAGAGCCGCGTACATTGACCG
TATCCAGACTGACGGTATTGCCGTCTGAAACAGGCACAACACCGTCTGCAAAAGAACCAC
CGTAAGCCGATAACAGCATAACGGTCAGAATTTTAAGTGAAAAATGATTTTGATTCATAG
AGACCTCTGTAATATGCAAGTGTGCAAATCGTCCAAAGGCTCTCACAACTGTTTTGATTT
TTTATATTAATTGAAAAAAAGTAATTCTCAATTAAATTTATAGATAGGATTGTATTCCCA
TTTTGACAAAAAACAAACTACTCCTTACCGTTTATTTCAAAAAACGATAACATTGTATTG
AAAAATATCCGAATTTAAATACAGACCGCCAATGCAGAAAAAAACACCCAAATTGGCTAT
AATCCCGACAAACACACTCAAGGACAACAACATGGCAGCCTCGCCCGAAGCAAAATTCAC
CGAAGAAAGATTTTGTGGGTCAAACACCACACGCCGAAACTCATCACTTTCGCCATCAG
CCGTCCCGAATCCTACCGCTTTAAAGCCGGACAGTTCTCCCGACTCGGTTTCTACGAAGG
GGAAGGTTTCATTTGGCGTGCCTATTCCATTGTTTCCGCAGAATATGCCGACACGCTCGA
ATATTTTGCCGTACTCATCCAAGACGGCCCCATGTCGGCCCGTTTCGCCAAAATGCAACA
GGGCAACACCATCCTGCTCGATAAAAATGCCACCGGCTTCCTCCTGCCCGAACGCTTCCC
CGACGGCAAGGATTTGGTGATGCTCTGCACCGGCTCGGGCATCGCCCCCTTCCTTTCCAT
TCTCGAACAACCCGAAATCCGTCAACGTTTCGATACCGTCAACCTGATACATTCCGTATC
TTTTCCCGAAGAATTGATTTTCAACGACCGACTCGCCGCATTGACTGAACATCCCCTGGT
AGGCGAATACGGACACTCTTTCCGTTTCGTCCCTGTTACCACCCGTGCCGCCAACCCCTC
GGGCTTAAGCGGAAAACGCATTCCGGAACTCTTAAAAAACAACAGCATCGAACAGGCGCT
GCATACCAAGTTCACCCCGGAATCCACACGGTTTATGATTTGCGGCAACCCGGAAATGGT
CAAAGACACTTTCCAAACGCTGCTCGACATGGGTTACGCCATGCACCGCAACCGCATTCC
CGGTCAAATCATGATGGAAAACGGCTTCTAAAAAACCACCCTGCTTGTCCGATGCCTTCGG
ATGGACGGGCAAACCGACACGGCACGAAAACCGCGTCGGCAAAAATGCCGTCTGAAAAAA
TTCAGACGGCATCTTCGGATACATTACCTGCAAACGGCAACACACCGGCACAAACCGATT
AGGCAATCAACACGGTGACGGCTGTTTACATACTTGCCGGCTTTCACCAACCGATATCGA
```

-416-

```
TTTAACCGATTTCCTTAATATTTTTCCTGTCCGTTTTAAACTTCGCCTTAAACGCATCCG
GTAAATCTTTATCGAAATACCAAAGCCCGTCATCCATTTCCAATGCGCCGCCCATTCCGT
GCAGAACGACTTTTTCCCCCGTCAAAGGATCGGTTTCGGTAATTTCCACCTCATGCATTT
TTCCCCAATCCAAAACAGGCAACTTGTGTGCAAACGCCAAAACCTGTTCGTCAGAACGGC
CGCACGCCTTATCGCATCGGCCTGAAACATATACGGGACAAGGCTCATCCTCTGCATAAC
CGTCCGGAAGGATACCGGCTGCGGCAGGACACAATCCGTATGTTTCCGCCCACGACGACA
AAGCCCGTCTCGCTGCCTTTTTATTGGCAAATAATCCGGTAGGCGGATTATCCGTCACAC
CGTTTTTCAAAGCCGCTGTTTTCGCATTCAACATGCCGTCTGAACCTTTTTCAAACCTGA
CGGTCGTAAATGTTTTAAGCAGATTTTTGGCAGACACATAACAATCCGAATGATAACGCC
CGACCAATTCCGCTTTAATCTTATATGCATGCAGGCTGCCCAATGCGGGAAAAAAACGGA
CTTCCTCCGTATTGCACCAATCAAACGGGGCTTTTCCGGAGTCCAATAAAGCCGAAATCT
CGCTATATACCCGTTCAAACGTACCGATATAATTTACTTTCCCTCCGCCGTCGAAACAAG
CCAGCACCCCCATACCGTCAGGCAAACCGTACAACTGTTCCCTCAACCGTTCGGGCAGCG
CGGCAGGCAGCGGTTTCGGATTCATCAAACGGAAACACTGCCTGATCCATGCCTCAACCC
CGTGTTCCGACAGACTGTATTCCAAATAATCACACAATGCCGATACATCCGCCATCGCAC
GATGCCTGTCTTCCACAACAATCCCCAACCTTTCGATGATACTGTCCAGGCTGTGCTTGT
AAAATTGCGGATACAGACACCGGGACAGCTGCACACTGCACAAAGCAGGCGATGAAAATC
CGATACCCGCACGATGAAACTCATGCTTTAAAAACGTATAGTCGAAACGGCTGTTATGTG
CAACCAGCACACAACCCTTCAATACCGAAAACAACTCGCCGGCAATCTCTGCAAAAACAG
GCGCATCGGCAACCATGCCGTCTGAAATCCCCGTCAGCCCCGCCACAAACTGCGGAATCG
GTTTTTGAGGATTAACCAACCACTCATGCCTCACCACCCTTCCCTGCTCAAACTTGACCA
AAGCCACTTCGGTTACCCTGTCTTCATACAGATTGCCGCCCGTCGATTCCAAATCAACCA
CGGCAACAGGCATTCCAAACCGTAAAAATACCTTTTCCAGCAAGGGCCAGCGAGAAGCAA
CAATCATTTTATTCTCTTTAAATTCAAACAACAAACCAATATTTTACACTTTTAAGGCAT
TTCATCCAACAAAACAATTGACAGAATCCGATGATTACCCTAAAATTCGAATCTTTCTTG
CAGCGCACCCGTAGCTCAGTTGGATAGAGTATCTGGCTACGAACCAGAGGGTCGGGCGTT
CGAATCGCTCCGGGTGCGCCAGTAAGAAAATACAATATGCGCCCATCGTCTAGCGGTTAG
GACATCGCCCTTTCACGGCGGTAACCGGGGTTCGATTCCCCGTGGGCGTGCCAAATTCTA
AATCCCCGAGATTATCGCTCGGGGATTTTTTATTGTCTCAGCAACTCGTTACCATATCTT
TACCTACCCCCTTCATCAGAATCTCAGACGTAATCGAATCATATTCAAACCTTTGCCGTG
CAAACCGATATCCCATAACCGGATGCGGTGTCCGTCCAACATTTTACCCGATTGAAACGC
CTGATATATTGCACCCCATCAACGTGGCATTACTTTTCTTAACAATCCCCTTTGACAGCA
ACTGACTAGGGCTTTTTTATGCCATCATCAAATTTATAGTGGATTAACTTTAAACCAGTA
CGGCGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTG
ATTTTTGTTAATTCACTATAATATTTTCTCTCCCGATTGAAACAGGCGTAACAGAATGCC
CGAAGCTCCGGCTGCTTTCTTGTTTACCGCCGCGATATTTAGAGTATAATACCAAATTTG
AGCAATAGTTCTAAAACAGTTAGAACCATTTTTCATGAGCCTGACTGATTCGTACACTCG
GAGAAACTGATGCAGAATATTTTTGACCCTTTGGTTATTCGTGGAAAATCCCTTACCCCC
ATCGTGCAAGGCGGTATGGGGGTCGGTGTTTCCGCATCGGGTTTATCCAGCGCGGTGGCG
CGTGAAAACGGTATCGGAACGATTGCCAGTGTGGATTTGCGCCACCTTCACGAAGACCTA
CTCGCCGAATCACAAATCAATCCGAGTGAAGAGAAATATACATCTTTGAACTGTACCGCA
TTAGACAGGGAAATCCAAAAAGCCAAAAGCGCTTCAGAGGGAAAAGGACTGATTGCGGTC
AACGTGATGAAGGCGGTCAAAGACCACGCCGCATATGTCCGCCAGGCTTGCGAATCAGGG
GCGGATGCGGTTGTAATGGGTGCCGGCCTGCCTTTAGACCTGCCGGAAATGACCGAGGGC
TATCATAAAGATGTCGCGCTGCTGCCGATTCTGTCCGAATCGCGCGGTATTAATATCGTC
TTGAAACGTTGGATGAAAAAAGGCATATTGCCCGATGCGATTGTAGTCGAACATCCTGCC
CACGCGGCCGGACATTTGGGTGCATCAACCGTTGAAGGCGTAAACGATGCCAAGTTCGAC
TTCAAACGCGTGATTGAGGAAACGTTTGAAGTTTTCAAAAGTTTAGGGCTGGAAAGCGAA
AAAATCCCGCTTATTCTTGCGGGAGGCATGGCAAATTTTGAAAAAGTCAAAACCGCCCTA
AAGAACTGGGGAGCATCCGCCGTTCAAATCGGTACGGCTTTTGCCGTTACCGAAGAAGGA
GATGCACACCTTAACTTCAAAAAAACGCTCGCCGGTGCGGAAACTGAAAAAGTAGTCGAA
TTTATGTCTGTTGCCGGTTTGCCGGCGCGCGGTGTCCGCACCAAATTCCTAGACAGCTAC
ATCAAGCGTGAAAGCAAACTTCAGACAAACGCCAAAGCCGACCCGCGCCGCTGTACCCAA
GGTTTAAACTGCCTAACCAGTTGCGGTCTGCGCGACGGGCTTTCCAAAGCAGGACAGTTC
TGTATTGATATCCAGCTTGCCGCCGCATTCCGTGGAGAAGTAGATAAAGGCCTGTTCTTC
AGAGGTAAAGACCGCTGCCCTTCGGCAATGCCATCCGCACCGTCCGCGAGACGATACAAT
ATCTGCTGACGGGGAGCGAACCTGTTGCAACGCTCGGACGCTGACATCAGGTAGGATTTG
ATTTGCAAACAAAATGCCGTCTGAAGGGCTTTCAGACGGCGTTTTTCAGGCTGCGTTCCG
GAATAGTGTTAAAAAAATAAACGGGATGAGATACATTTATTTTCGTCCGACAAATCAAACC
```

```
ATCGCGCCGAATGATCAAATAATGCCTGCACGGCATTACATCTGGCAAAGCAATGCAATG
AAAACACGGCTTTTTTATTTGCTTTCAGTATTATTGAAAAGCTTGTCCATCGGGGTCAAA
TCGACCGCATTGCCTTGGCTGGTAATCCATTTGTTCTCGACGCGCCACACGCCTGCCGCG
TCCTCCACGCGCACATACCAGTGGTTGGTCGGCGAAAGGGTTTTGAACACCGCCTCATAT
TCCGCCCTGCCGTTCTGCGCGCTGCCGACGGGCTTGAGGGCGACGGTTTGATCGTCCGCC
TTGCGGGTCGGGTGCATCAGCAGCAGGTTCAAAGGCTGTTTGCCGTCAAACTCGCCGCCG
ACAAACACTTTTGCCGCATTCATATCGGGGGAAATGAGAACCTGCACCCCGATATGCCGT
CTGACGGCTTCTTCATCCCGATGAAGCTGGATGTCGATATGTTTGCCGTCTTTATAATAA
TCGTCCGTAACCAAATCTGTCGCGTGCTGCTGCGCGACAAAAAACATAGCGACGCTGGCG
ATGACGACAAAAATCGGCCCCGCCATCAAGATCCACGGCCAGACGTGTTTGTACCAAGGT
TTGATTGGAGTGTTTTGAGACACGGTTATTCTCCGATAAAGGTTGCATCTTCTTCCAAGA
CGACCGGCTTGCCGTCGGGCGCGCCGCTTTCGCGGTATTGGAAGGTAAATTCGATAGGGT
GGCTGCCTTTGTCCGCGTATTCCGGAATGGTGGACACTTGGACGGGAAGGGTTACCGTTT
CGCGCGGGGCAACCTTGATACCGCCTTCGGGCAGCCCGGTCAGGGCGATTTCGTCAAAGC
CTTTGACACTTGCGGTAATCAGCTGTTCTTTTTCACTTTTGTTGATGATACGCAGGCTGT
ATGCGTTTTCCAGCCAGCCTTTGGCGTTTTCGCGCACCAGTACGCCACGGTCTTTCAAAA
TATCGACCTCGACCATTTTGCGCGTGGACAAACCGGCCAGGAAGGCAATGATAACTAACG
CCAACACCGCGCCGTAACCTGCCACGCGCGGTCTGAGCAGCCGTTTTTTAATGTCTTTTT
CAGAATATTCGTGTTCCAGCGCGCTTTCGGTCGTATAACGGATTAATCCGCGCGGATAGC
CCATTTTGTCCATAATCTCATCGCACGCGTCGATACAGGCGGCGCAGCCGATACATTGGT
ATTGCAGACCGTTGCGGATGTCGATGCCGACGGGGCAGACTTGGACGCACATCGCACAGT
TGATGCAGTCGCCCAAACCCGCCTCTTCCTTATTGACCGTTTTCTTGCGCGCGCCGCGCG
GTTCGCCGCGTTCCGCGTCATAAGAAACAATCAGCGTGTCCTTGTCGAACATCGCGCTTT
GGAAACGTGCATACGGACACATATGCAGGCATACTTTTTCACGCATAATGTGGGCGAAGA
AGAAGGTCATAAAGCCATAAAACGCTGCGGCAAACATCGCGCCGCCACCTGCTGCTCCAG
TGAATAAATCGGGAACGAACTGGCGGATAGGGACAAACCAGCCTGCAAACGTGATGCCCG
TCCACGCGCAGACAAGGAAAATCAGCAGGTATTTGGTGGCTTTGATGCGGATTTTAGTGA
AATTCCACGGCGATTTTTCCAGTTTCAGCCGTTTGTTTCTATCGCCTTCGACCAGGTTGT
CAATCCACAGCATAATTTCGGTGTAAACCGTTTGCGGGCAGGAATAGCCGCACCACAGTC
GCCCTGCAATCGTCGTCCACCAAAACAGCCCGAAGGCGCAAATCATCAGCAGCAAGGCAA
GGTAAATCAAATCGCCCACCCCCAACGACAATCCGAAAATGAAGAAATGCCGTTCGGGGA
TATTGAAAACGACGGCCTGCCTGCCGCTCCAGTTGAACCACGGAATGACGTAAAACACAA
ACTGCGTCGCCAATACGGCGGCGATACGCAGTTTGGCGAACCGTCCTTCCGCCTTTTTGG
GATGGATGCGTTCGCCTTCGGGATGGATTTGAATCACGCTGGCTCGCGGATCGAATGTTT
TTTTTGCTTTCGGCGCGGCTTTTGTTTGTTCGGACGTGCCGATTCCGGATGCCGGACTGC
CGGCTTGGTTTTCCGTGGTCATTCTGCATTCCTTAGATTTTTGATTGATGGTTTGCCCGT
TACCGCCGCCGTTTGCTTTTCAGACGTCATTTTTCTTGTTTTTTAAGGCGTTGTGTTTCA
AGTTTTGAGAAAATCCGTTTTTCCCAAAATATATTTCCGCTATTGTACAACTTTATGCGC
CGTCCGGATGTATGGGGCGGATACATTTCCCATCCGCATCAAAACGCCTGGATTTTACCT
TACCGCCCGAACAAAATCCGAATACGGTTAAAAAAAAAGACTAAAAAAACCGACACCCCC
ATATCGGCAGAACCGACGGCGCAAGCTCATAAACAAACGCTATCGACAATCCGGCACACA
ATCTATAACTTTTTATTTCAAAAGGAATAATGGCAGGCTTCGCCCGCAAATCGAAAATCC
TTCCCCGCCTGTCCCCTGCCGCCGCCTTCCCACGCGTCCGCCCTTTTCTTGAAAGCATAA
GCGAATCGGGCGATAATCAACGCTTTCCGATTATCCACTTATCTGAAACACCAGCAAGGA
AAATACAAAATGTCTCAACTGGCAAACGCAATCCGCTTCCTCTCGGCCGATGCCGTTCAA
AAAGCCAATTCCGGCCACCCCGGCGCGCCTATGGGTATGGCGGAAATGGCGGAAACATTG
TGGACGAAATTCCTCAATCACAACCCCGCCAACCCCAAATTCTACAACCGCGACCGCTTC
GTCCTCTCCAACGGCCACGCGTCTATGCTGTTGTACAGCCTGCTGCACCTGACCGGCTAC
AACCTAAGCATTGAAGACTTGAAAAACTTCCGCCAACTGCACAGCAAAACCCCCGGCCAT
CCCGAATACGGCTACACCGACGGCGTGGAAACCACGACCGGCCCGTTGGGGCAAGGGATT
GCCAACGCGGTGGGTATGGCATTGGCAGAAAAAATCCTTGCCGCCGAATTTAATAAAGAC
GGTTTGAACATCGTCGATCATTACACCTACGTCTTTATGGGCGACGGCTGTCTGATGGAA
GGCGTATCGCACGAAGCCTGTTCGCTCGCCGGCACCTTGGGCTTGGGCAAACTGATTGTT
TTATATGATGACAACAATATTTCCATTGATGGTAAAGTGGACGGCTGGTTTACCGAAAAC
ATCCCGCAACGCTTTGAAAGCTACGGCTGGCACGTCGTTCCCAATGTAAACGGTCATGAC
ACCGCCGCCATTCAAGCCGCCATCGAAGCCGCACGTGCCGAAACCGGCAAACCGTCCATC
ATCTGCTGCAAAACCTTAATCGGCAAAGGCAGTGCCAACAAAGAAGGCAGCCACAAAACC
CACGGCGCACCTTTGGGCGCGGACGAAATCGAAGCCACGCGCAAACATTTGGGCTGGACT
TACCCCGCCTTTGAAATCCCGCAAGAAATTTACGATGCGTGGAATGCCAAAGAACAAGGC
```

GCGAAACTGGAAGCCGACTGGAACGAACTGTTCGCGCAATATCAAGCCAAATATCCTGCC
GAAGCCGCAGAATTTGTGCGCCGTATGGATAAAAAGCTGCCGGACAATTTCGATGAATAC
GTTCAAGCCGCATTGAAAGAAGTGTGCGCCAAAGCCGAAACCATCGCCACCCGCAAAGCC
AGCCAAAACAGCATCGAAATCTTGGCAAAAGAGTTGCCTGAATTGGTAGGCGGTTCTGCC
GACCTGACCCCGTCCAATCTGACCGACTGGTCAAACAGCGTCTCCGTTACCCGCGACAAA
GGCGGCAACTACATCCACTACGGCGTGCGCGAGTTCGGCATGGGTGCGATTATGAACGGT
TTGGTATTGCACGGCGGCGTAAAACCCTTCGGCGCGACTTTCCTGATGTTCAGCGAATAC
GAGCGCAATGCCCTGCGTATGGCTGCGTTGATGAAAATCAACCCTGTATTTGTGTTTACC
CACGATTCCATCGGTTTGGGCGAAGACGGCCCGACCCATCAACCGATTGAGCAAACCGCC
ACCCTGCGCCTGATTCCGAATATGGACGTATGGCGGCCGTGCGACACCGCCGAATCCTTG
GTGGCTTGGGCAGAAGCCGTCAAAGCCGCCGATCACCCGTCCTGCCTGATTTTCAGCCGT
CAAAACCTGAAATTCCAAGCGCGCAGCGAGCAACAACTGAACGACATCAAACGCGGCGGC
TACGTCATCAGCGAAGCCCAAGGCAACGCCCAAGCCGTCATCATTGCCACCGGCTCAGAA
GTCGAGCTGGCTTTGGAAGCGCAAAAAGCCCTCGCCGCGCAAAACATCGCCGTGCGCGTC
GTTTCCATGCCGTCCACCAACGTATTCGACCGCCAAGACGCCGCCTATCAAGCCGCCGTC
CTGCCCGAAGGCCTGCCGCGCATCGCCGTAGAAGCCGGACACGCCGACGGCTGGTACAAA
TATGTCGGACTGAACGGCGCAGTCGTCGGCATCAACCGCTTCGGCGAATCCGCCCCTGCC
GATTTACTCTTCAAAGCATTCGGCTTTACCGTGGACAATGTGGTTGATACGGTGAAATCC
GTGCTGTAACCCCACACCTAAACAAATGCCGTCTGAAACCAATTAGGGCTTCAGACGGCA
TTTTTATATTCTCGCGGCCATGATGCTTTCTCATCCCACCAATCTCCATTATAATATTTG
CGAATCACTCTTATTCACATTTCAAAAGGAGAAACGCATGAGCACCCGTACCGAACACGA
CACGATGGGCAATGTCGAAGTCCCATCCGAAGCCTATTGGGCGCGCAGACCCAGCGCAG
CCGCAACAATTTCAAAATCGGTGGCGAAACCCTGCCGCAGCCGTTGATTTATGCTTTGGC
ATTGGTGAAAAAAGCCGCCGCTGCCACCAATGTTTCCCTCGGTAGGATTAAGCCTGAACA
GGCGGATTTGATTACGCAGGCGGCGGATGATGTGTTGAGCGGCAAGCTCGACGGGCAGTT
CCCATTGGTAGTGTGGCAGACCGGTTCCGGCACGCAGTCCAATATGAACATGAACGAAGT
GCTGGCAAACCGCGCCAACGAAATCGCCGGTACGGGTTTGGCGGCTTATCAGCCCGTCCA
TCCCAACGACCATGTGAACCACGCGCAATCGACCAACGACGCATTCCCGACCGCTATCCA
CGTTGCCGCCGCGATTGAAATCAACCGCCACCTCATCCCCGCCGTAAAAGCCCTGCGCGA
CACGTTGGACAAAAAAGCCCAAGCTTTCGCCCCTATCGTCAAAATCGGCCGCACCCACTT
GCAAGACGCGACGCCGCTGACTTTGGGACAGGAATTTTCCGGCTACGTTTCCCAGCTTGA
TCACGGTTTAGGCCGTCTGAACGATGCGCTTAAAGACTTGTATGAACTTGCTTTGGGCGG
TACGGCGGTCGGCACGGGTTTGAACAGCCATCCCGAATACGCCGAAAAAGCCGCCGCCAA
ACTCGCCGAATTGTCCGGCTTGCCGTTTGTCAGCGCGCCGAACAAATTTGAAGCCCTGGG
CGGACGCGATGCCGCCGTTGCCGCTTCGGGCGCATTGAAAACGCTGGCGGCAAGCCTGAA
CAAAATTGCCAACGACATCCGTTGGCTGGCAAGCGGCCCGCGTTGCGGTTTGGGCGAAAT
CAAAATCCCCGAAAACGAGCCGGGTTCGTCCATTATGCCGGGCAAAGTCAACCCGACCCA
ATGCGAAGCAATGACGATGGTGTGCTGCCAAGTGTTCGGCAACGACGTTACCATCGGTAT
GGCGGGCGCGTCGGGCAATTTCGAGCTGAACGTCTATATGCCCGTTATCGCCTACAACCT
CTTGCAATCCATCCACCTGTTGGGCGACGCGTGCAACAGCTTCAACGAACACTGCGCCAT
CGGCATCGAACCCGTGCCGGAAAAAATCGACTATTTCCTGCACCATTCCCTGATGCTGGT
TACCGCATTAAACCGTAAAATCGGTTACGAAAACGCCGCCAAAGTCGCCAAAACCGCCTA
CAAAAACAACAAATCGTTGCGCGAAACCGCCGTTGAGTTGGGCTTGCTGACGGGCGAAGA
ATTTGACGAACTGGTCGTTCCTGCCGATATGGTTCATCCGCGCTAATCCTTCCCTCAAAT
AAAATGCCGTCTGAAACCTCGTTCGGACGGCATTTTCCGTTGCCTGCAAACTAGCGGCGT
TTGAACAGCCTGTCCCCCACCGCCGCCGTAACCGCACCCCCGACCACGATCAGTGCGCCT
GCATAACCCAAACCGTTCATATCCGGCGCGGCAAAAGTATCAGGCATCACATAATGCCCG
AGCAAAGAAAATATTACGGTAAACACGGGGAGCAAGGTTGTTACCGCGCTGACTTTGGAA
GCCTCCCAATGTTTCAACGCCTCGCCGAACGAGCCGTAACCGATTAACGTATTCAAGCAG
CAATACGCAAAACAAACCCACGCCAACGTACCGTCCAAACTTCCGATGTGTGCCGGTTCG
GCAAACGGCAGGAACACGGCGGCACTTGCCGCATAAATCAACAGCAGAATCTGTTGCGGC
CCGAATTGCGCCGACAGCAGCTTTTGCGCCACGGCATAACACACCCATGCCATACTGCCT
GCCGCACACAGCAACACGCCCTTCGCATACGCGCCCAAACCCGACAACTCGCCGAATTTA
TCGTTAAAAAACATAAGCAAACCGGCAAGCAGCAAAACCAAGCCGATTTTCTGAGCGGCA
GTCATCCGGTCTTTAAACACCAACACACCGACAACAATCATCGTAAACGGCGAAATCTGC
CACAAAACCTGCGTCGTGGTCGGCGAAATATAATGCAGCCCTTGGGCAATCAGCACAAAG
TTTGCCGAAATGCCCGCCACGCCGAGCAGCAGCAGCCTGAATGAGCACCAAGAAAAATCC
CGCCGCTTCGGCAGCCGCCCGCCCAGTGCCAGCAAAACAAACAATACCGCCGCCGCCACG
GTAAAACGCACCCACACCAGCGTCGGCGCATCGACAAACTTCAATACCTGCCGCACGGCA

-419-

```
ATCGGCAGCGTTCCCCACGTCATCGCCGCCAAAAGTGCCAACGCGAAGCCTAGGAGCGGC
CTTTGGTTTTCCATCCTGATTTTCCTATTTTTAAACAACCGTATTGCCGGACGATGCCGG
TTTGCCGCATCGGGCAATGATGGTTCAAGCGTTTGGCGTTTGATTCCAACCCTTTGATTT
CAAACAAACCGGCTGAAGCTCGGCTATTGCTTCGCGCTATTTGAAAACACCGCCTGAATT
TTAAAATATAGTGGATTAACAAAAACCAGTACAGCGTTGCCTCGCCTTAGCTCAAAGAGA
ACGATTCTCTAAGGTGCTCAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTG
CGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATACCGTCTGAAAACAGCGGGG
ACGTGCGGCAGGCATCACTGCCTCAAAACGCCCGAACGGCGCAATCGCAACGTTCCGCCC
AACGCAAAGGGCGGCAACAAGCCGGCCCAAATGCAAAAAAGAGAAACCCTGCCCCGTAAG
GTTTAAGGTTTCTCCGTCCTTTATGATTTCCCTCCGCGAGGATGTCCGGCCGTAAAATTC
AGAACGGGATATCGTCGTCAATGTCCTCGACCGGGGCGGCGGCAGGCACGGGTTGGCGGC
GCGGCGCGGCTGGTGCTTCTTGGGGATGGGACGGCGCGTCGGAGGCGGGCTGCCGGCTTT
GCTGCGCGGGGCGTTGGTAAGCCTCCTGACTCTGACCGTAACCTTCCTCGTAAGGCGCAC
CGCCGCTGTTTTCATTGCGCCCGCCCAACATTTTCATTCGTTGGCGACAATATCGTAAG
CGGTGCGTTCGATGCCGTCTTTGCCTTGGTATTTGCGGCTTTGGATTCTGCCTTCCAAAT
AAACCAGCCCGCCTTTTTTGAGGTATTGCCCGGCAATTTCCGCCAGTTTGCGGTACATGG
TGATGTTGTGCCACTCAGTACGCTCTACACGTTGGCCGTTGCGGTCGTTCCAAGTTTCGC
TGGTGGCGACGCTGAAATTACAAACCGCCTCGCCGTTGGGCATATAGCGCACTTCGGGAT
CGCGTCCGAGGCGGCCGATGAGGATGACTTTGTTCAATGACATTTTTTAAACTCCTGTGA
TGATTTTTTCAGCGGCAGCCTGATCGAAACCCTTCTGCAACACTTTGAGATAGACGGTCT
GCCCGTCGAAACTGAAACCGATGTCTTCCACACCCTCAAGCTCCGACAAGGCGCGGTATA
ACCCTTCCTGATTGCCCTGCCACACGCCGCCGACAGGGTAACTGAGGTTTTTGACGGGCT
TGGGCGCAGGCGATAAAACGGCAATTACCAGCCACAGCAGCATCAATATACTGCAAAAGG
CAAACACGCCGGAAAAGCCGTATTTTTGAAACAGCAAACCGCCTGCCGCGCCGCCGGCAA
ACAGTCCGAGCGACTGCATCGTGTTGTACACGCCCATCGCCGTACCCTTCAGGTCGGACG
GCGCGATTTTGGAAACCATAGACGGCAGGCTCGCTTCCAACACATTAAAACCGATAAAGT
AAACAACCAAATAAGCGGTAATCAAGCCTACCGAGCGCATACCGGACAGCAAACCGAGCT
GCGCCGCCGCAATACAGACGATACCCAAAACAAAAACCTGCTTAAGCTTGTTGCGCGTCT
CGCCGACGATAATCAGCGGAACCATCACCCACCAAGCCCGTAATGGTCGAAGGCAGATAGA
CTTTCCAATGCTGTATTTTTTCCAAACCGAGCTGGGTCATCGCGAAAGGCAGCGCGGTAA
ACAATGCCATTTGTGCGGCGTGCAGGGCGAAAATGCCGAAATCAAGCGTCAGCAGCCTAC
GGTTTTTCAAAACTTCGCCTATGCGCGAAGGCTGCGCCTGCGTATCTTCGTGCAGCTTGG
AAACTTCGGGATCGGGAGTCATCCACGCCACCACGCCGATGCTGATGACGGTCAGAATGC
CGGTCAGCATAAACAGTCCGCGAACGCCGACCGCGTCGGCAATCACGGGGGCAACGACGA
GGCTGACCGAAAACGTCAAACCGATACTCAAACCGATCATCGCCATTGCGCGGGTACGTA
CGCCGTCGCGCGTCAAATCCGCCAGCAGCGCGGTAACCGCCGCACTGACCGCCCCTGCAC
CCTGTATGGCGCGTGCGGCGACCAGCATGGGCAGCGTATCGGCGGCGGCGGCAAGAAAGC
TGCCCGCCGCAAACACGACCAGTCCCGCATAAATGGTTTTCTTGCGCCCGAACTTGTCGG
AAGCGATGCCCAAAGGCAGTTGCAGCAGAGCCTGTGTCAGCCCGTAAATGCCCATTGCCA
GCCCGACCAGCGTTTTGTTGCCTTCCGCGCCGGGCAGCGAGGCGGCATACACCGCCAATA
CGGGCAGCACGAGGAACATACCCAGCATACGCAGCGCGTACACGCCGGAAAGCGTCGTAC
TGGCGCGCCATTCGTGCGGAAACATTTGGATGCGGTTGTCTCTTGCCATCATATTTTTTC
AGACGGCATCAACAGTTGCAATGCCGTCTGAACTTCCAGTGAACAGATTTTCGGATTATA
CAGGATTCGCCGTATTTCGGTTGCGGCGCGGGTTCAAAATCAACGCCACTGCCAGCGGTT
GCGCCACGCGCCCAAAACGGCGTTCGGATATTTATTGCTGCCCAAGCTGCCGTTAAAGCG
GGCAAGCGCGCGGACGATGTTGCCTTTTTCAAGATTCCGGTAATGGCGCAGGATGGTACA
GCCGTAACGCAGGTTGGTGCGGATGTCGAACAGGTTGTGCGCCGGTTTGCCGATGTAGTT
TTTCCAAAACGGCATAACCTGCATCAGGCCGCGCGCGCCGACACCGCTGATTGCATACTG
GCGGAACGCGCTTTCCACCTCAATCAGCCCCAACACAATCTGCGTATCCAAACCGGCCCG
GCTGCTTTCGTACTGGATATTGACCAGCAGCCTGCGCCGCTCCTCCTCCTCGGGGACGAA
CCTTGCCAAACGTGCCGACATGGCAGACAACCAACGCTCGCCCTCTTTCGGATTGTCAAA
CACCAGCCTCGGCGGATTGACGCTGCCGACAGAACTCCTCATCACGGAAGCCACATCGTC
GGCAAGCGTTTCCTCACGTTGCGCGCCGGCGTGCGCCAGAGGACTGAGCAACAACGCACC
GGCGGCACACAACAGGCGGCGGCGTTGCAGATTAACGGGTAGGGTATCGGTCGGTTTTCT
CATAGGGAACGGGGGCGCGTCCGGACGTTTCAGACGGCATTAAATATTCAAACAGACATA
ATTGCTTTCAACGCGAAAAACCGCGCGCAAATCCAAGCGCGGCATATCGCCCTGCCCTT
TTCGGGCAAACCTCAATTCTACCGCCCTCAAGAACGCTTGTCCAAACAGGCACAGGCAAC
ACCGCCCGGGCATTTCCGTTTTCACCGGTTATCCGTCGTCCGGATTATGCAGCAGCACCA
TCAGCGCATCACGCTTTTCGGGCGGCAGCAGGCGGAAATATAGTAGATTAAATTTAAACC
```

-420-

```
AGTACAGCGTTGCCTCGCCTTGCCGTACTGATTTAAATTTAATCCACTATATCTTGAGGC
CTTTGCAAAATTCCTTTCCCTCCCGACAGCCGAAACCCAAACACAGGTTTTCGGCTGTTT
TCGCCCCAGATACCTCCTAATTTTACCCAAATACCCCTTTAATCCTGCCCGGACACCTGA
TAATCAGGCATCCGGGGCACCTTTTAGGCGGCAGCGGGCGCACTTAGCCTGTTGGCGGCT
TTCAAAAGGTTCAAACACATCGCCTTCAGATGGCTTTGCGCACTCACTTTAATCAGTCCG
AAATAGGCTGCCCGGGCGTAGCGGAATTTACGGTGCAGCGTACCGAAGCTCTGTTCGACC
ACATATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACG
ATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGG
CTTCGTCGCCTTGTCCTGATTTAAATTTAATCCACTATAACGGGTTTTCGACAAATATCG
GTTGCGTTTGGTTTGCGCCTCCGTCAGCGGACGGTTGCGGCAGGCTTTGCGCATAATGCC
GTTCTGCAACCGATGCTCTTTCAGTTTTCCGTAGGTCGGATTCTCGAATCCGACATTACT
TCAATCGTATCCAATAGAAAAGTCCGCATTGCCGCCACCCCAATTATGCGGATAAATACC
CTGTTTGACATAACGGTGAAACGTAGAAAACCCCCAATCGGAAATTTGTCCTACATAGCC
ATGTTTGACCGGATTGAAATGCAGATAATCAAAATGCCAGGCAAAATCGGCCTCATCGCG
GATAGTATATTCCCAAAAGCGTTTTTGCCAAAGCCTGAGATTGCCGCCGATTAAATATTG
GCTGTGCCGCTTGATTTGCCGCCAGCGTTCCGAATAAGCAGAATCATTGTCCGGCAGCCG
CCATATGGTATGCAGATGGTCGGGCATCAACACCCATGCCAAAATTTCAAACGGATACCG
TTCGCGCACCGCCATTACCGCCTGCCGTAAAGCCAAACGCACCGCATCATCGGTCAAAAT
CTTCTGCCGTTTATTGGTTACAACCGTAAAAAAGTAAGTGCCGCCATTGCGGTAAAAACG
ACGGTATTTCATAGTATTATGCTCGGAATGATTTTGTAGGTCGGATTCTTGAATTCGACA
TTTTGGGCATTGCTGCAATGGATTGCAATGATGGGAATGTTAAAGGTTTTGTCGGATACA
AGTATCCGACCTACGCTTGCTGAACCGTCATTCCCACGAAAGTGGGAATCTAGAATCTCG
GGGTTTCAGTCATTTCCGATAGATTCCCGCCGCGTCAGGGGGTCTGGATTCCCGCCTGCG
CGGGAATGACGGGTTTCAAGATTGCAGTGTTGTCGGGAATGACGGGTTTCAAGATTGCGG
TGTTGTCGGGAATGACGAATCCATCCATACGGAAACCTGCACCACGTCATTCCCACGGAA
GTGGGAATCTAGAATCCCGGGGTTTCAGTCATTCCGATAGATTCCCGCCGTCGGGGG
TCTAGATTCCCGCCTGCGCGGGAATGACGGGTTTCGAGATTGCGGTGTTGTCGGAACGCA
ACTGAACCGTCATTCCCACGACAGTGGGAATCTAGAATCTCGGGGGTTCAGTCATTTCCG
ATAGATTCCCGCCGCGTCAGGGGGTCTAGATTCCCGCCTGCGCGGGAATGATGGGTTTCA
AGATTGCGGTATTGTCGGGAATGACGAATCCATCCATACGGAAACCTGCACCACGTCATT
CCCACGAAAGTGGGAATCTAGAATCCCGGGGTTTCAGTCATTTCCGATAGATTCCCGCCG
CGTCAGGGAGTCTGGATTCCCGCCTGCGCGGGAATGACGAATTTCGAGATTGCGGTATTA
TCGGGAATGACGAATTTCGAGATTGCGGTATTGTCGGGAATGGCGGGTTTCAAGATTACG
GTGTTGTCGGGAATGACGGTTCGGGTATTTCCACGCCCGCCCCGCGCCTGTAAACGGCAG
GTGAATCAAAAATGCCGTCTGAAGGTTCAGACGGCATCGGTGTCGGGGAATCAGAAGTGG
TAGCGCATGCCCAATGAGACTTCGTGGGTTTTGAAGCGGGTGTTTTCCAAGCGTCCCCAG
TTGTGGTAACGGTATCCGGTGTCTAAAGTCAGCTTGGGTGTGATGTCGAAACCGACACCG
GCGATGACACCAAGACCTAAGCTGCTGATACTGTTGCTTTCGTGATAGGCAGGTTTGTTG
GTCGGACCTTGTACGATTTTGCCTGGCACTGTAGCGCCTTGCGCTGGTGGACTGAAAGTA
GTCGTGGTTTCTTTTCTCACCGAATGAACCTGATGTTTAACGTGTCCGTAGGCGACGCGC
GCACCGATATAGGGTTTGAATTTATCGAATTTATCGTTGAGTTTGAAATCGTAAATGGCG
GATAAGCCGAGAGAAGAAGCGGCGTGGAATGTACCGTTTTCCTGATTTTCCGTCTTCAGT
TCTTGCCAGATGCCACTGCTATTGTTTTTTTGCAACTCTTTTGTGTTTACGGAATATTTA
TTGTTGTTCCATTTTCTGTAACTGGCATAATCTGCCGCTATCCTCCAGCCGCCGAAATCG
TAGCCGACCGACACCCGGGGGTGGATGGAATGCGCACGGATGTTTCTGAAATAATCGCTT
ACTGTGCTTGTGTTGTTTGCACCGGTTGCTTTCGGATAATCGTGGGTAATGCGTTCGGCG
GCATAAGCTAAATCCGCCTGCACATAATACGGGCTGCGGCTGCCGTCTTCACTTGCCGCC
TGCGCTGCGGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAG
AAGAGAAGAGAAGAGAAGGTTTTTTGGGGGCTGGATTCATTTCGGCTCCGTATTCGGTT
TTAACTGATTAAAAAGAAAGATTTTCAATGATGTTGCAGGAGCGGACTATATCAGGTTTG
TGGCGATGTTTCAACACAATATAGCGGATGAACAAAAAAGAGAACGATTCTCTAAGGTGC
TGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTTGCCTTGT
CCTGATTTTTGTTAATCCGCTATAAACAACGCTTCGTCCGAAAAAACGATTGAATTTGCG
GGCAGAAGCTGGACGAAAACCGCCGACAGCCTGCCGCAAAAGGCACACGGTTTGCGCTAG
GGCTTAGGCGTGTCGCGCGAAATCAATGCGGGCAGGCATCATTTCCTCTACGGCGGCATC
AGCGGCGGCGGCGTGCATTATTGGGATAACAAAGATTTCAGCGAACAGAGCCTGCGCCTG
TCGTTCGGCTATAAAAACCGTTCGGTAACGCGCTCGTTCGGCATCGTGCCGTTTGTCGAG
CAAAACCTCTTAGGCGGCAGCCGATACAATTTCGTCGGCGGCTTCAATGCCGATTTCTCC
CAACGCTTGAGCGAACGCTGGCGGTTGACACTAAACGCGGGCAATATGTGGAAGCATTAT
```

-421-

```
CAGGAAGACCGCACCGCCGCCCGATACGACAGCCATATGCCGCTGGCGGGCGCGACGCTG
ATGTATTCCGCGCCGAAAGACTGGCTGCTTTACGGCGGTGCGGACTGGTCGCACAACATA
ACGAAAGAGGCGGAACAGGCTTCCATCCGCAAGGGTTTGCGTGTCGGCGCGGTCAAAACG
TTCGACGGCGGCTTGGGTCTGCGGGCAAACCTGCGCTATACCCGCAGGATGTTTGACGCA
CCCGGGACCATTGTGTACCGCTTCCCGCGCAAAGACCACGAATATCAGGCAAACCTGTCG
TTGTGGCATGACAAAATCTCTTGGAAGGGCTTTACGCCGCAACTCAATTTCCGCTATCTG
AAAATCGACAGCAATATGAAAAGTTTTTACACACGCAAAAACATGCAGATTTTCATGAGC
GTGGAAAAGGATTTCAAATAAGCGCAAAAAATGCCGTCGGCAACATCCGTGGGCAGAATC
AAAAACCGCCGCATCATTTATTGTCAACGCCTGCGCCGTCAGAGTAACATTGCGTTTTTC
CCCCACCGGTATCCGCCATGACCACCACCCCCGCAAACGTCCTCGCCTCCGTCGATTTGG
GTTCCAACAGTTTCCGCCTCCAGATTTGCGAAAACAACAACGGACAATTAAAAGTCATCG
ATTCGTTCAAACAGATGGTGCGCTTCGCCGCCGGACTGGACGAACAGAAAAATCTGAGTG
CCGCTTCCCAAGAACAGGCTTTGGACTGTCTGGCAAAATTCGGCGAACGCCTGCGCGGCT
TCCGCCCTGAACAGGTACGCGCCGTGGCAACCAACACATTCCGCGTTGCCAAAAACATCG
CAGATTTCCTTCCCAAAGCCGAAGCGGCATTGGGTTTCCCCATCGAAATCATCGCCGGGC
GCGAAGAGGCGCGGCTGATTTATACCGGCGTGATCCACACCCTCCCCCCGGGCGGCGGCA
AAATGCTGGTTATCGACATCGGCGGCGGTTCGACAGAATTTGTCATCGGCTCGACGCTGA
ATCCCGACATTACCGAAAGCCTGCCCTTGGGCTGCGTAACCTACAGCCTGCGCTTCTTCC
AAAACAAATCACCGCCAAAGACTTCCAATCTGCCATTTCCGCCGCCCGCAACGAAATCC
AGCGTATCAGCAAAAATATGAGGCGCGAAGGTTGGGATTTCGCCGTCGGCACATCGGGTT
CGGCAAAATCCATCCGCGACGTGCTTGCCGCCGAAATGCCCCAAGAGGCGGACATTACCT
ACAAAGGCATGCGCGCCCTCGCCGAACGCATCATCGAAGCCGGTTCGGTCAAAAAAGCCA
AATTTGAAAACCTGAAACCGGAACGCATCGAAGTTTTTGCCGGCGGACTTGCCGTGATGA
TGGCGGCGTTTGAGGAAATGAAACTCGACAGGATGACCGTAACCGAAGCCGCCCTGCGCG
ACGGCGTGTTTTACGATTTGATCGGGCGCGGTTTAAACGAAGATATGCGCGGACAAACGG
TTGCCGAGTTCCAACACCGCTACCACGTCAGCCTCAATCAGGCGAAACGCACCGCCGAGA
CCGCGCAAACCTTTATGGACAGCCTCTGCCACGCTAAAAACGTTACAGTTCAAGAGCTTG
CCTTGTGGCAACAGTATCTCGGACGCGCCGCCGCGCTGCACGAAATCGGTTTGGACATCG
CCCACACCGGCTATCACAAGCATTCCGCCTACATCCTCGAAAACGCCGATATGCCGGGTT
TCTCACGCAAAGAACAGACCATACTTGCCCAACTGGTCATCGGTCATCGCGGCGATATGA
AAAAAATGAGCGGCATCATCGGCACCAACGAAATGTTGTGGTATGCCGTTTTGTCCCTGC
GCCTTGCCGCACTGTTCTGCCGTTCGCGCCAAGACCTGTCTTTCCCGAAAAATATGCAGT
TGCGCACGGATACGGAAAGCTGCGGCTTCATCCTGCGTATTGACAGGGAATGGCTGGAAC
GCCATCCCCTGATTGCCGACGCATTGGAATATGAAAGCGTCCAATGGCAAAAAATCAATA
TGCCGTTCAAAGTCGAGGCCGTCTGAACCTTGCGGAACAAATGCCGTCCAAACCCTGTCC
AGACGGCATTTGCCTGTCCGCAACATCCCGATATGCGCGGCACATCTGCTCGGAACGGTC
ATGCAGGCGTAAAAAACAAGGGGCACATAACCCAAAAACCGCCTGAAAATCTTCAGGCGG
TTTCGTTTGGGTTGCCGGCAGGCGGCATCCCATCATTTTTGCCAAGGCAACAAATTATTT
GGCGGCATCTTTCATTTTGTCTGCCGCTTCCTGAGTCGCGTCGGCAGCTTTGTTCAAAGT
ATCTTTAGCTGCTTCAGTTACAGCTTCTTTGGCTTCAGTTACAGCTTCCTCGGCACTTGC
CTTTGCATCAGCCGCAGCATCTTTGACTTGGTCTTTCGCTTCTTCGACGGCAGAAGCGGC
AGACTCGGCGGCAGAAGCCGCAGTGTCTTTAACATCGGACTCAACGGCTTGAACCGCTTC
CTTAACCTCCTGTTTGGCTTCTTGCGAACAAGCTGCCAAGGCAGCCGCCATCATTGCGGC
AATCAATAATTTTTTCATGTCTTATCCTTCTTGAGTTGTTGATTAAGGTTTTGCTTAAAA
ATCGGACCGTGTTCCATCAATCGGCTGATTTTGCCCATCGACCGGAGAGAAAACGGTTTC
CCGTTTAGTTAAAACCCATTATATTTAAATATAAAGGTTTTTTTCTCGAACAATAAGGCG
GCATCAATGCCATATTGAAACACGTCCGAAAACTATTTTATGAAAACAGTTCGGAAAATT
GTAACACATATCCCCCTCCTTTTGAGTTTCCCGACGGTGCGGACTTTTTCCTGCAGGGTT
TGAAAAACCCAAATATATTCCGGGATGTCCGAATACCTCAATAATGGCGGCGGCGGAAAT
AAAACGCCCCTTCGCTGTCGATTTCCAGCACATAGCGTCCGTTCTGCACGGCGGCATAGC
CGCTTTTGCCTGCCTGATAGGGTTGCAGGGCGGCATGCGAAACTAGGTAATCCGTCAGTT
TGCCGCCGTCTTCGGCGATATTGCCCACCAGTTTGGCAAACAAGGTATGGCACACGCCGT
TTTCTGCCCAACCTGCCGGACTGTCCTTATCATCGGTTTCCATACATTTGCCGCTGACGG
CTTCCAAGTCGCCGGGATGCTTGCCGATCAGTCGGATAACATTTTGTTCCGGCAAGCCTT
TAATCGGATAACTGATTTGTTTTTGCCGTCGTTGGTTTTGCCTTCGCTGCTTTGTCCCA
AATCCAAACCGGCAATCGCCGTATTGTCGATATATTTGACTTTGAAAACCGGTTTCGGCG
CGCTTTGTACCGCGTTTTGCGGCTGTTCCGCCGTATTTTCGGATTTGCCGCAGGCGGCAA
GCAGCAGGCAGCCGCCCAATACGGCAAAAGATGTTTTCAGCATTCCACACTCCTGATGGT
TTCAAAATGCCGTCTGAAACGCGGCAGGCGGAGGTTCGGACGGCATCGGGTTCATTTCAA
```

```
CGGGCGGATGCCGACCGCATCGCGTACTTTGTCCAATAATTCGCGTGCTTCTTTACGCGC
TTTCGCCGCGCCTGCCTGCAAAATCTCTTCGATTTGCGAAGGGTCGGCGGTCAGCTCGTT
GTAGCGTTCGCGCGGTTCGGCGAGTTCGGCGTTGATTTTCGCCGCCAAAAGTTTTTTGGC
TTCACCCCACGCCAAGCCGTCGGCAAGCATTTTCGTAAATTCCACCGTTTCAGACGGCGT
GGAGAAGGCTTTGTAGATTTCAAACAATGGGCTTTCGTCGGGCTGTTTCGGCTCGCCCGG
CTCTTTCATATTGGTGATGATTTTGTTGACCGATTTTTGGGTTTTTTTGTCGTTTTCCCA
AAGCGGAATGGTGTTGCCGTAGGATTTGGACATTTTGCGTCCGTCCAAACCGACCAAGAG
TTCGACGTTTTCATCGATTTTCACTTCGGGCAGGGTGAAGAGTTCCCGGAAGCGGTGGTT
GAAGCGGCCGGCGATGTCGCGCGCCATTTCGACGTGTTGGATTTGGTCGCGCCCGACGGG
CACTTCGTTGGCGTTGAACATCAGAATATCGGCAGTCATCAGAATCGGATAACTGAACAA
ACCCATTTCCACACCGAAATCAGGGTCTTCCTGCCCGTTTTCTGCATTTGCCTGCACGGC
GGCTTTGTAGGCATGGGCGCGGTTCATCAAACCCTTGGCAGTGATGCAGGTCAGAATCCA
GTTCAATTCCATCACTTCGGGAGTGTCGCTTTGGCGGTAGAAGGTGGTGCGCTCGGGGTC
GAGTCCGCAGGCAAGCCAAGTGGCGGCAACGGCTTGGGTGGATTGGTGAATCATCTCCGG
CTCGTGGCATTTGATGATACCGTGGTAATCGGCGAGGAAGAGGAAGGATTCGGTATCGAG
GTTTTGCGCCGCGCGGACGGCGGGGCGGATGGCGCCGACGTAGTTGCCCAGATGCGGGAT
GCCGGTGGTGGTTACGCCGGTCAGAACTCGTTTTTTGCTCATAAAAATGTCCTTGCGGCA
TCAATGCCGTCTGAAAGGGAAAAAGATGTGCCGATTATACCCGATTTGCCACCTACATCC
AGCCGACAACAGACTTTTCCATATTAAGAAGATATAGTTATACACATTATTATACATTTT
TATATACTTTAAATTCAATGATATATCGAATTAAATATAGAAAAACAGAAAACAGAACTT
GAGTTATCCACAATTATGCACATATAGGCTTCGACAGCGGACATTTTGAAAAGGAAACAA
AAATGCGATACGACAAATTAACCGCCAAATTCCAACAAGCCCTTGCAGAAGCTCAGAGTT
TGGCGTTGGCTGCGGACGGCAGCTATCTGGAAGCGGGCTTTGTGTTAAAAGCCCTGCTTG
ACGACCAAAACAGCGGAGCCGCCGCGCTCTTGGCTCATGCGGGCGTGAACGTGCCGCAGG
TGAAACAGCGTTTGCAGCAGCATTTAAACAGCCTGCCGAAAGTGTCCGGTCAGGGCGGCG
ATATTCTGCCCAGCCGAGAATTGCAGGCGGTGTTGAACCTGATGGACAAAGCTGCCACCA
AACGCAGCGATGCCTATATTGCCAGCGAACTTTTCCTGCTTGCCTTGGTACAGCAGAACG
ATGCGACCGGCAAAATTTTGAAAGAAGCCGGCGCGACCGAACAAAACATCAATGCCGCGA
TTGACGCAGTACGAGGAGGACAAAACGTGAACGATGCCAATGCCGAAGACCAACGCGATG
CTTTGAAAAAATATACGCTTGACCTGACCCAGCGCGCCCGCGACGGCAAACTTGACCCCG
TTATCGGTCGTGACGACGAAATCCGCCGCGCGATTCAGGTATTGCAACGCCGTACCAAAA
ACAACCCTGTGCTGATTGGTGAGCCGGGTGTGGGTAAAACCGCCATTGTTGAAGGCTTGG
CGCAACGTATCGTCAACGGCGAAGTACCTGAATCCCTGCGTAACAAACGCTTGCTGGTTT
TGGATTTGGCGGCTTTGATTGCCGGCGCGAAATACCGCGGCGAATTTGAAGAACGCTTGA
AAGGCGTGTTGAACGATTTGGCGAAAGACGACGGCAACACTCTGATTTTCATTGATGAAA
TCCATACTTTGGTCGGCGCGGGCAAAACCGACGGCGCGATGGACGCGGGCAATATGCTGA
AACCGGCTTTGGCACGTGGCGAATTGCACTGTATCGGCGCGACCACTTTGGACGAATACC
GCCAATACATCGAAAAAGATGCGGCACTCGAACGCCGCTTCCAAAAAGTATTGGTTGGCG
AGCCAAGCGTGGAAGACACCATCGCTATTTTGCGCGGTTTACAGGAGCGTTATGAAATCC
ACCATGGTATCGATATTACCGACCCTGCTATCGTTGCCGCAGCGGAGTTGAGCGACCGCT
ACATTACCGACCGCTTCCTGCCCGATAAAGCGATTGATTTGATTGACGAAGCCGCCAGCC
GTGTCAAGATGGAAAAAGAAACCAAGCCGGAAGCAATGGACAAAATCGACCGCCGTCTAA
TTCAGCTTCGGATGGAAAAGGCGCACGTTGAAAAAGAAAAAGACGATGCCAGCAAAAAAC
GTTTGGAACTGATAGACGAGGAAATCAACGGTCTGCAAAAAGAATACGCCGATTTAGACG
AAATCTGGAAAGCCGAAAAAGCAATTTCAGACGGTGCTGCTAATATTAAGAAACAAATTG
ACGAAGTCAAAATTAAAATCGAACAGGCAAAACGGCAAGGCGATTTGGCACTGGCTTCAA
AATTGATGTATGAAGATTTGGAGCATTTGGAAAAACAGCGTGCAGCCGCCGAACGGGCAG
ATACGGACAGCACAAAACCGGCAAACAAACTCTTGCGTAATAATGTCGGCGCAGAGGAAA
TCGCAGAGGTGGTTTCCCGTATGACCGGCATTCCCGTATCCAAAATGATGGAAGGCGAAC
GCGACAAACTGCTGAAAATGGAAGAAGTATTGCACCGCCGCGTGGTCGGACAGGACGAAG
CCGTGCGTGCCGTGTCCGACGCTATCCGCCGCAGCCGCTCCGGTCTTGCCGATCCGAACA
AGCCTTACGGCAGCTTCCTGTTCTTGGGCCCGACCGGCGTGGGTAAAACCGAGTTGTGTA
AAGCCCTGGCAGGCTTTCTGTTCGACAGCGAAGATCATCTGATTCGCATCGATATGTCCG
AATATATGGAAAAACACGCCGTTGCCCGCTTAATCGGCGCGCCTCCGGGCTATGTCGGCT
ACGAAGAAGGCGGCTACCTGACCGAACAAGTGCGCCGCAAACCGTACAGCGTGATTCTGC
TGGACGAAGTGGAAAAAGCCCATCCCGATGTGTTCAACATCCTGCTGCAAGTATTGGATG
ACGGCCGCTTGACCGACGGACAAGGTCGCACCGTGGACTTCAAAAATACCGTTATCGTGA
TGACTTCCAATATTGGTAGCCAACATATCCAACAAATGGGCATTCAGGATTACGAAGCGG
TGAAAGAAGTTGTGATGGAGGATGTGAAAGAACATTTCCGCCCCGAAATGATCAACCGCA
```

-423-

```
TCGACGAAGTGGTCGTGTTCCACGGACTGGATCAGGATAATATCCGCAACATTGCGAAAA
TCCAGCTCAAAGGCTTGGAAAAACGTTTGGAAAAACAAAACCTGCGCCTGGCTGTTTCCG
ATGCCGCACTGGACATCATCGCCAAAGCCGGTTTCGACCCGATTTACGGCGCACGTCCGC
TCAAACGCGCCATCCAGTCGGAAATCGAAAACCCGCTGGCAAAAGCCCTGCTTGCCGGAA
ACTATGCGCCCGAAAGCGAAATCAGGGTGGAAGCCGACGGCGACAGACTGAAATTTGCCT
GATTCGTTCCTGCTGTTGAAAATGCCGTCTGAAACGGGAATCTCCGTTTCAGACGGCATT
TTTTATCCTCGGCAGACAAACCGTCCCCTTATTGGCGGTAGGTTTGCAGGAATCTTGCCA
GCCTGCCCATCGCCTCTTCAATCTGATGGACGTAAGGCAGCGTAACAATGCGGAAATGGT
CGGGCTTGATCCAATTAAACCCCGTTCCCTGCACCAGCAAGACTTTTTCGCGCACCAGCA
AATCGTAAACGAATTTCATGTCATCGCGGATACGGTACATTTCGGTATCGATTTTTGGGA
ACATATACATCGCGCCCATCGGTTTGACGCAGGATACGCCGGGAATCTGGTTGACCAGTT
CCCACGCCCTGTTGCGCTGTTCCAAAAGCCGTCCGCCGGGCAAAATGAATTCGTTGATGC
TCTGATAGCCGCCCAATGCCGTCTGAATCGCGTGCTGCATCGGCGTATTGGCACACAGGC
GCATAGACGAGAGCATATCCAAACCCTCGATGTAACCTTTTGCATGATGTTTCGGCCCGT
TGAGCACCATCCAGCCTTGGCGGAATCCGGCTACACGGTAGGCTTTGGACAAACCGTTGA
ACGTTACCGTCAAAAGGTCGGGGGCAAGCGCGGCGATGTGGTGGTGAACCGCGCCGTCAT
AAAGGATTTTGTCGTAAATCTCGTCGGCGAAAATAATCAAACCGTGCTTGCGCGCCAGTT
CGGCGATTTCCAACAGGATTTCCCTGCTGTACACCGCGCCTGTCGGATTATTGGGATTGA
TGACGACGATGGCTTTGGTTTTGGGCGTGATTTTGGCTTCCATATCGGCAAGGTTGGGGA
ACCAGCCGTTTTCTTCGTCGCACAGATAATGGCGTACCGTACCGCCCGCAAGCGTTGCCG
CCGCCGTCCACAAGGGATAGTCGGGCGCGGGAATCAGGATTTCGTCGCCGTCGTTGAGCA
ATGCCTGCATAGACATCGTAATCAGCTCGGACACGCCGTTGCCGATATAGACATCATCAA
CCGTAATATCGCGCAAACCTTTGGTCTGATAGTAGTGAACAATGGCTTTGCGGGCGGAAT
ACAGCCCTTTAGAATCGCAATAGCCTTGCGAAGTCGGCAGGTTGCGGATGACATCGACCA
AGATTTCATCAGGGGCTTCAAAGCCGAACGGCGCAGGGTTGCCGATATTGAGTTTAAGGA
TTTTATTGCCCTCCTCTTCCAACTGAAGGGCTTTTTTGTGAACCGGCCCGCGTATGTCGT
AACAGACGTGATCGAGCTTTGCAGACTTGGGAAATTTATCCATGATGTGTTCCGTAAATT
TTGGGCAATGGGTGGGAATGTACTCTTTTTCACGCGGAATTTAAAGCATCAAACCGAGAT
TTTCAGGCTTTTTACCTGCCCTCTTTGCGCCGTTCGCTGACGCTTTTGCCGCCTATTCCC
CAGTTATCGGTATCCACTTCGTCAATCACGACAACCGTTGTTTCGGGATTTTTGCCCAGC
ACGCGTGCCAGCAATTCGGTTACGCCGCCGATCAGTTCCGCTTTTTGCGCGGCAGTCGGT
GCTTCCTTGCCGCCGGTTACTTTAATATTGACATAAGGCATGATCTTTCTCCGTTTTAAA
ATATTGCTATCTTATCAAACAAGTTGCCTCCGCCCAAACGTCCGCTTCATTTTCTGAAAA
ATTCAAATCGATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGT
ACAGATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAGTCGTTCTCTTTG
AGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATACAAAAAGACAGTTT
TCAGACAGCAAATCCGTCTTCACACGATACCTATTTTGTTATAACATAACAAAATCTTTA
ACCCACACGAGACAAAGGCTGCACCATGAAGAAAACATTGACACTGCTCGCCGTTTCCGC
CCTATTTGCCACATCCGCCCACGCCCACCGCGTCTGGGTCGAAACCGCCCACACGCACGG
CGGCGAATACCTTAAAGCCGACTTGGGCTACGGCGAATTTCCCGAACTCGAACCCATCGC
CAAAGACCGCCTGCACATCTTCAGCAAACCGATGCAGCTGGTTACCGAAAAAGGCAAGGA
AAACATGATTCAACGCGGCACATACAACTACCAGTACCGAAGCAACCGTCCCGTTAAGGA
CGGCAGTTACCTCGTCATCGCCGAATATCAGCCTACTTTCTGGTCAAAAAACAAAGCAGG
CTGGAAACAGGCGGGCATCAAAGAAATGCCTGACGCAAGCTATTGCGAACAAACCCGAAT
GTTCGGCAAAAACATCGTCAACGTCGGACACGAAAGCGCGGACACCGCCATCATCACCAA
ACCGGTCGGACAAAACTTGGAAATCGTCCCGCTGGACAATCCCGCCAACATTCACGTAGG
CGAACGCTTCAAAGTCCGCGTTCTGTTCCGTGGCGAACCGCTGCCCAATGCCACCGTTAC
CGCCACCTTTGACGGCTTCGACACCAGCGACCGCAGCAAAACGCACAAAACCGAAGCACA
GGCTTTCTCCGACAGCACAGACGACAAAGGCGAAGTGGACATCATCCCCTTGCGCCAAGG
CTTCTGGAAAGCCAATGTCGAACACAAAACCGACTTCCCCGATCAAAGCGTGTGCCAAAA
ACAGGCGAACTACTCGACTTTAACCTTCCAAATCGGTCATTCGCACCATTAATCCCGCCC
GCACAAAAATGCCGTCTGAAGGCTTCAGACGGCATTTTTTGTTCAAACATCAATACCAAC
CGCGCAGTTTCATCGCTTTTTCAACACGGCGGATACTCATCATGTAAGACGCGGTTCGCA
AATCGACATCATACTCTTGCGCCAAGTTCCATATATCGCGGAACGCGCGTCGCAGGACGA
CGGTTTCTTTCTCTTGAACTTCGTCAAACTCCCAATAATAGCCTTGCAGGTTTTGCACCC
ACTCGAAATAGGAAACGACCACGCCGCCGCAGTTCGCCAGAATATCAGGCACGACCAATA
CGCCGTTTTGACGCAGGATCACGTCGGCTTCGGGCGTAGTCGGGCCGTTCGCGCCTTCGA
CTACGATTTTCGCGCGGACTTTACCGGCGTTTTCGGAAGTCAGTTGGTTTTCCAGCGCGC
AAGGGGCGAGTACGTCCACATCCAAAGCCAAAAGTTCGGCGTTGGTAATTTCTTTGCCGT
```

```
AACCGGCTTCGTTGGTGATGAAGCCTTTTTCTTGGAACTCTTTAAACAAAGCTTCCATAT
CCAAACCGTTTTCGTTGTAAATGGCAACGTCAACAGTAGAAACCGCAACAACTTTCGCGC
CGGATTGATGCGCGTAATAACCTGTGTGGTAACCCACATTACCGAAACCTTGAATGGCGT
AAGTGGCACCCTTCACGTCCTTGCCCAGTTTTTCCAAAGCTTGGACGGCGGCGAGGTTCA
CGCCGTAACCGGTAGCCTCGGTACGCGCCAAAGAGCCGCCGAACTCAACCGGTTTTCCGG
TAAATACGCCCGGCGCGGAATGTTTCACCACGTTTTCATAAGCATCCACCATCCACGACA
TAATTTTGCCGTTGGTATTCACATCGGGGGCGGGAATATCGATTTTCTCGCCAATCAGCG
GGGCAATCGCTTCAGCATAAGCGCGGGCGATGCGTTCCAGTTCCGCCTCGGAATAATCGC
GCGGATCCAAGGTAATGCCGCCTTTGCCGCCGCCGTAAGGAATACCCGCAACGCAGCATT
TGATGGTCATCCAAATTGACAGGGCTTTGACTTCGTCCAAATTCACACTGGGATGGAAGC
GCACGCCGCCTTTATAGGGGCCGACGGCGTTGTTGTGTTGCGAACGGTAGCCCGTGAAGG
TTTTGACCGTGTCGTCGTCGAGTTTGACGGGAAAATTGACTTCCAACACGCGGGTCGGAC
TCTTCAGGATTTCATAAACGGCCGGATCGGTTTTCAGCCGGTCACAGGCGGTTTTCACCT
GTTTGCGCGCGATTTCAAACGGATTGAGGGTTTCTTTTGCAAGGGCTTCAGACATTTTGC
TTCCTTTTCACAAAGAGAGGTTCGGAATGGAACAAGCCATCAGGTTCGCAACTATAACCA
ATTTTCAAGCAAAATGTAATAGCGTGTAGTTGGAATCGGCCCGATTTGATTAATCTATAT
ATGATTTTATTTCCCAAGCCGCACGGAATCCGTCTGAAAAAAGCGGAACACATATCCAAA
AAGCAAATGTCCAATTAAATAAAGATATAAGAATCCTTTTATTTTTTAAAAATTTAATTG
GAACGGCGCCGGGATTTGCACACCCTTCCCGACTCCGTTCCGAAATCCGGAAACACCGCC
GGCAAAACCTGTTTCGATTGTTAACAATCCATACATTAGAAGCCCTGTGCAAACGATGTT
AAAATAAACCTTTTCAACCCGACAGAAAACCGGATTATGAATGCAGCCATCGAACACGTC
CAAGCCGTCGCCTTCGATTTGGACGGCACACTGTGCGATTCCGTCCCCGACCTTGCCGCC
GCCGCAGAAGCGATGTTGGAACAACTCGGTATGAAACCGCTGCCTGCCAAAGTGGTCGAA
AGCTATGTGGGCGACGGCATCGGCAAACTGGTTCACCGCGTCCTCACCAACGACCGCGAC
CGCGAAGCCGATTCCGAACTGTGGGAAAAAGGTTTCGTATCTATATGAAATACTACCGCG
ACCATTTGAGCGTCTTCACCCGCCCCTATCCCGAAACCGAAGCCGGGCTGGCATTGCTTA
AATCTTTGGGCATCCCGCTCGCCGTCGTTACCAACAAAAACGAAATCCTTGCCTCCGAGC
TTCTAAAACAACTGGGACTCGCCGACTATTTTAGCCTGATACTCGGCGGCGACAGCCTGC
CCGAGAAAAAACCCAGCCCCCTGCCGCTGCGGCACGCCGCCGAAGTTTTGGGTATCGATG
TTGCAAACATGGTTATGGTCGGCGACTCGCGCAACGACATCATCGCCGCCAAAGCCGCCG
GCTGCCTGAGCGTCGGCGTTACCTTCGGTTACGGCGATATGACGCTGCTCTCGCAAGACG
ATGCGACCCGCCCCGACTGGATTATCGGCTCGCTGCCCGAAATTTACGAAAACCTGCAAC
CTCAGAAAAACAAAGAAGAGTAGGCATTCGGACGGCTCCGGTTTGCGCCGCTATGCCGTC
TGAAACCTGCCCCACGCCGAAACCGCCGCCATGAAACCGCAAAAATCCCTACGCGCCCGC
GCGATGGACATCCTCTCGCGCCAAGAACTCAGCCGCATCGGTCTGAAACGCAAACTTGCA
CCGCACGCCGAAAGCGAAGAGGAGTTGGAAAACGTGTTAAACGAATTTGCCGAACGCAAC
TGGCAGTCGGATTTGCGCTATGCCGAAGCCTATATCCGCAGCAAAAGCCGCAAACACGGT
TCATTGAGGCTGAAACAGGCTTTGGCGCAACAGGGCATAGATGAAGAAACCAGCCGCAAC
CTGCTTCCCGACCGCTCAAGCGAAAAACTGGCCGCGCCATAGCCGTGTTGCGTAAAAAATTC
AAACATCCGGCCGCCGACCTTAAAGAAAAACAAAAACAGGCACGCTTCCTCGCCTATCGC
GGTTTTGATGCCGATACCGTTCAGACGGCATTGAAACATGCCTGGGATGACGGCTGGGAG
GAAGACTGCTGAACTGAATCCTTGAATCTTTTTGCATGACGGCGTAACCTTACCTCCATT
TCCAACTTTTCCGATTGAGAATAAAATGTCCGAACAATCCGAGAAAAATCACAACCCACT
TCTTGAAGATGAACGCAAAAACCCGGTTTACCGTATGGGTCAGGCAGTTGCCGGATTCAT
GCTCGTCGTTTGGGCAGGCGTATTGGCACTCGTGTTTTTCCTAGTCTTCCGTTTTTGGCT
TTCCTAAACAAAATGCCGTCTGAAACCTTCAGACGGCATCGGCAGCCCATTTCGGCAGGC
TATCCCATCATAGCTTTTTTTAGCTTGAATTCCACTTTCCCATTCCCTAAAATTTTTCCA
CACCCATTTCAAAATACCCTTTCTTAAAACAGGTACACTATGACACAACAACGCCAACTG
CCTTCGCACGAACTCATTATGTCCGAACTGATGATGCCGGACACCGCCAATTTCAGCGGC
AACGTACACGGCGGCGAACTCCTGCTCCTGCTCGACCAAGTCGCCTATTCCTGCGCCAGC
CGTTACAGCGGCAATTATTGCGTTACCCTGTCGGTTGACAAAGTCCTGTTTAAAGAACCC
ATCCATGTCGGCGACCTGGTTACTTTCTACGCCAGCGTAAACTACACGGGGCGTACCTCT
ATGGAAATCGGCATCCGTGTCGAAGCACAAAACATCCGTACGGGAGAAATCCGCCATACC
AACAGCTGCTACTTCACCATGGTTGCAGTCAAAGACGGCAAACCCGTCCCTGTCCCTCCG
CTGGAAATCCTGACCGACCGCCAACGCTGCCGCTACGAAAAAGCCAAAAAACGCAGAGAC
ATCAGCCTGCAAGCCTCCGGAGACGTGTCCTGCGGCTGCTGACGGCGGACTATGCCGTCT
GAAAGACAGGCACATCGCGCCATCCGTTTCCATTGCAAACGGATGAAATCAAGCAAATAT
AGTGGATTAAATTCAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCT
CTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATCTGTACTGTCTGCGGCTTCG
```

```
TCGCCTTGTCCTGATTTTTGTTAATCCACTATACCCAAACACAGTCAAACAAATTTATAT
GCCCCATCCCTTCCGAATAATTTGAAAACACAGCCGCCAAAAACAAAAATGCCGTCTGAA
AACCTTTCAGACGGCATTTCCAACTTGATTTCAGGCAGAAAGTCAGAACGCGATATAGCT
GTTCGGGTTAACCGGTTTGCCGTTTTGACGCACCTCGAAATGAAGCTGCGTTCTGGAAGC
ATCGGTATTGCCCATCAAAGCAACCTGCTGACCGCGTTTGACCTGCTGCCCCTCGCCGAC
CAGCAATTTTTGGTTGTGCCCGTATGCGGTCAGGAAAGAAGAATTATGCTGGATGATGAC
CAAGTTTCCGTATCCCCTCAAACCTGAACCGGCATAAACCACTTTGCCGTCAGCCGCCGC
CAAAACGGGCTGTCCCGCATTACCGGCAATATCGACACCCTTGTTGTTGCCGCCGAAATC
GGCAACCACTTTACCTTGCGTCGGACGCTGCCAAACAATGCCGCCGACCGAACGCGTGCC
GGAAGGCGAAGCGGCAGGAGATTGCGGGGCGGGCGCGGGAACCGCTTTATTTTCCGCAGC
GGGCGCGGCAGGTTGCGGCGCGGACTGCACAGGCGGTTGCGCGGCGGGTTTCACAGGGGT
TTGCACGGCAGCCGGTACGGCGGGCCTGCTTTCTACGGCTGCGGTTTTCGGTGCGGCATA
TCCTGCCGGTTTGACTTTAACAATCTGACCGATGCTCAACATATTGTCGGTCATGCCGTT
CCACGCACGGAAATCGTCTTGAGAGATATGGTAGCGTTTGGAAATGTTGTACACCGTGTC
GCCGCGCACAATAGTATGCGTCGCCGCGTTAATGTCGACGGGTGCGGACTGTACGGGCGG
TTGCGCGGCAGCCGGTACGGCGGGCCTGCTTTTTACGGCTGCGGCTTTCGGTGCGGCATA
TCCTGCCGGTTTGACTTTAACAATCTGACCGATGCTCAACGTATTGTCGGTCATGCCGTT
CCACGCACGGAAATCGTCTTGAGAGATATGGTAGCGTTTGGAAATGTTGTACACCGTGTC
GCCGCGCACAATAGTATGCGTCGCCGCGTTGATGTCGACGGGTGCGTAAGAAGGAACGTA
TGTACCCGAAACGGCAGGTGCAGACGGCGGAACATAAGCAGGAGGCGTATAAACCGGCGC
GCTTTGCACCGGCGGCACATAAGGCGCATCGCCGGCAGGAGCCGGGCTGTACGGCGTTGC
TCCATAGGGGTTGTTGTAAACTGCCGAAGACGGCGCGTCCTGCATACCTGAATTGCCTGC
AATGACAGGAGCAGGCTGTTGGGTGGCGCAACCGCCCAACAGAGCGGCAACGGCGGTACA
AGCTGCCAAAAGTGTCGTTTGTTTCAACATAAGATAACCTTCATGTTCCGATATATAGCC
TGAATGCGGTATATCATAATAAAAATGCGCGTTCTTCTCAAGCGCAAAGCCCGACGGTAT
AGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGA
ACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGC
AACGCCGTACTGGTTTTTGTTAATCCACTATATTTGATGAAACGGTCAGTCCGCATGCCA
GAACGCCGCTGTTTCCGCCATGTCCGGATAGGCGGTCAGGTCGATTTGCAGCGGCGTTAC
GGTAATGAAACCTGCGCCGCATTCACCGAAATCCGTTCCCTCTTCCCGATCGGAAACTTC
GCCGACCGGTCCTATCCAATAAATCTGTTCGCCGCGCGGATTGCGCGCGGGAATGACGTT
CTGACCGTGATGCCTCCTGCCCAAACGGGCGATTTTAATGCCCCGCACATCTTCCGGCGC
AACGGCGGGGATATTGATGTTCCACAAAATAGGGGACTGCGGGGGGGTTTTTGAAAAAATG
CGCCAACAATGTCCACAGTGCCTGTTCTGCGGTCGCCCAATAGCGTCCGGAAGCGTCGTT
TAAGGAAAACGCCACGGCGGGTATGCCCATAAGGTAGGCTTCGGTTGCCGCCGCAACCGT
CCCCGAATAAAGCGTGTCGTCCCCCATATTCGCGCCCCGGTTGATGCCCGAAAAGACAAA
ATCGGCCTGAAAATCCGAAAATACAGACTGCCCGATGTGGATGCAGTCGGTCGGCGTGCC
GTTGACATAGTAGAACCCGTTTTGCGCCTGTTTCAACTGCAAAGGGCGTTCCAGCGTCAG
CGAATTGCTGACCCCGCTCCTGTCGCGTTCGGGCGCGACCACCCTGACGTTGGCAAATTC
CGCCGTAACGCGCGCCAAAACGGCAATGCCTTCGGAGAGGTAGCCGTCGTCGTTGGAAAT
CAAAACGTTCATTTTCTATCCTGAATGCTTATTCTTCGGGCAATTTGGTGATTTTGACCC
GCTCGATGCGCTGCCCTTCTTTTTCGACCACTTCAAACCGCCAGCCGTGGAAATCGGCAA
AATCGCCGACATCGGGGATGGTTTGCAATTCTTCCATAATCAGCCCGGCAACCGTATGGA
AATCGGCATCTTCCTCCTGCTGCGGCAGGTTGAGTTGCGGTGCGAGTTCCACATATTCCA
ACGCGCCTTCCACCGTCAGGCTTTCATCGGGATTCCCCTGAACGGCTGGTTCTTCTTCGC
GCTCAAATTCTTCGGGGAACTCGCCTGCGATGGTTTCGAGCAGGTCTTTCATGGTTACCA
TGCCCAATACCGCGCCGAACTCGTCCACCACCAAAGCATAATCCGCGCTGCTTTGGCGGA
AGAGTTCGATTGCGCCCAGCGCGGTGGTGCTGTCGGGCAGGACGAGCGGCTGGCGCAATG
CCGTCTGAATGTCGAGACCGCCTGTTTCCAGCAGTTGGGACAGCAGGTCTTTTTTGTTGA
TGTAGCCCAAAGGTTCGTCCACGCCCGCCTTACCGACAACGAGCAGGCGGCTGTAAGGCG
TGTTTTGCAGTTGGGCACACTGTTCTTCGCGGCTTTGGGAAATGTCCAGCCGTTCGATGT
CGCGGCGTGGGATCATCACCCCCATAATCGGGCGTTCGGCAAGCGTCAGCACGCTGCGTA
TCATCGATTTTTCGTTTTCTTCAAAATGCGCGTCGTCCCCGGATTCGCCGCCCGCGTCGG
CAAGCACGCTTTCGCGTATACCCATCATACCCAAGACGTTTTCGGCGGTGCGCTTGCGCC
ACGAGCTGCCGATGTAGTCGTTTTTGCGGCTGTTGCGCTGCGAAATCTGGTTAAACAATT
CGATTAAAATCGAGAAGCCGATGGCGGCGTAGAGGTAGCCTTTGGGAATGTGGAAATGGA
AGGCTTCGGCAATCAGGCTGAAACCGATCATCAACAAAAACCAAGGCAGAGCATCACGA
CGGTAGGGTGTCTGTCGACAAATTCGGTCAAGAGTTTGCTGGCAGAAATCATTACAGCCA
TCGCGACGACGACCGCACCCATCGCCACGACGATATGATCGACCATCGCCACCGCAGTAA
```

TGACCGAATCGATGGAAAACACGGCATCCAGTATCAGGATTTGCGCGACCACGCCCCAAA
ACGGCGCGTGTTTTTTTTGGCTGTCGGCAACGGTAAAACGGTTGTGCCCTTCGAGGCGTT
CATGCAGTTCGGTGGTGGCTTTGTAAAGCAGGAAAATACCGCCCGCGAGCATAATCATGT
CCTTGCCGGAAACGGCGAGGCCGCCGATTTGGAACAGCGGCTCGGTCAGCGTGATGATGT
GCGCCATAAAAGCAAGCATAATGATGCGGATGACGACTGCCAGCCCCAGCCCGATAATCC
GTGCGCGGTCGCGCCGTGCGGGCTGGACCTTGTTTGCCAAAATCGCCACAAAGACAAGAT
TGTCTATCCCCAATACGACTTCCAACACCAAAAGCGTGGCAAAACCTATCCAGGTATGCG
GTTCTGCCAACCAACTGAAATCCATGATTTTCGTATTCCTCAAGTTCAAACGCGAAAAGG
CAGCCTGAAGCGCTCAAGCTGCCTGAACAGACGGTACGCACAAAAACGGCGGGCGGGCT
TGCTGCTCTGCTCGGGGTCTTGCATGTGCGTGTACCTTCGGTCGAAATAATTTAAATAGT
TTAACAGCTTATCGGGGCAATGGCAAAACGCCATACCGTCTGAAAGGATGTTCGGACGGC
ATGAGCTTATTTTGAAATGTTTCAACACACGGACGGCACATAAAGCCTTCCCCTATGTGT
TGCCCTGATTGAGGGGTTGCGCCCCTCTCAAATACAGTCTGATTCTACCGCCGCGAAGAA
CGGATGTTCGAGTGCGGACGGAGTCCCAACGCTTAAGGGGTGATGATGAAGCCGTCTATC
GGCGCGTAGCCTTTGGTGTTGCCCTCTTTATCGGTAATGACTATCCACTCTTTCTGCCTG
CTGCTGGTAAACGGCAGGTAATACAGCTCCTCCCCTTCGGCGAGACCTGCCTGTTTCAGA
ATGTCCGCAACCGTCGTTTTTCTCGCATCCGCCAAGACTTTCAGCGGTTTCAGATGTTTG
CGGATTTCTTCTGCTTCCTTGTCGGAATACGGCAGCCACTGGTCGGGACGCATACTCGGC
TCGATACCTTTCAGGGACAAATCCAGCGTCTTGTTCTTCTCATCCGCATCCTCAGGTTCT
TTCAATGCAATGCGGCGGATGCCGAACCACGACAGGCTTTGCAGCCCTTCGGGGGCTTTG
TGCAAATCTTCGACCACGACTTCCGCCGCCGTAACAATGGTCATACGATCCTGTTCAAAC
GCTTCCACCACAGGACGCGCCAGCGAAACGCTGTGCAGACCGTACACCAAAGCCGCCAGC
TGGATGATGCCGACCATGGAAAAATCGACCATGCGTGCCTTTGTCTTTTTCTTCGGGCTT
GCCAAAATTAAAGTCAGCAGCGGACCACATACAATATCGACAGCCACCACCAGCTGATAA
AGCGACAGCCCTCCCGTCAGCTCGGCATAAGGATAAGGATACCAAACCTTAAAAACCAGC
AATGCCGCCAGCCCTGCAACCGACAGGCTGATTAAGAGGTGCCAGCCCGCACTTTTCAAG
GCAAAACGCCATCTCGGGACTGTTTTTCCGTTTTCCATCATATCTTGTTCAAATCAAAAA
TAACCGTAAAAACAGGGCGCATTGTACAACAGATAGAGACTGCTTAAAATGCGGCGCCGT
CTGAAATCCTGCCGTTCAGACGGCATCCGTCACCCGACATCCATACACAGATATTTCAAT
TCTAGATATTCGTCCGCACCGTATTTGCTGCCTTCACGTCCCAAACCGCTACGTTTCACG
CCGCCGAACGGTGCCGCTTCATTGCTGATTAAGCCCGTATTGATGCCGACCATACCGTAT
TCCAAGGCTTCGCCGACGCGCCATTGGCGGGCGGTGTCGGCGGTGAAAAGGTAAGCTGCC
AAACCGTATTCCGTATTGTTCGCAGCCTCGATGACCTCGGCTTCGGTTTCAAAACGGAAT
ACCGGACACAACGGCCCGAAGGTTTCTTCGCGTGCCACCGCCATTTGCGCCGTTACGCCG
CTTAAAACAGTCGGTTCGAAAAACGTTCCGCCCAACGCGCTGCGTTTGCCGCCGGTCAGG
CAGCTTGCACCTTTAGCAAGCGCGTCGGCGATGTGCTGCTCGACTTTCTCCACCGCTTTT
TCCTCAATCAGCGGCCCTTGGTTCACACCATCCTCCAAGCCGTTGCCCAATTTGAGCGCG
GCTGCTTTTTCACTCAATTTGCGGCAAAATTCGTCGTAAATGGCGGATTGAGCGTAAACG
CGGTTGGTGCAGACGCAGGTCTGACCGCTGTTACGGAACTTGCTGGCGAGCGCGCCTTCG
ACGGCTTTGTCCAAATCGGCATCGTCAAACACGATAAACGGCGCGTTGCCGCCCAGCTCC
AAACTGAGTTTTTTAATGTCCGCCGCGCTGTCGGCAAAAATTTTTGCGCCGACTTCGGTC
GAGCCGGTGAAGCTGATTTTGCGGATAATCGGGTTCGTAGCAAATTCATGGCCGATTTCC
GAAGCACTGCCGCTGACAACAGGCAACAAATCCTGCGGTATGCCCGCTTCGTAAGCCAAC
GAAGCCAAGGCATACGCACTCAAAGGCGTGAGCGATGCGGGTTTGACGATCATCGCGCAA
CCCACCGCCAAAGCAGGCGCGGCCTTGCGCGCAATCATCGCGGACGGAAAGTTCCACGGC
GTAATCGCAGCGGTAACGCCGACGGGCTGTTTCAACACGACCAGTTTTTGCGACGCTTTC
ACACTCGTCAGCACATCGCCGTCAATCCGCCGCGCCTCTTCGGCAAACCAGCGCACAAAC
GAAGCCGCATAATCGATTTCGCCACGCGCCTCGGTCAGGCTTTTGCCCTGCTCCATCGTC
ATCAGGCGCGCTAATGCTTCTTTGTTTCTTTAATCTGAAAATACCAACGCCACAACACA
TCGGCGCGTTCCAACGCAGTTTTTGCCGCCCATAATTTTTGTGCTGCAGCTGCTTTTTGA
ATCAGGTTTTTCAGCTTGTCCGAATCCGTCTTGCGGACAAACGCCAAAGTCTCGCCCGTT
GCCGGATTATCGACTTTGATGCCGTCTGAAACCGGGGGAAGGGAAATATCGGGATGCTTG
ATTAATTGGGAATATTCGTTCATTTCGTATCCTCCGGTATGCGGAATAACCGCTTTCAAA
TGCCGTCAATCTCGCGGACATTATCATCTTCATATTCCAAAACTGCAAACCCTTCCGATG
CCGTCTGAAGCATCCGATCGGGCAGCGCAACATCCGGGCGGTGTCTGAATATGGCGCGGG
CGCAATCCCTGTCGTTTAAGAAAAATATTTTTTATACGATAGTAATCTTTAGAAAGAAAA
GTAATGCAGCCCTTTGATGGGGTGCAATATATAAGGAGCAAAGATTGCAGTTGCAACGTG
TGGTAGAGTATGGCAAAAATCCGAACATTATAGTGGATTAACAAAAACCAGTACAGCGTT
GCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGT

TCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAAATCCAC
TATACAGTCAAAATTACGGAGATCAAATAATGATTTTTAAACAGAATCAAAATTATTGGG
CAGTTTTTGATGCTAATAAAGAAACTCTGATTGTTCAAACATGTTCAGGTTTGGGGTTAA
CGGCAATAGACCACCTATATCCCCCCCATATCCTGCCATTGGATACCGACAATGAAACTT
TAGGCACGACAGTCTTGCAAGCGTTGGCAAACAGCAGGACTTTCGTTTATGACAGTCCAG
AAGACCAAGATTTTTTTGATACCGAAAAAATTCGGCAACGCTATGAGGATTGGGTTGCCA
AGCTATGCGGGAACTTGGGCTATAAAACCAGACGCGCCCTATTTAAAAACATGATGAGCG
TGGATATTTGGCTGCACAACGGCTGCCTGAAAATCAGCCCGAGCCGCCATGTCAAGCTGG
AAGCGTGGAATGCCATTGATGCAGACGATGTCATTTTATCATTGGATAACAGCCCTGAAG
AAATCGGAGCAGGTTTAAAGTTGGCATTGAGCCACTGCCGATAATATTTGACAAAAGGCC
GTCTGAAAAACAGCTTTGACAAAGACGCGGTTGCCAAAGAGATCGACCTACAAAGGGAAG
TAACGCAGGCGTTCGGCAAAACGCCGCCCAAGCCGCAGCGGCCGTTGCCGACGAACTCGG
CAATACCCGAAGTTACGGACGGTATCAGGCAGCCCGAACCCTGCCGGAGGCCGAACTGCA
AAACAAATCCGACACAAAAAACCGTCCGTCCGACACAAAAAACCGCCCGAAAAATCTGGA
CGGCGGTTCAAACAGGCTGCCCCGTTTAACGGGCGCGGCAGGAAGTTTCGACCGAATTGC
CGTAGGCATCGGTAAAGCCGAAAAAGGCTTCGCCGCCTTTCTGGTGCCACTCGGTTGCGT
TTCCGAACAAACCGTGTTCGGCGGTATAGCGTTCGCCGGATGCGGCAACGTCGGAAGAGA
GGACGGCACGCCTGCCGTCCAGCCGCAACGCGACTTTGCCGCTGTCCAAATGGCGGACGC
GCACAGACAAACCGTTCTCGCAGGAAAACGCCCGAAAATCGTCCGTGCCGGCTTGGTTTT
GAACGGGCGGCATATGCCCGCGTCCGCCGTCATCATACGCCTCCGGCACGGCACAGGCCG
CCAAAGACAAAACCGGTACGGTCAGCGCGAAAAACCTGATATTCATAAAAGCTCCCCAAT
AAAAATAAGATATGAAACAACCGCCCTGATTCCAAGCTGCGGCAACGCCATACTATAAAC
GGACGCGCAAACACACAAGCCCGATAACCGGAATTTACCTGCGATGAATCAATAATCCGG
ATTGCGCGCCCCTTCTTTACCCCTCTTCCGATGCCGCCTTTTGCCTGACGATGCCGTCTG
AACCTGCCTGCCCGCCCGGAGGAATGTAAATTTTTTCCAAATTCCAAGTAAAAACCGCTA
TCGGTGTGCTAATTTGCGTTAAAATCCTATTCGGCGTTTAACGTTTTGTGCGCCCGCATC
CCTGCACTGTTTGATGCGGGCATAAGGCACAAATCCCGACAAGCGCACTGTTTCATACTT
CGTCAATCATTCAGACTCCGGTTTGTGCCCGTGCCGGCAGATGGTTCGGCCGTTTCCCGC
CGTTCAGGCATATTCCGACAGTGTGAGATAAGGATTTATTCGATGAAATCACTCAAAACC
TTCCTCATTTGGGGCATAGTGGTACTGGTCGGCTTAGCATCCTTTACCACTCTGGCCCTC
AGCCGAGGCGAACAGGTCAGCGCGGTATGGATGGTCACCGCCGCCATATCCGTTTACTGC
ATCGCCTACCGTTTTTACAGCCTCTACATCGCCAACCGCGTAATGCGGCTCGATCCTGAC
CGCCTGACTCCGGCAGAACGCCACAACGACGGCTTGGACTACGTTCCGACGCACAAAGGC
GTATTGTTCGGACACCACTTTGCCGCAATTGCCGGCGCGGGCCCTTTGGTTGGTCCGGTT
TTGGCGGCGCAAATGGGTTATCTGCCCGGTACTTTGTGGATTATCTTCGGCGTGGTATTT
GCCGGCGCGGTACAGGATATGATGGTCTTGTTCGTCTCTATGCGCCGCGACGGTAAGTCT
TTGGGCGATATTGTGAAACAGGAACTCGGCACTGTCCCCGGCGTGATTGCCTCCATCGGT
ATTTTGATGATTATGGTCATCATTATGGCGGTGTTGGCGTTGATTGTCGTAAAAGCATTG
GTTCACAGCCCTTGGGGTACGTTCACCATTGCAGCAACTATGCCGATTGCGCTGTTTATG
GGTATTTACACGCGTTATATCCGTCCGGGCAAAAATCGGCGAGATTTCCATCGTCGGCTTT
ATTTTGCTGATGCTGGCGGTAATTTACGGCGAAGATGTGGCTAAAAGTTCCATCGGGCAT
TGGTTCGACCTTGACGGCATCCAGCTCACTTGGGCGATTATGATTTACGGCTTTGTCGCC
TCCGTATTGCCCGTATGGTTGCTGCTCACTCCGCGCGACTATCTCTCCACCTTCCTGAAA
ATCGGTACGATTGCGGCCTTGGCTTTGGGTATCGTCATCGTCAATCCCGCTTTGCAAATG
CCTGCCGTAACCCACTTTATCGACGGTTCGGGTCCGGTATTCTCAGGCGCATTGTTCCCA
TTCTTGTTCATTACCATCGCCTGCGGTGCGGTTTCGGGCTTCCACGCGCTGATTTCTTCC
GGCACTACGCCGAAAATGCTGGAAAACGAAACCCACGTCCGCATGATCGGTTACGGCGGT
ATGTTGATGGAAAGTTTCGTAGCCATTATGGCACTTGCCGCTGCCGCATCGCTTGATCCC
GGCGTGTACTTCGCCATGAACAGCCCAGCCGCCCTGATCGGTACGGATGCCAATACCGCC
GCCGAAGTGATTACCACCAAGCTGCAATTCCCTGTCGATGCCGCAACCCTGTTGCACACT
GCTAAAGAAGTCGGCGAAACACCATCCTTTCCCGTGCCGGCGGTGCGCCCACCCTCGCA
GTCGGTATGGCGCACATTATGAGCCGCCTGATTCCGGGCGAGGCGATGATGGCGTTCTGG
TATCACTTCGCCCTGTTGTTTGAAGCCTTGTTCATCCTGACCGCCGTCGATGCCGGTACG
CGCGTCGCACGTTTTATGATTCAAGACTTGGGCAGCATCTTCTACAAACCTTTCGGCAAC
ACCGACTCCATCCCCGCCAACCTGATTGCGACCTTCTTCGCCGTGGCATTGTGGGGCTAC
TTCCTCTACACGGGCGTGACCGACCCGTTGGGCGGCATCAACTCGCTCTGGCCTTTGTTC
GGCATCGCCAACCAAATGCTGGCAGGCGTAGCCTTGATTATGTGCGCCGTGGTGCTGATT
AAGATGAAACGCGACCGTTATGTCTGGGTGGTACTCGTTCCCGCCGTCGGCGTACTGTTC
GTAACCTGCTACGCCGGCCTGCAAAAACTGTTCCACAGCGACCCGCGCATCAGCTTCCTT

GCCCACGCCGGCAAATACAGCGACGCATTGGCTAAAAACGAAATCCTTGCGCCTGCCAAA
GACATCGGCGAAATGGCGCAAATCATCTTCAACGACAAGATTAATGCCGGTCTGACCATC
CTCTTCTTGTCGGTTGTCGTGATTGTCGCCGCGTACGGTTTGCGTACCGCCCTCAAAGCA
CGCAAAGTCGGCTGGCCGACCGCCAAAGAAATCCCGGCGGTGTACCGCGACGGCAAACAG
CCGGAGGCACAAAGTGAAGCATAAGCTCGCGTCTTGGTGGAAAACCATCAAGCTGACGGC
AAACTTGATGGCAGGCGTGCCCGATTATGAAAACTACGTTGCACAGCAGCGCAAACATAA
TCCCAACGCCCCCGTGATGACCAAGCTGCAGTTTCAAGACTATTGCCGCAAACGCCGCTG
CGGCGCAAACGGCGGACGCTGCTGTTAAGCCTGCTTGAAACAAATTCCGTCTGAACGCCG
CTTCAGACGGAATTTTTATAATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGC
CGCAGACAGTACAAATAGTACGAAACCGACTCACTTGGTGCTTCAGCACCTTAGAGAATC
GTTCTCTTTGAGCTAAGGCGAGACAACGCCGTACTGGTTTTTGTTAATCCGCTATACCAC
GATGAATCCTTCGCAATATCTGTTTATCGACCTCAATTTTGACAAAATACCGGATACGCG
CCTTTGTTGCTTTTCCATCTTCCAACCAACTGTAAATCTCAAACAGCCGGTACACGCCAT
GCTTCAGTTTCTTTTCCTGTCGGCGGATTGTTTCGACAAAGAATTGAAAATCCATTTCAT
GCACCTTAAAATTTAATCTGCATTCAAACCTTTTCACTTTGGAAGCACCATTTATCGGAT
GTCCCTTCGCAATAAACAAATTTTCCCGATACCGCCGCCCATTTCAACCCAAACCCAAAA
GCTATGAAAAACCTCATCGCCTTCAACAAACCCTATGGCGTTATCTGCCAATTTTCACCG
CACGAAAAACACAAAAGCCTCAAAGACTTTATCAATCTTCCCGGCTTCTACCCCGCCGGA
CGGCTCGACACCGACAGCGAGGGGCTGCTGCTGCTGACCGACGACGGCAGGCTTCAGGCA
CAAATTACCGACCCCAAATTCAAACACCCTAAAACCTACTGGGCGCAACTGGAGGGCGTA
CCCGACGAAAGCCGATTGGAAAGCCTAAGAAAAGGGATAGACTTAGGCGGTTTCGTTACC
CGTCCGGCAAGCATCCGCATCTTGAAACACGGAGAAGCAGATTCGTTATGGGAGCGCATC
CCGCCGATACGCGTCCGCAAAACCGTTCCCGATTTTTGGATTGAAATTACCATTTCTGAG
GGCAAAAACCGCCAAGTCAGGCGAATGACCGCCAAGGCGGGCTATCCCTGCCTGCGTCTG
ATCAGAGTGGCAAGCGGCAGGCTGAAACTGTTTGATTTGGATTTAAAACCCGGGGAATGG
GCATACGCCCCGTTTAAACCATAATCACGTTTATCTCATCATTTCCACAAAAGTGGGAAT
CCGGAATTTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTAC
AGATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAG
CTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCGCTATATTCCGCCATCTCTAAG
ATTTACAGCGATACACGGGTGATTTAAGGAATGCCCGAACCGTCATTCCCGCCACTTTTC
GTCATTCCCGCGCAGGCGGGAATCTAGAATCTCGGACTTTCAGATAATCTTTGAATATTG
CTGTTGTTCTAAGGTCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATCCGCACGGAA
ACCTGCACCACGTCATTCCTACGAACCTACATCCCGTCATTCCCACGAAAGTGGGAATCC
AGAACGTAAAATCTGAAGAAACCGTTTTATCCGATAAGTTTCCGTACCGAACAGACTAGA
TTCCCGCCTGCGCGGGAATGACGATTCATAAGTTTCCCGAAATTCCAACATAACCGAAAC
TTGACAGTAACCGTAGCAACTGAACCGTCATTCCCACGAAAGTGGGAATCTAGAAATGAA
AAGCAACAGGCATTTATCGGAAATAACTGAAACCGAACCGACTAGATTCCCGCCTGCGCG
GGAATGACGGCTGCAGATGCCCGACGGTCTTTATAGCGGATTAATAAAAATCAGGACAAG
GCGGCGAGCCACAGACAGTACAAACAGTACGGAACCGATTCACTTGGTGCTTCAGCACCT
TAGAGAATCGTTCTCTTTGAGCTAAAGCGAGACAACGCTGTACTGGTTTTTGTTAATCCA
CTATAAATATCCAATTGAAATCTTCAGACGGTATATCAAATTTACACTTTTTTAATGTTT
ATGCCGCCTGAAAAAAATGCTAGTATATTTCCTAATTGTCTGACTGTTTATTGTTGAGGA
AAATATGAGATCTTCTTTCCGGTTGAAGCCGATTTGTTTTTACCTTATGGGTGTTACGCT
ATATCATTATAGTTATGCCGAAGATGCAGGGCGCGCGGGCAGCGAGGCGCAGATACAGGT
TTTGGAAGATGTGCACGTCAAGGCGAAGCGCGTACCGAAAGACAAAAAAGTGTTTACCGA
TGCGCGTGCCGTATCGACCCGTCAGGATATATTCAAATCCAGCGAAAACCTCGACAACAT
CGTACGCAGCATCCCCGGTGCGTTTACACAGCAAGATAAAAGCTCGGGCATTGTGTCTTT
GAATATTCGCGGCGACAGCGGGTTCGGGCGGGTCAATACGATGGTGGACGGCATCACGCA
GACCTTTTATTCGACTTCTACCGATGCGGGCAGGGCAGGCGGTTCATCTCAATTCGGTGC
ATCTGTCGACAGCAATTTTATTGCCGGACTGGATGTCGTCAAAGGCAGCTTCAGCGGCTC
GGCAGGCATCAACAGCCTTGCCGGTTCGGCGAATCTGCGGACTTTAGGCGTGGATGACGT
CGTTCAGGGCAATAATACCTACGGCCTGCTGCTAAAAGGTCTGACCGGCACCAATTCAAC
CAAAGGTAATGCGATGGCGGCGATAGGTGCGCGCAAATGGCTGGAAAGCGGAGCATCTGT
CGGTGTGCTTTACGGGCACAGCAGGCGCAGCGTGGCGCAAAATTACCGCGTGGGCGGCGG
CGGGCAGCACATCGGAAATTTTGGCGCGGAATATTTGGAACGGCGCAAGCAGCGATATTT
TGTACAAGAGGGTGCTTTGAAATTCAATTCCGACAGCGGAAATGGGAGCGGGATTTACA
AAGGCAACAGTGGAAATACAAGCCGTATAAAAATTACAACAACCAAGAACTACAAAAATA
CATCGAAGAGCATGACAAAAGCTGGCGGGAAAACCTGGCACCGCAATACGACATTACCCC
CATCGATCCGTCCAGCCTGAAGCAGCAGTCGGCAGGCAATCTGTTTAAATTGGAATACGA

```
CGGCGTATTCAATAAATACACGGCGCAATTTCGCGATTTAAACACCAAAATCGGCAGCCG
CAAAATCATCAACCGCAATTATCAGTTCAATTACGGTTTGTCTTTGAACCCGTATACCAA
CCTCAATCTGACCGCAGCCTACAATTCGGGCAGGCAGAAATATCCGAAAGGGTCGAAGTT
TACAGGCTGGGGGCTTTTAAAGGATTTTGAAACCTACAACAACGCGAAAATCCTCGACCT
CAACAACACCGCCACCTTCCGGCTGCCCCGCGAAACCGAGTTGCAAACCACTTTGGGCTT
CAATTATTTCCACAACGAATACGGCAAAAACCGCTTTCCTGAAGAATTGGGGCTGTTTTT
CGACGGTCCTGATCAGGACAACGGGCTTTATTCCTATTTGGGGCGGTTTAAGGGCGATAA
AGGGCTGCTGCCCCAAAAATCAACCATTGTCCAACCGGCCGGCAGCCAATATTTCAACAC
GTTCTACTTCGATGCCGCGCTCAAAAAGACATTTACCGCTTAAACTACAGCACCAATAC
CGTCGGCTACCGTTTCGGCGGCGAATATACGGGCTATTACGGCTCGGATGACGAATTTAA
GCGGGCATTCGGAGAAAACTCGCCGACATACAAGAAACATTGCAACCGGAGCTGCGGGAT
TTATGAACCCGTATTGAAAAAATACGGCAAAAAGCGCGCCAACAACCATTCGGTCAGCAT
TAGTGCGGACTTCGGCGATTATTTCATGCCGTTCGCCAGCTATTCGCGCACACACCGTAT
GCCCAACATCCAAGAAATGTATTTTTCCCAAATCGGCGACTCCGGCGTTCACACCGCCTT
AAAACCAGAGCGCGCAAACACTTGGCAATTTGGCTTCAATACCTATAAAAAAGGATTGTT
AAAACAAGATGATACATTAGGATTAAAACTGGTCGGCTACCGCAGCCGCATCGACAACTA
CATCCACAACGTTTACGGGAAATGGTGGGATTTGAACGGGGATATTCCGAGCTGGGTCAG
CAGCACCGGGCTTGCCTACACCATCCAACATCGCAATTTCAAAGACAAAGTGCACAAACA
CGGTTTTGAGTGGAGCTGAATTACGATTATGGGCGTTTTTTCACCAACCTTTCTTACGC
CTATCAAAAAAGCACGCAACCGACCAACTTCAGCGATGCGAGCGAATCGCCCCAACAATGC
GTCCAAAGAAGACCAACTCAAACAAGGTTATGGGTTGAGCAGGGTTTCCGCCCTGCCGCG
AGATTACGGACGTTTGGAAGTCGGTACGCGCTGGTTGGGCAACAAACTGACTTTGGGCGG
CGCGATGCGCTATTTCGGCAAGAGCATCCGCGCGACGGCTGAAGAACGCTATATCGACGG
CACCAACGGGGGAAATACCAGCAATTTCCGGCAACTGGGCAAGCGTTCCATCAAACAAAC
CGAAACTCTTGCCCGCCAGCCTTTGATTTTTGATTTTTACGCCGCTTACGAGCCGAAGAA
AAACCTTATTTTCCGCGCCGAAGTCAAAAATCTGTTCGACAGGCGTTATATCGATCCGCT
CGATGCGGGCAATGATGCGGCAACGCAGCGTTATTACAGCTCGTTCGACCCGAAAGACAA
GGACGAAGACGTAACGTGTAATGCTGATAAAACGTTGTGCAACGGCAAATACGGCGGCAC
AAGCAAAAGCGTATTGACCAATTTTGCACGCGGACGCACCTTTTTGATGACGATGAGCTA
CAAGTTTTAAAGGCAGCCCGCATTTTGTAGAAAACCGCAATGCCGTCTGAAAGCCCTTCA
GACGGCATTTGTTTCCCCAAACGCATCATCCTGCCGCAAGCCTATGCCAATCCGTTTTAT
CGCATCGGCAACTCAAAGAAAAATCCATTTCATTCCCACGCAGGGAAGCCGGTTTTTGAT
TTCGGTTATTTTTGGTTGTTTCGGGTAATTTATGAGTCGTCATTCCCGCAAAAGCGGGAA
TCAGTTTTTTTAAGTTTCAGCCATTTCCGATAAATTCCTGTGGCTTTAGCTTTCCGGATT
CCCACTTTCGTGAGAATGACGTGGTGCAGGTTTCCGTACGGATGGATTCGTCATTCCCGC
GCAGGCGGGAATCTAGACCGTTCGGTTTCGGTTTTTTTGGTTAGTGCCGCAACATTAAAT
TTCTAGATTCCCACTTTCGTGGGAATGACGGCGGAGCGGTTTCTGCTTTTTCCAATAAAT
GCCCCCAACCTAAAATCCGTCATTCCCGCGCAGGCGGGAATCTAGACATTCAATGCTAAG
GCAATTTATCGGAAATGACTGAAACTCAAAAAACTAGATTCCCACTTTCGTGGGAATGAC
GTGGTGCAGGTTTCCGTATGGATGGATTCGTCATTCCCGCGCAGGCGGGAATCTAGTCCG
TTCGGTTTCGGTTTTTTTGGCTAATGCCGCAACATTAAATTTCTAGATTCCCACTTTCGT
GGGAATGACGGCGGAGCGGTTGCTGTTTTTCCCAATAAATGCCCCCCAACCTAAAATCCG
TCATTCCCGCGCAGGCGGGAATCTAGTCCGTTCGGTTTCGGTTTTTTTGGCTAGTGCCGC
AACATTAAATTTCTAGATTCCCACTTTCGTGGGAATGACGGCGGAGCGGTTTCTGCTTTT
CCCAATAAATGCCCCCAACCTAAAATCCGTCATTCCCGCGCAGGCGGGAATTTAGACATT
CAACGCTAAGGCAATTTATCGGAAATGACTGAAACTCAAAAAACTGGATTCCCTCTTTCG
TGGGAATGACGTAGTGCAGGTTTCCGTACGGATGGATTCGTCATTCCCGCGCAGGCGGGA
ATCTAGACATTCAATGCTAAGGCAATTTATCGGAAATGACTGAAACTCAAAAAACTGGAT
TCCCGCTTTCGTGGGAATGACGCGATTAGAGTTTCAAAATTTATTCTAAATAGCTGAAAC
TCAACGCACTGGATTCCCGCCTGAGCGGGAATGACGAAGTGGAAGTTACCCGAAACTTAA
AACAAGCGAAACCGAACGAACTGGATTCCCACTTTCGTGGGAATGACGGAATGTAGGTTC
GTGGGAATGACGGGATGCAGGTTTCCGATGGATGGATTCGTCATTCCCGCGCAGGCGGGA
ATCTAGACATTCAACGCTAAGGCAATTTATCGGAAATGACTGAAACTCAAAAAACTGGAT
TCCCACTTTTGTGGGAATGACGCGATTAGAGTTTCAAAATTTATTCTAAATAGCTGAAAC
TCAACGCACTGGATTCCCGCCTGAGCGGGAATGACGAATTTCAGGTTGCTGTTTTTGGTT
TTCTGTTTTTGTGAAAATAATGGGATTTTAGCTTGTGGGTATTTACCGGAAAAAACAGAA
ACCGCTCCGCCGTCATTCCCGCGCAGGCGGGAATCTAGTCCGTTCGGTTTCGGTTTTTTT
GGCTAGTGCCGCAACATTAAATTTCTAGATTCCCACTTTCGTGGGAATGACGGGATGTAT
AGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTGTC
```

```
TAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGT
CGCCTTGTCCTGATTTTTGTTAATCCACTATAAATTTAATCCACTATATTTTTTGTTCCA
AAGTCAAAATATGCCGTCCGAACATTCGGGCGGCAGACAAAACGGCACTGCCCGATAAAG
GCAGTGCCGTTGTCCGTTTCAAACCGTGAAACATCAGCCCAAATTAAAGGCTTTATGCAA
TACCCTGGTTGCCAGTTCCATGTATTTTTCATCAATCAATACGGAAACTTTGATTTCGGA
GGTGGAAATCATTTGGATGTTGATACCCTCTTCGGCGAGCGTGCGGAAGATTTTGGCGGC
TACACCGACGTGCGAACGCATACCCAAACCGACTGCGGAGACTTTGCATACGGTGTCGTC
GCCATCAATAGAAGCCGCGCCGATACTGTCTTGGCGTTCCGACAGGATTTCCAAAGTCTG
CTTGTAATCGCCGCGCGGTACGGTAAAGGAAAAATCGGTTGTGCCTTCGCTGCCGACATT
TTGGATAATCATATCGACTTCGATGTTGGCATCGGCAACCGCGCCTAAAATCTGATAGGC
GACGCCAGGTTTGTCGGGTACGCCGCGCACGTTGATGCGGGCTTGGTTTTTATCGAATGC
GATACCGGTTACGGCAGCTCTTTCCATGTTGTCGTCCTCTTCAAAGGTAATTAAGGTGCC
ATTGCCGCCGTCTTGCAGGCTGCTCAGTACGCGCAGGCGCACTTTGTATTTTCCGGCGAA
TTCTACTGAACGGATTTGCAAAACTTTCGAACCGAGGCTTGCCAGTTCGATCATTTCTTC
AAATGTAACCGTATCCATGCGGCGCGCTTCGGGTACGACGCGGGGGTCGGTTGTGTAAAC
GCCGTCTACGTCGGTATAGATTTGGCACTCGTCGGCTTTGAGCGCGGCGGCAAGCGCGAC
GGCGGAAGTGTCGGAACCGCCGCGTCCGAGCGTGGAAATATCGCCTTCACTGCTGATGCC
TTGGAAGCCGGCAACGATGACGACTTTGCCGGCGGTAAGGTCGGCACGCATTTTTTCGTC
ATCAATGCTTTCGATGCGGGCTTTGGTGTGGGCGGTATCGGTTTTGAGGGCGACCTGCCA
GCCTGTGTAGCTTTTGGCATCCACGCCGATGTCTTTCAATGCCATCGCCAAAAGGCCGAT
GGTTACTTGTTCGCCGGTAGCTAAGACGACGTCCAGCTCGCGCGGATCGGGATGCTCTTG
CATTTCGTGCGCCAGTGCGACCAGTCGGTTGGTTTCGCCGCTCATGGCGGATACGACGAC
TACGATGTCGTGTCCTTCGGCGCGGGCTTTGGCGACACGTTTGGCTACGTTTTTGATGCG
TTCGGGCGAGCCTACTGATGTGCCGCCGTATTTATGTACGATTAACGCCATGTTTCGTGC
TTTCTTGTGGGGGTTGTCGGGCAGCTTGGTTTGCTGGAAAAAGGGTTATTATTACTATTT
TTTACATGGAATTCAAGAACGGACTGCGCTTTCCCGCCTGCCGTTTGACAGCGGTCAGCG
AAAAACCTGTTCTTTCAGATTGTTGACAAAATGCCGTCTGAACGGTTTTCAGACGGCATC
CGGACGACAATCAGGCGGCGGACAACGCATTTTGCTGGTGTTGCAGCAGTTCGCCTATGC
CTTTTTGCGCCAGTGCAACCAGTTTGCCCAATTCGTCCAAACTGAACGGCGCGTCTTCCG
CCGTCCCCTGTATTTCGATGATTTTTCCCGATGCGGTCATGACGATATTCACATCACTGT
CGCAACCGGAGTCTTCGGGATAATCCAAATCCAAAAGCGGCACGCCGTTCACTACGCCTA
CTGACACAGCGGCAACGGCTTCGCGGATGGGGTTTTCACTCAAAATGCCGTCTGAAACCA
GTTTGCCGACGGCGATTTGCAGCGCGACAAACGCACCGGTAATCGAAGCCGTGCGCGTAC
CGCCGTCTGCCTGAATCACATCGCAGTCAATCAAGATTTGTCGTTCACCGAGTTTTTCCA
TATCCACGACCGCGCGCAGGGAACGCCCGATCAAACGTTGGATTTCTTGTGTGCGCCCGG
ACTGTTTGCCCGCCGAAGCTTCGCGGAGCATCCGGGAAGCAGTTGAGGCAGGCAGCATCC
CGTATTCCGCCGTTACCCAGCCTTGGTTTTTACCGCGCAGAAACGGCGGGACGTTTTCAT
CTATGGAAGCGGTACAAATCACTTTGGTATTGCCGCATTCAATAAGGCACGAACCGTCCG
TATGCGGCAGGAAATGAGGGGTGATTTTGATATCGCGCAGGCTGTCGGCGGCGCGCGAGA
TGCGGATGTAATCAGGCATACTGCCCTCCCGTTAAAAACAGATAAATTAAAAAGCCTTAA
ATATGAAAAATCACATTTAAGGCCTTCAAACTGAAAATTTCTACGCCTCTTCGGCTTTGC
TGCGGATAATCAAAAGCGGCAGGTGGCTTTGGCGCATTACCGTTTCGGCAAAACTGCCCA
TTAAAAGGTGCATCAGCCCGGTACGTCCGTGCGTACCCAACACCAGCAGGTCGGCACCGT
TTTCATCGGCATAATCAACCAAATCCTGCGCCATTTCACGCGCACCCTTATTGGCAACCA
GCAGGTGTTTGACGGTATTTTCCACACCCAGTTCCTGGGCGGTGCGCTCGGCGGCATCCA
AAACTTCGTTGCCTTGCGCGACGGCGGCGGCTTCGTAGCTTTCGTGTTGCAAAAATTCGG
GGGCGAGTGCCATATATTCGGCAGGATTGGCAACGTGCACCAAAGTCAGGCGCGCACCGT
TGACCCCGGCAAGCTCGGCGGCATGTTTCAGGGCATTGATGGACGTTTCACTGCCGTCAA
CGGCAACAACCAAATGTTTGTACATATCGTATTCTCCTTTTGCACCGCCTCGCGGTGCCC
TCTTGTCGGATGGGCGCAGGGACAGTTTGCGCTGTTTCATTATAGACCCGCCGTCGGGCT
TTATACAACAGCCGAACAGCCCGACCGCTTTCAGTATAATATGCCGCTTCCGTGCAGTC
AGGCATTTTTTGCCGGCTTTCGTTCACTTTTTGATTTGACGCAATCTTGCAGGATTCGAC
CATGTCCGACAACGCTTTGACCTCTTCGCGACGCTTCGGCGGCATCGCCAGACTCTACGG
AGACTCTGCCTTGGCGCACTTTTCACAGGCACACGTCTGCGTAGTCGGCGTGGGCGGTGT
CGGCTCGTGGGCGGTCGAGGCTTTGGCGCGGACGGGCATCGGACGTTTGACTTTGATTGA
TTTGGACAACGTTGCCGAATCGAATGTCAACCGCCAGCTGCACGCCCTGACCGGCGACTT
CGGCAAAGCAAAAGTTACCGCCTTGCGCGAACGCATTACACAAATTAATCCGCAATGCGA
AGTGTTTGAAATTGAAGATTTCGTTACCGAAGACAATTTGCCGGAATACTTCGGAAAAGG
TTTTGATTTCGTCATCGACGCGATCGACCAAGTGCGCGTCAAAGCAGCAATGGCGGCTTA
```

```
TTTTGTGGAACGCAAACAACCGTTTGTCCTCAGCGGCGGCGCGGGCGGACAAAAAAATCC
GGCGTTAATCCAAACCGCCGATTTGAGCCGCGTAACCCACGACCCGCTGCTTGCCAACCT
GCGCTACACCTTGCGGAAACGCTACGGATTCAGCCGCGATACGAAAGCAAATATGCGCGT
GCCTTGCGTGTATTCGACCGAAAATATCGTGCCGCCGCAGTCTAGGGAGGCTTGTTCGGC
AGATGCCGCTCCGCAAGGCTTGTCGTGCGCCGGCTACGGTGCAAGCATGCTCGTTACCGC
TTCGTTCGGGCTATATTGCGCACAGGCGGCGGTGGAACACATCGCAGACAAAAAATAAGC
AATGCCGTCTGAAACAGGATTCAGACGGCATTTGAACAAACTATGGTTATGATTTAAGAC
AACAAAGGATACGGATAAAAAATAACATAAAATATATGATTCCTAATAATATACCAAGTA
TCGGAGAGCTATTTAATGGAATTCGTTAATAATTTAGTTATTTTTTCATTTTTATTACTA
ATGCTTATTCCGATATTTTTTGTAGTATATGGTATATACCATAAGATACGTTATCGCAAA
ATATGTATCCTAAGAACAAGTTTTATATTATTAGTGGTAATACTTTGCAGTATGTATTAC
ATATATTGCCGTTATCTTGACCAACAAAAAGTAGCTTATTATTGCATAGATGAACAATGT
ATTTCTATTGTTCATCTATACAAAGATTATGGTATAAACTCTCCCACATATGCGAGAATT
TACGCAGGAAAAATATTGTTTAGATTTCAAGTAAGAGCTAAAAATTACGCTGAATTACTT
ATGGAAGATGATATATCAATTAGTAAAAAAATTTTGGGGAATAAATTTATCATTTATGGG
TCGCTACCTGTAATATACGGTAATGTAGATAATATTGAAGTAAAAGAAGCTACTGGTTAT
ATAGATAGATCCAGTACTGATTATATTGTCTCAAGAAACTTAAAATTCAGACATTTATAT
TAATTAAGAGGTTTTAGCAAGAGTGCCGTCAAAATATAGGGCGCATCATCGAATTCGCGA
AAGACAAACGCTACGATGAACGTTTCAAGGATTTGAAAAAAGAATCCATAGGCTATCTGA
ACCGGCATCCCGGTTTGGTGTCCGACTACCTGAAGGCGGCAATCAAGCTGTCGGTTCAGA
AAAACCAACATCAGCACGCGCCTAAAACCGTATTCACAACCTGCTCCTTTTCAAAACATTTG
CATTTAAAAGCCGTTATAATGCCGTCTGAACATCTGCCCGACCACATTATACGTGAATGT
CGGCAGATTGTTTTCTTTTGTAAACTTATATTAAAATCCACTTACCGATTCACGCCATGC
CGCCCATCCCTGCCCCATCTGCACCATCCGAGCACACTGTCGCATGGGTATTCGGCCAAC
CCGTTACCGATTTGCCCCAGGATTTGTTTATTCCGCCCGATGCATTGAAAGTCGTATTGG
GCAGCTTCCAAGGCCCTTTGGATCTACTGCTGTATCTGATCCGCAAACAGAATATCGACG
TACTGGATATTCCGATGGTGAAGATTACCGAGCAGTATCTGCACTACATCGCCCAAATAG
AAACCTATCAGTTTGATTTGGCGGCGGAATATCTTTTGATGGCAGCAATGCTGATTGAAA
TCAAATCGCGCCTGCTGCTGCCGCGTACCGAAACCGTCGAAGACGAAGAAGCCGACCCGC
GTGCCGAGTTGGTGCGCCGCCTGCTGGCTTACGAACAGATGAAGCTGGCGGCGCAGGGTT
TGGACGCGCTGCCCCGAGCCGGACGGGATTTCGCGTGGGCTTACCTGCCGCTGGAAATTG
CCGTCGAAGCCAAGCTGCCCGAAGTCTATATTACCGACTTGACGCAAGCGTGGCTGGGTA
TTTTGTCTCGGGCAAAACACACGCGCAGCCACGAAGTAATCAAAGAAACCATCTCCGTGC
GCGCGCAAATGACGGCAATCCTGCGCCGTTTGAACGGACACGGAATATGCAGGTTTCACG
ACCTGTTCAATCCCAAACAGGGCGCGGCTTACGTGGTCGTCAACTTCATCGCACTGTTGG
AGCTTGCCAAAGAAGGATTGGTCAGAATCGTGCAGGAAGACGGTTTCGGAGAAATCCGAA
TCAGCCTCAATCATGAGGGGGCGCATTCAGACGGCATTTCCGGCACACGAGGCGGGCGCG
ATGTGTTCTAATACGCCCCAAGCCGCCACCAAAAATCGGGAGACACGCCATATGACCGGC
ATCATACATTCGCTGCTTGACACCGACCTCTACAAATTCACTATGCTGCAAGTGGTTCTG
CACCAGTTTCCGCAGACGCACAGCCTTTACGAATTCCGCTGCCGCAACGCCTCGACCGTC
TATCCGCTTGCCGACATCAGGGAAGACTTGGAAGCCGAACTCGACGCGCTCTGCCAACTA
CGCTTCACCCACGACGAACTCGGCTATCTGCGCTCCCTGCGTTTCATTAAAAGCGACTTT
GTCGATTATCTCGAACTCTTCCAGCTCCAACGCCGCTTTGTCGAAATCGGCACAGACGAT
AAAGACCGTCTGAACATCCGCATCGAAGGTCCGATGATACAGGCGATGTTTTTTGAAATC
TTCATCCTCGCCATTGTCAACGAACTTTACTTCCGCCGCCTGGAAACCCCTGCAGTCATA
GAAGAAGGCGAACGCCGGCTTCAAGCCAAAGCCGCGCGCCTCAAAGAAATCGCCGCCGCA
CAAAACCCCGACGAACCGCCCTTCCTGATTTCCGACTTCGGCACGCGCCGCCGCTACAAG
CTCGCGTGGCAGGAACACGTCATCCGCACCCTGCTTGAAGCCGCCCCCGGCATCGTACGC
GGCACCAGCAATGTCTTTCTCGCCAAAAAACTCGGCATCACCCCCATCGGCACCATGGCG
CACGAGTTCCTGCAGGCATTCCAGGCCCTCGACGTACGCCTGCGGAATTTCCAAAAGGCC
GCGCTCGAAAGCTGGGTGCACGAATACCGGGGCGATTTGGGCGTTGCCCTGACCGACGTG
GTCGGTATGGATGCCTTCCTGCGCGATTTCGACCTCTATTTCGCCAAACTTTTCGACGGG
CTGCGCCACGACAGCGGCGACCCTTACGTTTGGGGCGACAAAGCCTACGCCCACTATCAA
AAGCTCAAAATCGACAGCCGCACCAAAATGCTGACCTTCTCCGACGGGCTGGACATCGAA
CGCTCTTGGGCATTGCACCAATATTTCAAAGACCGCTTCAAAACCGGCTTCGGCATCGGC
ACCAACCTCACCAACGATATGGGGCATACGCCCTTGAATATCGTCTTGAAACTGGTCGAA
TGCAACGGGCAGTCCGTCGCCAAGCTGTCCGACTCTCCGGGCAAAACCATGACCAACAAC
AGCACCTTCCTCGCCTACCTGCGCCAAGTGTTCGACGTACCCGAACCCGAAACGCCGTAA
ACCGGCAGAAAAAGCGCACAATTCCTGTTTCTGCCGCATAAAATCTTTTAAAATACCGCC
```

```
TGATTTGAATTTAACCGAAAGACCGAACTTCATGAACCTACATCAAACCGTCGAACACGA
AGCCGCCGCCGCCTTTGCCGCCGCAGGCATCGCCGACAGCCCTATTGTTTTGCAGCCGAC
CAAAAACGCCGAACACGGCGATTTCCAAATCAACGGCGTGATGGGTGCGGCGAAAAAAGC
CAAACAAAACCCGCGCGAGTTGGCGCAAAAGGTCGCCGAAGCATTGGCGGACAACGCCGT
GATTGAAAGCGCGGAAGTCGCCGGTCCGGGCTTCATCAACCTGCGCCTGCGCCCCGAATT
TCTCGCGCAAAACATTCAGACGGCCTTGAACGACGCTCGTTTCGGCGTGGCAAAAACCGA
CAAACCGCAAACCGTCGTTATCGACTATTCTTCGCCCAATCTGGCGAAGGAAATGCACGT
CGGCCACCTGCGTTCCAGCATCATCGGCGACAGCATTTCGCGCGTGTTGGCATTTATGGG
CAATACCGTTATCCGTCAAAACCACGTCGGCGACTGGGGTACGCAGTTCGGTATGTTGGT
CGCTTATTTGGTCGAGCAGCAAAAAGACAATGCCGCGTTCGAGCTGGCGGATTTGGAGCA
GTTTTACCGCGCCGCCAAAGTGCGCTTTGACGAAGACCCTGCCTTTGCCGACACCGCACG
CGAATACGTTGTGAAGCTGCAAGGCGGCGATGAAACCGTTTTGGCATTGTGGAAACAGTT
TGTCGATATTTCGCTCTCGCACGCCCAAGCCGTTTACGACACGCTGGGCTTGAAGCTGCG
TCCTGAAGACGTGGCAGGCGAATCGAAATACAACGACGATTTGCAGCCCGTGGTCGATGA
TTTGGTTCAAAAAGGTCTGGCGGTTGAGGACGACGGCGCGAAAGTCGTGTTCTTGGACGA
ATTTAAAAACAAAGAAGGCGAACCCGCCGCATTTATCGTGCAAAAACAAGGCGGCGGCTT
CCTCTACGCCTCCACCGATTTGGCGTGCCTGCGCTACCGCATAGGCCGTCTGAAAGCCGA
CCGCCTGCTGTACGTCGTCGACCACCGCCAAGCCCTGCACTTCGAACAACTTTTCACCAC
TTCCCGCAAAGCAGGCTATCTGCCGGAAAACGTCGGCGCGGCATTTATCGGCTTCGGCAC
CATGATGGGCAAAGACGGCAAGCCGTTCAAAACGCGCAGCGGCGACACCGTGAAACTGGT
CGATCTGCTGACCGAAGCCGTCGAGCGCGCCACCGCTTTGGTGAAAGAAAAAAATCCCGA
ATTGGGTGCGGACGAAGCCGCTAAAATCGGTAAAACCGTCGGCATCGGCGCAGTCAAATA
CGCCGACTTGAGCAAAAACCGCACCAGCGACTATGTGTTCGACTGGGATGCCATGCTCTC
GTTTGAAGGCAACACCGCCCCCTATCTGCAATACGCCTACACCCGCGTGCAAAGCGTGTT
CCGCAAAGCAGGCGAATGGGATGCAAATGCGCCAACCGTTTTGACCGAACCGCTGGAAAA
ACAGCTTGCCGCCGAGCTGCTGAAATTTGAAGACGTACTGCAAAGCGTGGCGGACACGGC
GTATCCGCACTACCTCGCCGCCTACCTCTATCAAATTGCGACCCTGTTCAGCCGCTTCTA
CGAAGCCTGTCCGATACTCAAAGCCGAAGGCGCAAGCCGCAACAGCCGCCTGCAACTGGC
AAAACTCACCGGCGACACGCTGAAACAAGGCTTGGATTTGCTGGGCATCGATGTGTTGGA
CGTAATGTAAAACCGCACCGCCCGATTGCGGACAACAGCCTCGCCATCCTTATCCGAATC
TGAAAAAAGCGGCGCGATACACCGTATCCGCCGCCCCTCCCAAAATGCGAAACAAACAAA
CGCCAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAAAAATTATAA
CCCCCTTCCTGCCGACGCACGCACTTTCCGCGCGGCGCATTCCCCTTTTCCCGCCCCTCA
AATCCGCCTTTTCTTCAGGCAGGGTTTCAGCCCGCCTCTTTTCCCTGTTTTCCTTTCCCC
GACACGCGTGCGCTCCCCCTGCCGCACTGTGCTGCACTTTCGCGCCCGGACGGCATCGTT
CCGCCATCCGGTTCTCTGTTTTACATACCCCTGTTTCAGAAAGAAATGCAGATGTTTCAA
CACACAGGACGACACATAAAGCACCGCCCTATGTGTTGCCCTGATTTGGAAGGGGTTACG
CCTCCCAAATAAAGTCTGATCCTGCCGCCCCGAAGGACAGATGTCCGAGTGGCGAAGTTT
CAACCGAAAAGGAAATACGATGAATATTCACACCCTGCTCTCCAAACAATGGACGCTGCC
GCCATTCCTGCCGAAACGGCTGCTGCTGTCCCTGCTGATACTGCTTGCCCCCAATGCGGT
GTTTTGGGTTTTGGCACTGCTGACCGCCACCGCCCGCCCGATTGTCAATTTGGACTATCT
TCCCGCCGCGCTGCTGATCGCCCTGCCTTGGCGTTTCGTCAAAATTGCCGGCGTATTGGC
GTTTTGGCTGGCGGTTTTGTTTGACGGGCTGATGATGGTGATCCAACTCTTCCCTTTTAT
GGATCTCATCGGCGCCATCAACCTCGTCCCCTTCATCCTGACCGCCCCCGCCCCTTATCA
GATAATGACCGGGCTGTTGCTGCTGTATATGCTGGCGATGCCGTTTGTGTTGCAGAAAGC
CGCCGCCAAAACCGACTTCCGGCACATTGCCGTCTGCGCCGCCGTTGTGGCGGCAGCCGG
CTATTTCACCGGCCATTTGAGTTACTACGACCGGGGTCGGATGGCCAATATCTTCGGCGC
AAACAACTTCTACTACGCCAAAAGTCAGGCGATGCTCTACACCGTCAGCCAGAATGCCGA
CTTTATTACCGCCGGCCTGGTCGATCCCGTCTTCCTCCCCTTGGGCAATCAACAGCGTGC
CGCCACGCATCTGAACGAGCCGAAATCTCAAAAAATCCTCTTTATCGTCGCCGAATCTTG
GGGGCTGCCGGCCAATCCCGAACTTCAAAACGCCACTTTTGCCAAACTGCTGGCGCAAAA
AGACCGTTTTTCGGTTTGGGAAAGCGGCAGTTTTCCCTTCATCGGCGCGACGGTCGAAGG
CGAAATGCGCGAACTGTGTGCCTACGGCGGTTTGCGCGGGTTCGCACTGCGCCGCGCGCC
CGACGAAAAATTTGCCCGCTGCCTCCCCAACCGTTTGAAACAAGAAGGTTACGCCACCTT
TGCGATGCACGGCGCGGGCAGTTCGCTTTACGACCGCTTCAGCTGGTATCCGAGGGCGGG
CTTTCAAGAAATCAAAACCGCCGAAAACCTGATCGGTAAAAAAACCTGCGCCATTTTCGG
CGGCGTGTGCGACAGCGAGCTGTTCGGCGAAGTGTCGGCATTTTTCAAAAAACACGACAA
GGGACTGTTTTACTGGATGACGCTGACCAGCCACGCCGACTATCCCGAATCCGACATTTT
CAACCACAGGCTCAAATGCACCGAATATGGCCTGCCCGCCGAAACCGACCTCTGCCGCAA
```

```
TTTCAGCCTGCACACCCAATTCTTCGACCAACTGGCGGATTTGATCCAACGCCCCGAAAT
GAAAGGCACGGAAGTCATCATCGTCGGCGACCATCCGCCGCCCGTCGGCAACCTCAATGA
AACCTTCCGCTACCTCAAACAGGGGCACGTCGCCTGGCTGAACTTCAAAATCAAATAACA
ACAATGCCGTCTGAACGCACCAACAGCCTTCAGACGGCATTTTGCAGACAGACCGACCCT
TCAAGCCCACTTTTTTCATCATCTCCGATAAATTGCTTTGTATAGTGGATTAACAAAAAC
CAGTACGGCCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTACTGAAGCACC
AAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTT
TGTTAATCCGCCATAAAGACCGTCGGGCATCTGCAGCCGTCATTCCCGCGCAGGCGGGAA
TCCAGAACGTGGAATCTAAAGAAACCGTTTTACCCGATAAGTTTCCGCACCGACAGACCT
AGATTCCCGCCTGCGCGGGAATGACGGGATTTTAGGTTTCTGATTTTGGTTTTCTGTCCT
TGTGGGAATGACGGGATGTAGGTTCATAGGAATGACGTGGTGCAGGTTTCCGTATGGATG
GATTCGTCGTTCCCGCGAAAGCGGGAATCCGGAAACCCAAAGCCACGGGAATTTATCGGA
AAAACCGAAACCGCTCCGCCGTCATTCCCGCGCAGGCGGGAATCTAGGTCTGTCGGTGCG
GAAACTTATCGGATAAAACGGTTTCTTCAGATTTTACGTTCTGGATTCCCACTTTCGTGG
GAATGACGGGATGTAGGTTCGTAGGAATGACGTGGTGCAGGTTTCCGTATGGATGGGATT
CCCTCTTGCGTGAGGCTGACAGATGCCGTCTGAAAGACTTTCAGACGGCATAGCTTTTTC
TCTTTGAATTTATAGTGGATTAACAAAAATCAGGACAAGGCGGCGAGCCGCAGACAGTAC
AGATAGTACGGAACCGATTCACTCGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAG
CTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACGATAAATTTGCCACAAAAAA
GCTGCCTCAAATGAATACCCGGGCAGCTTTTTGTTGATATGACTCCAATCAGCGGTGTTG
CGGATTGTAACGTTTTTCCAAACGCAGGAATATCCAGCCTAAGAAAGTCGTCATCAACAG
ATAAATCAGGGCGACGGTGTAAAGCGGTTCTTCATAAACCGAATACCGGCCCGTAATCGT
ATTCTGAACATACGCCAACTCCGCCACAGCAATGACCGACAGCAGCGAGCTGTCTTTCAA
GAGCGTGATGAACTCGCTCGCCAAAGGCGGCAGCATGCGGCGCAATGCCTGCGGCAGAAT
CACATAGCGCATCGCCTGCGGATAGGTCAGCCCCAAAGAACGCGCCGCCTCCATCTGTCC
TTTGTCTATAGACTGGATGCCCGCGCGGAAAATCTCACAGATATACGCCCCCGAGTTGGC
GATCAGTGCCAAAGAACCGGCAATCAGCGGCCCGTATCCGCGACGCAGCGCGATTGCCGC
CTCGCCGCTGACCAAAATGCCGTCTGAAGGATGGACGAAAAACGGAAACCACACATACGC
CCAAATCACAATCTGCACAAACAGCGGCGTACCCCGGAACAGCGTAACATACAGCAGCGA
AACTTTACGCAACGCCCACGCCAGCACGCGCATCGGCGCACCGGCTTTTTCCAAGTGAAT
CAGGCGCGCCAACGCCAACAACAGACCCAATACCGAACCGCCCGCCGTTGCCACGACCGT
CAGCCCCAAGGTCGTCAGTGCGCCGTAAAGAAACATCCAGCGGTATTCGTAAATAATGTC
AAAACGAAAATCCATAAACCGTCCGTATCAAAAACCGGCGGAACTGCCGCCGTTGCAAAA
TAATCCGCCATTTTACCGTAAAAACCGCCGCCTGAACTTTTTTATCGCGGCAGACGGCGG
TTGCGCGTCTCCGCAAAAATGCAGGGCGCGCGGTTTTCAGACGGCATTTGCCGTTCAAAG
CCGTGCGGTGTCTTTACCAAATGCCCAACCATTCGCCCACGGCATCCATCCAATCCTTAT
TGCCCCCGCCGCTCCTGCCTGCTCGGCGGTACGCCCACGGCGCTTGCGGATTTTTAGCTT
TCCACAATCCTTTGCGTTCCCTTTCCGCCTGAATTTGAGCGTCGGCATAATCGGCAAAAT
CCGCCTTATCCTGCTGTTCTTTAGCATAACTTTTATAATGCCACGCCGCCCCGTCCTGCA
CCTGCATCAGGTTCAAATCGGTTTTGCCGACAGAAACCTGCGCCACTTCGCGCTGGTAGC
GGTCGGTATCGAACACGCGCACGCTGACTTTCCTGCCTTCCGCCGCCGCGCGCAGGTTGT
CGCGCGAACGCGTGCCGTAAGCCTGTTTCATCTCCGGCGCGTCGATATACGCCATCCGGA
TTTTGTGTTTCGCGCCGTCGCCGTCGATAACGTGAAGGGTGTCGCCGTCATAGACTTTGG
ACACCGTGCCTGTGTAGCGGTGGCCGGATTTCGCCGATGCTCGGCGGCGGGCGGGCGCGT
CGGAACCCGCGTCCCCTGCCGCGCCGAGTACGTCGAGTACGGCAACCGCCGTCCGCACCG
CCTCGCTGCCGTACCCCGTATAACCCAACGCACCCAAAAGCGACAGGGCGACGGGAAGCC
ATTTCATGATTTTTTTAATCTGCATATTTTTCAAATGCCGATGCCGTCTGAACATATCGG
AATCGGATTTCAGACGGCATCTTAACGTCAGGATTACCCTTGGCAGGGATAGATGACTTT
CGCACCCTCTTCCGTCCCCAAAATCAACACATCGGCGGCATCGCGGGCGAATATGCCGTT
TTCGAGCACGCCGGTGATTTGTTGATTTCGTCTTCCATCGTCAGCGGCTGATCGATATT
CAAGCCGTGGACATCGACGATTTGGTTGCCGTAAAACGTGGTGTAGCCGATACGCAGTTC
GGGCTGTCCGCCCATAGCGAGCAGTTTGCGCGAAACAAGAGAGCGCGCGCTTTCGACGAC
TTCCACAGGCAGAGGGAATTTGCCCAAACGTGAAACATATTTGCTTTCATCCGCAATGCA
GATGAATTTTTCGGACGCGCTGGCGACGATTTTTTCGTTGAGGTGCGCGCCGCCACCGCC
TTTAATCATTTGCAGGGCGTGGTTCACTTCATCCGCACCGTCGATATAGACCGCCAACCC
CGATACTTCGTTCAAAGAAACGACGGGAATATCGTACTGGGCAAGCAGTTCGCCGGATTT
TTTGGAAGTAGATACCGCGCCTTTGATTTTTTTGCCGCTCTTACCCAAGGCTTCGATGAA
AAAGTTGATGGTCGAGCCGGTACCGATGCCGATATATTCATTTTCGGGTACGAATTCGAC
TGCTTTTTCGGCGGCGATGCGCTTGAGTTCGTCTTGTGTCGTCATATTTTTGTCCTTTGG
```

GAAACCGTATCAACAAACAGCCGCCATCTTAACATTTTTTTGCACGTCCTGCCCGCCGCG
TTCAAATGCGTACCAGCAATACCGCCGCCTGCGCCTCTATGCCTTCCATCCGCCCGAGAT
AGCCGAGTTTTTCGTTGGTTTTGCCTTTGATGTTGACGCACGAAATGTCTATGCCCAAAT
CGGCGGCGATGTTGGCACGCATTTGCGGAATGTGCGGCGCGAGTTTGGGTTTCTGTGCAA
TCACGGTCGTATCGACATTGACCGCCTGCCAACCCTGCGCCTGAACGCTTTGATACGCCG
CACGCAAAAGGACGCGGCTGTCCGCATCTTTGAACTCTGCGGCGGTGTCGGGGAAATGGC
TGCCGATATCGCCCAAACCTGCCGCACCGAGCAGCGCGTCGGTAACGGCGTGCAGCAGCG
CATCGGCATCGGAGTGTCCGAGCAGCCCTTTTTCAAATGGGATTTCAACTCCGCCAAGTA
TCAGCTTTCTGCCTTCGGTCAGTTGGTGGACATCGTAGCCCTGTCCGATACGGATGTTCG
TCATCGTTTGTGTTCCTGATGTTTTGAATTGAAGTTCAGACGGCATCGAGCAGCAGCCTG
ACGATGTATGCGTCCTGCGGCTGCGTCAGTTTCAAATTGCGCACGTCGCCCTGTATCAGT
AGCGGACGCACACCCAATTTTTCCACGGCGGACGCTTCATCGGTAATGCCGTCCAAGTTT
TCCGCAGCCAATGCGCGGTGCAGCAGCCCGGCGCGGAAAAGCTGCGGCGTTTGCGCCTGC
CAAAGGCTCGTCCGCTCGACGGTTGCACTAATGTTCCCACCGTCCGCGCACTTGAGCGTA
TCGGCAATGGGAATTGCCAAAATCCCGCCTTCGGCGGCGTTGCCCGCCTGTTCTATCAAC
CGCGTCAAAGCTTCAGACGGCAGGCAGCAACGCGCGGCATCGTGTACCAGAATATTGTCG
GTTTCCGCCGCCAAACCGGTTTCCAACAGTTTTGCCACACCGTTGCGGACGGTTTCGGCG
CGGGTCTGTCCGCCGTTTTTCCACACCCGAACCTGTGGAAATGCCGTCTGAACCTTATCG
GCAAACGTGTCTTCGGGCGAGACGACAACGACGGTCAAATCGACGGCCTCATGCCGTTCA
AAAATCCCAATCGTATGTTCTAAAACGGTTTTGCTTCCGATTTCGACATATTGCTTGGGT
TTGTCCGCACCGAAACGCGCCCCGATGCCGGCGGCGGGAATCAGCGCGATATTTTTGCGC
TTCATGCGTCCGTCCCGCCGTTTTCAGACGGCACGGCTTCCTTGCGCCAGATACAGGCTT
CGCCCAAGCCGTCCAAATATTGCCCGTGCGCCGCCAACTCGTTTCGTCCGCCCTGATGA
CTTTCAGTTTGCCGCTGCGTTTGGTTTCGGTATGCACCACGGGTTTGGTTTCCATTTTTT
CCTCTGCGGCCGCACCCATCAGGTCGAACTGCCGCCGCGTCATAGCAAGATAGACTTCGC
CCAAAAGTTCGCAGTCGATCAATGCGCCGTGCAGGACGCGCTTGCTGCGGTCGACGGAAA
AACGGTTGCACAAGGCATCCAGGCTGGCTTTCTGCCCGGGGAACATTTCGCGCGCCATCG
CCAGGGTATCGGTAACGGTACAGCCGAGTTCCTCAACGGTCGGCAACCCCATCCGGCGGA
ACTCCATATTGAGGAAGCCCACGTCGAATTTGGCATTGTGGATAATCAGTTCCGCACCGC
GCAGGAAATCGGCAATCTGCCTGCCGACCTCTGCAAACGGCGGCGCGTTTTTCCCTTCCA
AAACCTGTATCGTCAAGCCGTGGACGCGTGCCGCCTCTTCGGGCATATCGCGCTCGGGGT
GGACATAGAGGTGCAGGTTTTTGTCGGTCATTTGGCGGTTGACCATTTCCAAACCGGCAA
ACTCGACCAAGCGGTCGCCGCCGTCGGCATACAGACCGGTGGTTTCGGTATCGAGGATGA
TTTGGCGTGTCGTCATATCGGTGTCTTTCTTCTATCTTCGTAAATTGCTTATTTTTTAAG
CAATGTATTTTTCTGTTTTCATTTCAATGCACAAACCCACTTATTCACAGTGTGTTCACA
ACATTGGGCAGGCGGATTGTGTATTTTGGGGACAATTTTTTCAGACGGCATTCAAGGTTT
TTTCCTGATTGCCGCCGCGCCTAAAAACCGCCTTTCGCGCTTAATCAAAAATACCGACAA
CGGAATATTGCCCAAAGCGACAATCAGATACAACAAGGAAATGCTGTCAAACAAAAACAG
CAACACCGCGCTCAAAACGGCAGCGGAAACCATAAAAATACCGTTAACGATATTGTTGGC
GGCAACGGCGCGGGCGCGGAAAGTCTCGCTACTGGCGGTTTGCAGCCAGGTATAGAGCGG
AACGGAGAAAAATCCGCCGAAAAAGCCGATCAGCGTCATCACCGCCATCACGGGATATGC
CCATCCTTGCGATAAAAACCAAAAAATGCCGTTCAGCCCTTCAAAACGGTGTCCGTGCGT
CAGCCACACCAAAACCAAGCCGCAAACCGTCAAACCCAACGCACCAACCGTTACCCAAGC
CAACATCAGGCGTTCCCTGCTGAACTTGGCACACAGTACCGAACCGGCGGCAATACCGAT
GGAAAACAGAGCAAGCATCAGGTTGAAAACATTGTCGTTGCCGCCCAGATGGATTTGGGT
AAAGGTCGGCAGTTGCGTGGTATAAACCGCGCCGACAAACCAAAACCACGAAATACCGAT
AATGGCGGTAAAAACGGGCTTGTGCCGCACCGTTTCACGCAGCAGGGATTTTGTGCCACG
GACAATATTCCACTCAATTTGTGTATCGGCAGCCTTGGCGGGTACGGACGGCATAAACAG
GCTGCCGACCGTGCCTCCGACGGCGACCAGCAAAACCAGTATCCCGACAATATAAGGCGG
TACACCTGCCACCGCCGTTCCCAAAATCTGACCGAACAGGATGGCGACAAACGTACCCGA
TTCAATCAGGCTGTTGCCCATCATCAACTCTTTGTCGTCGAGATAATCGGGCAGGATGGC
GTATTTCAGCGGCCCGAACAGCGTCGATTGCGCGCCCATGCAAAACAGACACGCCAAAAG
CAGCGGGGCAGACCGGATATAAAACCCGTATGCCGCCACCGCCATAATGATCATTTCCAG
CACCTTGACCCAACGCGCCAAAACGGCCTTGTCGAATTTGTTACCCAACTGCCCCGACAG
CGAGGAAAACAGGAAATACGGCAAAATAAACAGCAACGCGCCCAAGTTCAACATCTGTCC
GGCAGGCAGGAAGCCGTTTTGCCCCAAACCGTAAAACCCAATCATCACAAACAGCGCGGT
TTTGAACACATTGTCGTTGAACGCGCCGAGAAACTGCGTAGCGAAAGAGGTGCGAAACG
GCGGCTTTTAACCAGTCCCAAACCGCCTTTTTTAGCGTACATCGTTTTCCCTCTCTTTTT
CAATCAGTTTACTTGTCGAATCATCATCCATCAGGATGCGGTGCGCCGGCCCTTCCAAGT

```
CGTCAAACTGCCCGTTTTTGCCCGACCACCAAAAAAACCAGCCGATGACAAACGCCAAAA
TAATGCTGATGGGCACCAATATAAACATGCTTTCCATCACATATTCCCTGTCAAATCGTT
CAAAACAAAAGTCTGCCCCGACACGGTCAGATATTCGTTACGCAAAGTTCCGACGGGAGC
TTCGTCAAAAAACAGCTCGATACGGTCTTTGACCACGCGCCAATATTGGGGGATTTCCGT
CTGACCGAACGGCGACAGGACATGATTTTCCATTCCGCCTTCAAGTTTGACGGCAAAACG
CCCGCTTTGCGGCCGTGCTTCCGATTCGTCGTCGGCAAGCAGGATGAAAAGCCTATATG
CCGTCCCGATTGGTCATGAATACTGAAATAATGCATAAATTTCCCACCCGCCTTTTTTCA
GACGACACCAACTAAAAACAGGGCGAATGTACCAGTTTGGACGGGAAGAATGCAAAGAAA
TTCTCCCTCCCCCAGCCGAAAACACCGGCAAACCGCATATCCCCCTTTTTTCCGTCAAAA
TGCCTGACTTCCGCCATTTTCACGCAAACGCCCGATTAAGCCAAGCAATTGCAAAGATTT
TTTGCTAGAATAGCCTGCTTCTTTTATCAACCTTTTCAGACGGCCCCACTACTTTCCCGC
CCAGGAAGGCAAAACGGATTCGGCACGAATCCGGTTAGTATCCGTGTCCGATTCCAATGC
CGTCTGAAACTTTCCGGAGTAAGAAAATGTCCCAAAAATTGATCTTGGTTTTGAACTGCG
GCAGCTCGTCCCTCAAAGGCGCGGTCCTGGATAACGGCAGCGGCGAAGTCCTGCTCAGCT
GCCTTGCCGAAAAACTCAACCTGCCCGATGCCTACATCACATTCAAAGTAAACGGCGAAA
AACACAAAGTCGATCTGTCCGCACATCCCGACCACACCGGCGCGGTCGAAGCCCTGATGG
AAGAACTCAAAGCCCACGGCCTCGACAGCCGCATCGGCGCCATCGGCCACCGCGTCGTCA
GCGGCGGCGAACTGTACAGCGAATCCATCCTCGTTGACGACGAAGTCATTGCCGGCATCG
AAAAATGCATCCCGCTCGCCCCCCTGCACAACCCCGCCCACCTCTTGGGCCTGCGTGCCG
CGCAAAGCATTTTCAAAGGCCTGCCCAACGTCGTCGTATTCGATACCTCCTTCCACCAAA
CCATGCCCGAAGTCGCCTACAAATACGCCGTTCCGCAGGAGTTGTATGAAAAATACGGCC
TGCGCCGTTACGGCGCGCACGGTACCAGCTACCGCTTCGTCGCCGACGAAACCGCGCGCT
TCCTCGGCAAAGACAAAAAAGACCTGCGTATGGTCATTGCCCACTTGGGCAACGGCGCGT
CCATTACCGCCGTCGCCAACGGCGAATCGCGCGACACCAGTATGGGCCTGACCCCGCTGG
AAGGGCTGGTAATGGGTACGCGCAGCGGCGACATCGATCCTTCCGTATTCGGCTTCCTCG
CCGAAAACGCCAATATGACCATCGCCCAAATCACTGAAATGCTGAACAAAAAATCCGGTC
TGCTCGGCATTTCCGGCCTGTCCAACGACTGCCGCACCATTGAAGAAGAAGCCGCCAAGG
GGCATAAAGGCGCGAAATTGGCCTTGGATATGTTTATCTACCGCCTTGCCAAATACATCG
GCAGTATGGCGGTTGCCGCAGGCGGTTTGGACGCACTGGTCTTTACCGGCGGCATCGGCG
AAAACTCCGACATCATCCGCGAACGCGTGATCGGCTACTTGGGCTTCCTCGGTCTGAACA
TCGACCAAGAAGCCAACCTGAAAGCCCGCTTCGGCAACGCCGGCGTGATTACCACTGCCG
ACAGCAAAGCCGTTGCCGTGGTCATTCCGACCAACGAAGAGCTGATGATTGCCCACGACA
CTGCCCGTTTGAGCGGTCTGTAAGGTTTTATCCGCACACGAACTGCCTCCGGAAATGGAG
GCAGTTTTTTTATCCGGCTTTCCATGCTTAAACAGCACTGCCTCTTTTCAGACATTGACG
GTTGCAGCCGCTTACCTGAACCTTATAGTGGATTAAATTTAAATCAGTACGGCCGTTGCCT
CGCCTTGCCGTACTATCTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTAAATTTA
ATCCACTATAATGATTAACTATTTTTTAATCATGTTATTATTTTCCATAAAATACATGAC
ATTAAGATGTTTTTCCACAAAAGATACACACACCGGCAAACACCGGCTGTGTTTATCTTT
TCTTATGCCTATTTTTTAATCATCGTATTTTTATCTTTTAATTTCAATACGCAAACTAAC
TTATACACACGGTTTTCACATCTTTAGACTGCTTCCGTGTGTATAGTGGATATTGCCGTT
TTCCTTTCTGACAAAAATGCCGTCTGAGAACTTCAGACGGCATTTGAAACATCGGAATCA
GCGGTTTTGTTCATACCACTCGATAAACTTGTCTGCTTTGACAAAACCCAGCAGCGGCTC
GCTGCGGCTGCCGTCGGAGCGGACGACAAACACGCCCGGCGGCCCGAACAGACCGTATTC
TTTCAACAACGCCTGATGTTCGGGCGTGTTGGCGGTTACGTCGATTTGGAAAAAGCGTTC
CATATCGACTGCCTGATGCACTTCCGGCTGATTGAGCGTGTAAGCCGCCATTTCTTTGCA
GGAAATGCACCAGTCGGCATAAAAATCCAAAACGACGGGTTTGTCGGGATGTTCTTTCAA
CGCCGTATCCATCGCTGCCTTCAGCGCGGCAGTATCGGCAAACATTTTGCCGTGTTCCGA
AGATTTGCCTGCTTCGGCTGGTGGATTGAGGGTCAGGAAATGGTGCAGCGCGGTCGTTTT
GCCGTTTGCGCCCTGCCAGCCGAACCACGCGCCGCCTATCAGCAATATACCGCCCAATGC
GAATGCCACAGCTTTCGGACGGCGTTTCTGCCTGCGTCCGTTGACCAGCAGCATAAAGGC
AGGAACCAGCATCAGCAGCGTGTACAGCGCGACGACGAGATAATAGGGCAAGTGCGGCGT
GGCGAGGTAAACGGCGACGGCTAGCAGGATGAAGCCGAATGCGTATTTGACGGCATTCAT
CCAATCGCCTGCCTTAGGCAGGATATGCCCGCCGAACGTGCCGATGGCAATCAGCGGAAC
GCCGGTGCCCAACGCCAAAGTGTAAAGTGCCAAACCGCCTAAAACCGCATCGCCCGTCTG
ACCGATGTAGCCCAAAGCAAATGCCAGCGGCGGGGCGACGCACGGCCCGACAATCAGCGC
GGACAATATGCCCATAATAAAGACGGAAACGATTTTACCGCCTGAAAGCCTGCTGCTTTG
ATTCTGAAAATACGACTGCACGGCGTTGGGAAGCTGGATGTTGAACAGCCCGAACATAGA
CAGTGCCAAGACGACCATTAAAGCCGATGCCGCCAATACCACCCAAGCCTGCTGCAACCA
TACGGTCAGCAGTGCGCCCGTCAGTCCGGCAACAATGCCGACCAGCGTATAAGTCAGAGC
```

```
CAAACCCTGAACATAAACGACGGACAGCACAAACGCCCGCGCCTTGCCCGCCTTTTTGTC
GCCGACCACAATACTGGAAACAATCGGCAACAGGGGATACATACAGGCGGTAAAACTCAG
GCCCAAACCAGCGAGAAAAAACGCCAAAGATTGGCGTTGAGCGTATCCCAAGACAGCTT
GAAACGGCTGTCGCCGCCCTCATCCCCCTTCGGGGGCGGCAGCGCCCCGCTGCCGTTTTG
AGAGGAAGGCTGCAAAAAGCGGTCTTTGGCGGATGCCGGTTCGTCGGTTTGCGGATGGTA
AGTGCCGTTGCCGAAAATATCAAACTCGGTATCCACGGGCGGATAGCACACGCCGGCTTC
GGCACAGCCCTGATAGGTCAAAACCAATTTATACGGTTCGCCGACAGCCTTTGCATAAGG
AAAGGCAACCTGCGCCTCGTGATGGTAAACCGTCTGCCTGCCGAAAAACTCGTCTTCCTT
CTCTTCGCCCTTGCTGAAAGAAGGCTGTCCCAACAAATCCGCCGGATCGGTCTTGCCGAC
GATTTTCGCCTGATACATATAGTATCCGTCGGCAATCCTGAAACGGACGTTCACACCGTC
GTCGGCAACGGCAAGCTCCGGCACGAATGCCTTTTCCGGCGGCAGCAGATCGTTCGCATC
CAGCGCGAAAGCTCGTCCGCACAACATCAAAAATACGGCGAACAGGCAAATCAGTTTTTT
CATAATCGAATCCGTTTCAGACAAATAATTTGTCTGCATTATAAATGGTAAGGTTGACGG
TGGGATTTAATTTATGTAAAACCCGCCATTATCCGAACCTATTTCCATAAACATCTTATC
GAACCCGCCATGTACGATGTCAATACCCACGATGTCCGCCGCTTTTTCGCCCGCGTGTGG
CAGCAGCGGCTCAATCCGCTGCAACTGAGCGCACTGGAACAGAAAGCCCTCCGCATTGTC
GAAGCCCATCCCGAATACCACCGTTATCTCGAACGCATCGAAGACCATCTGGACACCGAC
TGGCTGCCCGAAAACGGCGAAAGCAACCCCTTCCTGCATATGTCGCTGCATCTGTCCGTC
CAAGAACAGGCGGGCATAGACCAGCCGCACGGCATACGCGCAATCCACGACACCCTGTGC
GCCAAACGCGGCTGGCTGGAAGCCGAACACGAAATGATGGAGGCACTGGCGGGAAACACTG
TGGACGGCGCAACGCTACGGCACCGGTTTGGATGTCAATTTCTACATGACCCGACTGCGC
AAACTCATCGGCTTGGGTGCAGAAGATCAAGCCAGATTGAACCCGCATGAAATCGCCTGA
CCATACCAACCGCCTGCAAAATGCCGTCTGAAGCGGAACAACCCCTTTCAGACGGCATTC
ATTTTCCCCCAATCATTTCCACAACGCCTTTTTCAGCATAATCAACCAATCCTTCTTATC
CAAAACGGGGCGTTGTGCAAACACATCGTATCGGCACGCGTCCAGTTTCTGCAAAATCAA
CTGCGCCCCCAACACAATCATACGGAGTTCCAAACCGATACGCCCATTCAGTTCCCTTGC
CAAAGGCGAACCCGCCTTCAGCATACGGAACGCACGCCGACACTCATACGCCATCAGCCG
CTGAAACGCCGCATCCGCCCGTCCTGCCGCGATCTGTTCCTCAGAAACACCGAATTTCAA
CAAATCGTCCTGCGGAATATAAACCCTGCCTTTTTGCCAATCCACAGCCACATCCTGCCA
AAAATTCACCAGTTGCAAAGCCGTACAGATGCCGTCGCTTTGCGCCACGCACACCGCATC
CGTTTTCCCGTACAAAGCCAGCATAATGCGTCCGACAGGGTTGGCGGAACGCCGACAATA
ATCGGCCAGCTCGCCGAAATTTCCATACCTTGTTTTAACCACATCCTGAGAAAATGCAGA
AAGCAAATCATAAAACGGCTGCAAATCCAAACCGAACGGCACAACCGCCTCGGCATCCAA
TCGTGCAATCAAAGGATGCGCCGACCGGCCGCCCGATGCCAACACGTCCAACTCGCGCTG
CAAACCCTCCAACCCCGCCAACCTGGCTTCAGACGGCATACTGCCCTCGTCCGCCATATC
GTCCGCCGTCCGTGCAAACGCGTACACCGCGTGAACCGGCTTCCTCAACCTGCGCGGCAA
AATCAGCGAACCGACGGGAAAATTCTCATAATGCCCAACCGACATACCTTCTCCATCCAT
CAAACAAAATGCCGTCTGAAACGGAACAAACCCTTTTCAGACGGCATCAGATACCTCCAA
GCTGCCGGCAATCAGTGGTGGTGATGACCGTGCGGGCCGTGGACATGACCGTGTGCGATT
TCCTCATCGGATGCATCGCGCACGCTTTCAACTGTAGCCTTAAAGCGGATTTTCATGCCT
GCCAAAGGATGGTTGCCGTCCACCACCGCCTTGCCGTCGGCAACATCGGTTACACGATAG
ACGACAACATCGCCGGTTTCAGGATCGTCGGCTTCAAACATCATGCCGACTTCGACTTCA
ACAGGGAACACGCCCGCATCTTCGATACGGACCAACTCCGGATCCTGCTCGCCGAACGCA
TCGTCGGGCGACAGCGCCACATCGACCGTATCGCCGGCATCCTTACCGTGCAACGCCTCT
TCCACCAAAGGGAAAATGCCGTCGTAACCGCCGTGCAGATACGCAATCGGTTCTTCGGTT
TTGTCCAAAAGCTGATTGTTGGCATCATACATCTCATAATGCAGCGAAACCACGGAATTT
TTCACGATAGCCATATTTGTCCTTTCAGGAACAGCAGATTAATTACAGGCGCATTCTAAC
ACAACCGCCGCGCCGGCCGATTACCGTTAACCTGTTCATAAACTGTACAGCACATATTTC
AATGTAAATCTTTGTTATTTTATTGCGGTGTAACTTTTTTACAACATTCTTAAAACCATT
CCGACCTGTCTGCCGACTTTCCCAATCCGCCTTAATAAATCATACAAGATACTGAAATTA
TATTAATCTCTATAATATTTATCCCTATCGAATTTTTAACAGCAAAACCGTTTTACAGGA
TTTATCAATCCGCCCGCCAGAAAACTTTTCATTCAAACCTTTTTCCCATCTGTACGACAT
TGCAATCCCTTATTCCATAGTGCATAATTACGCAAATTCAGCGATGAATTTCCAACCCGG
TTTGTAGTATGGTCGATAAAGACCTATTTGTTTCAATAATTTAAATTGGTTCTAAAGGTT
ACTAAAATGAAAAAATCCCTGTTTGCCGCTGCTTTGTTGTCTTTGGTTCTGGCAGCCTGC
GGCGGTGAAAAAGCCGCTGAAGCTCCCGCTGCTGAAGCACCTGCCGCCGAAGCTCCCGCT
ACTGAAGCACCTGCCGCCGAAGCTCCCGCTGCTGAAGCACCTGCCGCCGAAGCTCCTGCT
GCTGAAGCTGCCGCTACCGAAGCACCTGCCGCTGAAGCTGCCGCTACCGAAGCACCTGCC
GCTGAAGCTGCCGCTACCGAAGCACCTGCCGCTGAAGCTCCTGCTGCCGAAGCTGCAAAA
```

TAAGCATTTTCCGCTTGCAAAAAAGCAGGATACGTTCAGTATCCTGCTTTTTTGATTTTT
CAGACGGCATCAGATTCCCTTCCTCAATCTTCTCCCTACCCTTCCGACAAACATGCTTGA
CCTTCATACCGAATTTTCCCGACTCCTACCGGCAGATGAAATTGCCGAACCTTCTCCGAC
GCTTTTAAAAGACCAGCGCAACCGCTTTACGTCTGCACCAGACATCATTTTGCAGCCGCT
CAGCGTTAAAAGCGTGCAAACCATTATGCGTTTCTGCCACCAACACCGTATTCCGGTTAC
GCCGCAAGGCGGCAATACTGGTTTGTGCGGCGCGGCAGTATCGGAAAACGGCGTATTGCT
GAACCTTTCCAAACTCAACCGCATCCGCAGCATCAATTTGTCAGACAACTGCATAACCGT
CGAAGCAGGTTCCGTACTCCAAACCGTCCAACAGGCAGCCGAAGCCTCAAACAGGCTGTT
CCCACTCAGTCTCGCCAGCGAAGGCTCGTGCCAAATCGGCGGCAACATCGCCTGCAATGC
CGGAGGTTTGAACGTATTGCGTTACGGCACGATGCGCGACCTGGTTATCGGTTTGGAAGT
CGTCCTCCCCAACGGCGAACTGGTTTCCCATCTCCATCCCCTGCATAAAAACACCACCGG
CTACGACCTGCGCCATCTGTTTATCGGTAGCGAAGGTACATTGGGCATTATCACTGCCGC
CACGCTCAAGCTGTTTGCCAACCCCTTAGACAAAGCAACCGCATGGGTCGGCATACCCGA
CATCGAATCCGCCGTCCGCCTGCTGACCGAAACCCAAGCACACTTTGCCGAACGCCTATG
CAGTTTTGAGCTGATCGGCCGTTTTGCCGCCGAATTGTCTTCCGAATTCAGCAAACTCCC
CCTGCCGACACATTCAGAATGGCATATTTTACTTGAGTTGACCGACTCATTACCCGACAG
CAATCTTGATGATCGGCTTGTCGAATTTCTTTATAAAAAAGGCTTTACCGACAGCGTGTT
GGCGCAAAGCGAACAAGAACGTATCCATATGTGGGCGTTGCGCGAAAACATCTCCGCATC
GCAACGCAAACTGGGCACCAGCATCAAACACGATATTGCCGTTCCTATCGGGCGCGTTGC
CGACTTTGTCCGCCGGTGCGCCAAAGATTTGGAACAGAATTTCAAAGGCATACAAATCGT
CTGCTTCGGACATCTGGGCGACGGCAGCCTGCACTACAATACTTTCCTGCCCGAAATCCT
CAGCAATGAAGTCTATCGTTACGAAAACGACATCAACAGCACAGTCTATCGCAACGTCCT
TGCCTGCAACGGCACGATTGCCGCCGAACACGGCATAGGTATCATCAAAAAACAGTGGCT
GGACAAAGTACGCACGCCTGCCGAAATCGCCCTGATGAAAAGCATCAAACAACACCTTGA
TCCATATAACATTATGAATCCGGGCAAACTGCTTCCGTAACCGGCATTTCTGATTTGCAT
ACACAACAAAGAAAGGGACAATAGATCCGATTGTCGGTTTAGCGCGAGCTCGTGAGTGCG
GTTAAAAATTGGTGGAAATTACACGAAAAATGACCGCACTTTTAAAATAAAAAAATCGGC
AGTGAATTTCCCTGCCGATTTTATTTTGTTACAACTTAACTTAAAACGTCCACTGTAAAT
TCAACGCACCTTGTTTAGCTTGATGATGTTTGCCTGTTTGGCGGTTGAATGTGGCTTGTA
AGGTTAAGTGAGATTTGATTTTCACTGCTACACCTAATTGGCTCTCAATTGCCGTCTTAT
TGTTTATCACTCGACGCTCTCCGTCCATTTCCACACCGAAAGGTTTGTTGTGGTAAAGCG
CGTTCACAGCGGCGAAAGGTTCAATAGCGATATTTTTATAGAGTGAAAATTGAGCTTTAG
CTTGAACGCCAACCCGAGTTTGTAATTGGCGGGAGCCAAGTAAATTCACGTGGGCATTTT
CGCTATCGCTGAATTTTCCGTTTACCCCCAAATAAGTCAATTGTGCCTGTGGTTGTAGGT
AAACACGAAGGCTGTTGCCCTTTTTAGTGAAGTGTTCCGCCAATAACGCATTGTAACCTG
CTTCAATTGAGGCAGTAATACCTTTTGAAGTAAAACGTTCTGTACCATCTTCAGTGTTGA
TACGGTGGCGGAAGCGTTGATATTGCATCCAGCTATCCGCATACGCACCTGTCTGTTTGT
CCTGAAGTTGGTGCCAAGTGGCGTAAACGCCTGCACCAAAGCCTTTCACATTTCCCGTTG
TAAGATTGTCTGTATCTGGGTTGTGGAAAGTGCTACGTTGTTCTGCTTGTCCGCCCATTA
AGCCAATAGAAAGTTGATTACTTTCGTTTTGCCATGTGAATACTTCGCCGCCGAGTTGCA
CACCTTTACGATAGCCTTCTACAGGTGCTGTTTTGCCTTGCACCCATTGGTTGGAATGTC
CGTCAATCACACGCAACCACAAGCCTTTGCGTGGTAAAGTGCGGTCGAAAATATCGCTGT
TTTTGTTGTTCAAACGCAAGGCGAATAAGGTATTGGCGGCTTGAGCCTGTTGTGCATAAA
TCGCCATATCATCGCGTTCTTGCACTTTGGTAAAAAAGCCCTCTGGGCGTTGTTGTAAAG
AAAGCGTATAAATTCCCTTTTGGTGTTTGCCAGAAAGACGGAATGCGTGTTTATCTGCTG
TGCCATTTACTTTGATAATTTGATGCCCATCGAGGCTTTTTAAATCGTCTATTGGATTTT
CGAAGATGATGTCGGAAGTGCCAGTAACATTTTTCTCAAAAATTAATGCAGTATTTTTCG
CTTCTTTAGGATCGTAAGCAAAACGAAACGAGCTCCGCCAGCATAATCTTCTTTTACGA
GTAAACTTTCACTTTTAGTATTAAAACGGATGTCTGCATTCGTTGTTTTAATTTCCCAA
CATTAGAATCCCAACGGGGCTCCCAGAGAGAATTTTCTAAGCGGAATTCATCCAAACTAA
TCGTTTGCCCGATAACGTGCGAGTTGTCTGTAACCTCAATATAGTGGAATGGATCTAAAC
CAGAATATAGATGTGCTGCAAAAGAAACATAATTTTCAATATGATGAATTACTTGATTAG
CCCATTCTGTATAATTCCCGACAGATAAAATTTCGCTGTTGATATGACTATTTTTATTT
TTGGACCTAAGGAGAATATATGACTTTTTACTATAAGAGGATGGGATCCAAATTTTTCAG
CTTGGCAAGTACTATAATCACGTATCTTAGTGTTAGAATTAAAACATTCCTTAAAATATT
TCCGTATTTGTTCTTCTGTGTCCCCATTTCTTTTTGCAACCCCTAAACCTCGGGCGAAGC
CAACTAGGTAACCTTCGGTATATTCTTGATCATAAAAAGAAATCTTTTTTGAGTTATTGA
TGTTTTCGAATTGGTATGTTCTAGGGTATAGTGCGGGAAAGGGTGGAACTTTTGGATTAT
CCTCGGTTATAAGATAAGTTTCTTTTTTCCAATATTCACTCGTTTTATCGCGGAGTTTTT

TTAAGCGGGTAATTTCATCATTAGTGAGCTTGGTTTTGTCGTAAACGTAATCAACAGCCA
AAAGCGGAGAGGTATAAAGAATAGAAAAAAATAGACTTACAATAAATGATTTTTTAAACT
TCTGCTTGCTTGCTTGCTTGCTTCGAGTTTCATAATAAATTTTCCTTGTCAAGTAAAAA
TAAATGGGGCGTGGATTTTAGCATAAAACTGAACAAAAAATGTCATTTATCTCACATTTT
TCTCTATTTATTTCTTGTTTATTAAAAGTAAACGTTTGCTTTTTGCTATTTTGTCAAGCC
AGTTTGAAAATGTGTATAATTGCCCTCGTTATTTACAAAAATTTCAGGAAAAATGACCGC
ACTTTACCCTTGGCTAATGCCAATTTATCATCAAATTGCTCAAACCTTTGACGAAAGCTT
GGGGCATCATGCCGTGCTGATTAAAGCGGATGCTGGTTTAGGTGTAGAACGTTTACACAT
CAGGCGGCAGCCTTGCCCATACCGTCTGAAGCACTGTTTCCACAATCAGCGCGTATGCTT
AATCAACCGCTGTTTCTCGCGTTTCCAATCCGCCTCTTTCATACTCTGGCGTTTGTCGTG
CTGTTTCTTACCTTTTGCCAAACCGATTTCCATCTTGATTTTTCCGCGTGAAAAATGCAA
ATCCAGCGGCACGATGGTGTAGCCGGCACGTTCGGTTTTGCCGATTAATTTGTTGATTTC
CGACTGGTTCAACAAGAGCTTGCGCGGACGTACGGCATCTGGTTTAATGTGTGTCGAGGC
TGTGGGCAAAGCCGTAATATGGCAGCCGACCAGATAAAACGCGTCTTTTTTCCAATAGAT
ATAACTCTCTTTAAGCTGTACGCGCGCGGCGCGGATTGCTTTGACTTCCCAGCCTTCCAA
GACCAAACCGGCTTCAATCCGGTCTTCAATGAAAAAATCGTGAAATGCTTTTTTATTGTT
CGCAATAGCCATAAACATCCTATCAATATCCGCCGTCAGACGGCATAAACCCGAAAACAG
AACCCATCATACCGCCTCTTCAACCGCCTGCACAATCTTCTCGGGATACAGCCTGTTGAG
GCAGTCGGTATGCCCCAGCGGACATTCCCGCTTAAAACACGGCGAACATTCCAAGTGCAG
GCTGACGATTTTCGCCCTATCGCTCAAAGGCGGCGTATGCGTCGGGCTGGAAGAACCGTA
AACCGCCACCACCTTCCTGCCCAAAGCTGCCGCCAAATGCATCAATCCGCTGTCGTTACA
CACGACCGTGTCCGCCAACGACAGCAAATCCATTGCCTGCGACAAATCGGTTTTGCCGCA
CAAATTGACACACATACCGTCTGAAAGGCGGTTGATTTCCTCGGCAATTTCATCATCTTT
TTGCGAACCGAACAGCCAAACCTGCCAACCCGCCGCCAGATAATGTTTGCCCAACTCGGC
AAAATGCCTTGTCGGCCAACGCTTTGCCGGCCCGAATTCCGCACCCGGACAAAAAGCCAG
AACAGGCTTTCCAATATCCAAGCCAAAGGTTTCGACAGAAATTTCCCGCCGCCGTTCATC
AATGGAAAACTCGGGGAATCCCGAATGCCCGTCAAAATCTTCCTGACTCGGATGCGCGAG
AGCCGTATATCGATCCACCATCAAAGGCAGACGTTCCTTATCCAGCCTGCGTATATCGTT
CAACAGAAAATAACGGCTTTCACCGACATAACCCGTCCTTTTACCGATACCTGTCGCCAG
CGCGATGATTGCCGATTTCAAAGAACCGGGCAACACGATAACCTGATCGTATCCGCGCCG
CCCCAAATCCCTACCGACCCGCCAACGGCGTTTCAACTCCAACGCACCATGTCCGAACGA
ATTCTCAAGAATTTCATTCACTTCCGGCATACGCTCGAACACCGCCATCGACCACTTCGG
TGCGAACACATCAATCGTGCAACCGGGGTGAAGTTCCTTCAAACGGCGGAACAAGGGCTG
GGTCATCACGCAGTCGCCTATCCAACTGGGGGAAATAATCAGGATTTTGATGGACATAAC
AAGAAACCGAAATCAGACAGGCAGAATTTTACCGCGAAACCGTTGGAAAACCTATCTTGC
CGCATTCCGAACGCCGGACGTGCAAATATGAAAAAGCCCGAACATTCAAGTTCGGGCTTC
AAAATTCTGGCTCCCCGACCTGGGCTCGAACCAGGGACCTGCGGATTAACAGTCCGTCGC
TCTACCGACTGAGCTATCGGGGAATGGGGCGTATTATAGCGTCCGGAAAAAATGTGTCAA
TCCTTAATTTTGGAAAAATGGGCGACAAAACGACAAGCATATGAATCAGAAAGACATTAA
GACCGATGCCTTAAAAGGATTGCCGTTGTATGAATTTCCACAGCCGTCATCACACCATAT
TTAAGCCCGATGAGCCGTTCTGCCCTCCCCCCGCTTAAAACAATGCCGTCTGAACTTCGC
CGTGTTCCAAAGCCAGTAAAAACTGTTTGCGGTTCAACCCGCCCGCGTAGCCGGTCAGTT
TGCCGTCGCTGCCGATGACGCGGTGGCAGGGAATCAGGATAGATACTTTGTTCTGCCCGT
TGGCGGCGGCAACGGCGCGGACGGCTTTGGGGTTGCCCAAACGCTGCGCCTGCTCCTTGT
AGCTGCGCGTTTCGCCGTAAGGAATCGCCAAGAGCGCGTCCCATGCCTGCTTTTGAAACT
CGGTGCCAATCTGCTCCAAAGGCGTGGCAAAGGTTTTCAGACGACCCTTGAAGTATAAGT
CCAATTCCTGCCGCAAAAGTTGCGTCCGCTCATCCTCCCGAAACACAAACCGTCCGCGCA
AGGCTTTTTGGACGGCGGCAATTTCCTGTTCCAAATGCTTCTGTCCGACAAATTCCAGCA
AACACAAACCCCTGCTACCGAACACCGCCAGCATCTCGCCCAAAGGCGTGGCAATGGCGG
CACACACCAGCTCGTTCAAACTGTCGGGATAACGCGCTTCCAACAGACGGATGGCGCGGC
GGATGCGGACATATTCTTCAGGCGCGCAGCCGATATTGTCCCAAAAATCCCGCTCGAACT
GTTTGGCTTCGCATTCCGTCAGATTGGGATGCGGCATAACGCCGCACTCAAAAACCCGAG
ATTCGAGCCAATGGCGGATTTCATCCCATTTTGACGGCAGATTGTTTAAGGAAGGCAGGG
TAATCATTTGTTTGCTCCGTATCCCTATCATAGATTTGACGGCAAAATCCCCAATTTTTG
CCATTCCCGCACGCCGGAGCAGGAACGGGCTATGACGTAAATCTTGAGGGTTAGGTTGCG
GCAATACCTAAATATTCGATATTTCTAAAGCATCAGAGAAAGGAATGTTTCAACACACAG
GACGACACATAAAGCGCCGCCCCATGAAAAATTTCAGACGACCTGCAAAGGGTCGTCTGA
AACCACGATTTTTGCATTTGCGCATTCTGGCACATCATCCAACCGTTTCGGCACATTCCT
GCCGCCGTTGACAGCCTATAATGAATCCACTTATTCATCAAGCAAAGGAATCATCTATGC

AAACCCTCATCCTCTCCGCCGTACTGCTGGCTTTTTCAACCGCTGCCTTTGCCGGGGGCG
CATTCACGCTGCAATTCGACAACCCGTCCGAAGACGGCGGCTTCACGCAAAACCAGCTTT
TGAGCGCGCCTTACGGCTTTTGCTGTTCAGGCGACAATGCTTCGCCCGCGCTGTCGTGGA
AAAATCCGCCCGCCGGGACAAAAGTTTCGTCCTGACCGTTTACGATAAGACGCGCCGAC
CGGACTGGGCTGGATGCACCGGGTGGTCGCCGACATTCCCGCCGATGTCCACCGCCGCAA
CGCGACCTCGCTGCAATTAAGCCGCTGCGCCAACATCGCCGACCGGACTGGGCTGGATGC
ACTGGGTGGTCGCCGACATTCCCGCCGATGTCCGCCGCCGCAACGCGGCCTCGCTGCAAT
TAAGCCGCTGCGCCAACATCGCCGACGACCAGTCCGCAGCCATATCGGCGGTAATCAGTT
TGCGGATTTGCCGCATCAGGTTGACGCCTTCGTACACGGCAAAACCGATGCCGTCATGCT
GCAACCACGCCAACACGCCGCAAAGCGCGGCCTCCGCAGCATTGTGCGGCACTTCTTCAT
CCGCCAGTACCGCAGCCTCATAATCAAACGCCGCGCCCATACGCCCGGAATACGGCAGCT
TTACCGCATCGCACACTGCCTGCGCCGTCCCGTATTGTGCGGCGAACCTTTCTACGGTTT
CCTGTTCGAAAGCAATCCATTGCGCCTGATAGAGGCCGTCTGAATCGGGAATATTGATGA
CGTCAAACGTCTGTCCGCCTGCCAAGGCGACCGCCTTACCCGCCGCAGCTTCTTACTTCC
GCGCCGCACGATAAGCACAGCCGGTTCATATACCGCCACGCTGCGGTACAAGGCGGTATG
ATGTTGCACGATGCCGCCTAAAGCACCCAATCGTTCGCGCGTATGAAAGTATAGTGGATT
AAATTTAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATCGTACGGCAAGGCAA
GGCAACGCCGTACTGGTTTAAATTTAATCCACTATATCTCAAACCCACGTTAGGTCTAAG
CAAATGGTCGGACATCCTTATCCGACAGCCCATCTTCTTTTCAGACGGCATTGCAAATTT
AAGTTTGACGTGCGTTCAAAATAAGGCAGTTAATGCGAAGCGAAATTCCGTCGGCGTACC
TGCAACTTGGCCCCTCCCCTATAGGGGAGGGTCGGAGGGAGGGTAAAACGGGGCAGATAC
AGACAATATTTCCGTTGCCGCCCCGATGCCCTCTCCCTAACCCTCTCCCACGGGAGAGGG
AATGGATTGCCGTTGAAATAAATCGCTCTACATAAAAAATCAATGTGTTATCTCAAACCC
ACATTAGGTCTAATCAAATGGTCGGATATCCATATTCGGCAAGCAAGCTGCTTTCAGACG
GCATTTCCAGCCAACAAGCGCGCCAATATCCCCTCATACACCGCAGACAGCTTCGGAATG
TCGTTTAGCCGCACGTTTTCGTTGATTTGGTGGATGGTCGCATTGGACGGGCCTAATTCG
ATAAGTTCTTGCGCAATGGCTTTGATGAAGCGTCCGTCCGAAGTGCCGCCGGTGGTGGAC
AATTCGGCCTCAATGCCGCAGGTTTCGGCAATGGCTGCGCGTGCCACGTCGGTCAGTTTG
CCCGCTTGGGTCAGAAAGGGCTGCCCCGAACACGACCACTGCAAATCGTATTGCACGCCG
TGTTTGTCCAAAATGGCGTGGACGCGTTGTTTCAGCCCTGCTTCGGTGGACTCGGTGGAG
AAGCGGAAATTGAATTTGACGTTCAGCTCGCCCGGGGGAAATATTCGTTGCCTTCATCCCAG
ACTTCCTGCGTCAGCTCTAACAAGGCCGGGGCAAAAGTATGCACGGGATTGATTGCCAAA
TGCGGATAGGCAATATGGCCTTGCTTGCCTTTGACGGTCAGGTTGCCCGACAGCGAGCCG
CGCCGACCGTTTTTAATCATATCGCCCAATTTGTCCACGGCGGTCGGTTCGCCGACGATG
CAGTAGTCGATAAGCTCGTCGCGCGCTTTCAATACATCGACGACTTTGGTCGTGCCGTCC
AACGCGTCGCCCTCTTCGTCGGAAGTAATCAGAAGCGCAATGCTGCCTTGGTGGTTGGGA
TGTTTGGCAACGAAGCGTTCGCAGGCGGTAACGAAACAGGCAATGCTGGTTTTCATGTCT
GCCGCGCCGCGCCCGTATAATCTTCCGTCGCGCTCGGCCGGTTCGAACGGGGGCGAATCC
CATTTTTCGACAGGACCTGTCGGTACAACGTCGGTATGCCCTGCAAACAGACGACGGGA
GCTTTCGTGCCGCGTCGCAACCAGATGTTTTTGGTGTCGCCGAAATGGAGTTCTTCAGCC
GCAAAACCGATTTTGTGCAGGCGTTCGGCAAGGAGTTTTTGGCAATCCCTGTCGTCAGGG
GTAACGGATGGTCGGGAAATCAGCTCTTTGGCAAGCTCTAGGGATTGAGTTTCGGTCATA
TTTGTTCACTTTTGAAATTAGACCGTCTGAAACGTTCTGAATGTGATTTTCAGACGGCAT
TTAGGTTAGGTTGGCATACGGGGTGGGTATTTTACCCATCAGTCTTCTGAATCATTTGCC
GTGGCAGGCTTCGTAAAGCGGCAGCAAATCTTCCACCGTTTCCGCTATCCATTTCGCGAC
ATCCTGCCTGCCCAAATCGTCGCGTTCGATGTGTTTGCCGATGCAGAAAAGTCTTCGTC
GTTTTGCAACTTTCGGTCGGACTCGTTTTGTTGCGCGACGGTGCGGTAGTCGTCGTATTC
GCTTTCCGCACCGTGCCACATATCGAAAGAAGCGTATTTTTCGGTATCAAAATTATCCAA
CCAGCGGTTGTAATCAGGCAGCGCGATGGGGGAAACATCGGCTTTATAGCAGTGCCAATC
CAAGCTGACGCTCAGACGGCGGCGGTTGAGCAGTATCGACAAAATCGCTGCGGAATTTTT
ATATTGTTCGTATTTGAAGTAGGCAAAGAAATGGGCGCGAACCTGCCAGCCGTTACACCA
GCGTTCGATGTGCGGCGGCGCAAACGGCGCACCCAATTCGGCGGCAACCTGCTGAATCAG
CTGCTGCCATATCTGCCAGTTTTCTTTATAGTCAGCCTTGATTTGCGGAATGCTTTCAGG
CTGGTATTTTTTAAGCTGGGAAAATTGGAAAAACGGGATATTGAACAAATCGCAACTTTT
CGGGGGTCAGCATAATATATCCTTGAGACGATTGTTTCAGACGGCATTATTTGCGCCGGCG
CGCCGCCATAATTTCGCCGATTTCGGTCAGTTTTTCTTTTGGGATAAAGGTGTTGCCCAT
ATCAAACAGCGGCTCTTCAATCGCCAAATGAACATCATATCCCGCCACAAAACGTTTGAA
CGCTTCCTCATCGGGGACATAAGCGTTGTCTGCTTCGAGTTTGGCAAATTCGGCGGAAAC

-440-

```
AGCCGCCCAGTTGTCGTGCAGCCCGATATGTTGGCGCAAAAGCTCGTCCACGCTTTCTTG
GGCTTGCGGCGCATATTGCAGCAGCAGCGGGAAGAAGTTTTCTTCTTCGTCTTCATGGTG
CAGCGGCGCGGCAACGTTGAAATACTGGGCGATTGGCGGATGGTTTGCAAAACAATCTG
ATTGCAGCCGTTTTCGGCGATATAGTCCGACAGCATGGCGACTTGTCCGCAAAAACGGCG
CACTTTGCCGTGGCAGGCATACAGCATTTCAATCGGTTCGGCAAAGGTAACGCTTTTGGT
TTCAAACGGATTCATGTTTTCGTTCTCAACGGGCACTTTTCAAGCAGTCATTTTATAATA
AAACAGCCTGCACAAAGCAGGCTGTCCGTCTTTTGAGACTTTAAGCGGATTAATCGACCA
AAGTCACTTTGCCGTTCATCAAAGCACCGTGACCTGGGAAGGTACAAGCGAATTTATATT
CGCCGTCGGCCAATTTAGCAGGATCCAGAGTCAGGGAAGCTTCTTCGCCGCCGCCGATCA
GTTTGGTATGGGCAACAACGCGTGCATCATCAGGTTTGACATAGTCGGTATCGGCAGCAC
CTACGCCGTCTTTAAATACGCCGTCCATGTCTTCAGCTTTGGCAATCACGAGATTGTGAC
CCATGCTGGCTTTGGGTTGCGTACCGGTATGTTTCAGAGTGATGGTGAACTCTTTACATG
CTTTGCTGACTTGGATGTCTTTGGTGTTGAACTGCATATTGTCGTTGGATTCGACAGTTG
CCGCACAGTTGCCGGCAGCAGGGGCTTCGGCAGCATCTGCAGGAGCAGCTTCGGCGGCAG
GCGCTTCGGAAGCGGGTGCTTCAGCAGCAGGAGTTGCCTCGGCAGCAGGCGCGGCAGGTT
CTTGAGAGCAGGCAGCCAAACCGATAACGGCGGCAGAAATCAGAGCCAGATACGCTTTCA
TAACAAATCTCCAATCGATAAAATAATATTCGGTTTTACAGAAATCAAAGTGCAACCGCC
ATTAACAAAACCTTGAAAAAGATTCCGCCGCGTTGCACAAACAGATGTTTCGGAGCGGCA
TTTTGCTACAAATTTCATTTGAAATCAAAGCCTGTTTGCAAGTTTACAATCGTTTACCCA
AAAAAGGGCAATTTTACCCCGAACCTATTTCTTTAGTATTAGACCTATTATCCTTTACTT
CTTAATATTAACGGATGTTTACACAAATTCCCGTATACATTTTATGCGCCATGCCTTCTA
ACCAAGTTTGCCAATGCCTCCGCCAATTCGGGATGCCGTTTTTCCAACTTTGCCGCCGCC
GAACCGAAACTCTCCAGCGCAGCCTTACTCAAATGCAGGGTATTGGTTTTCGGCGGTTTT
TCCGGTTTCGGGACCAGCCTGACCGAAACAGAGCGTATCGAAGCATCAAGCCCTGCCAAC
TGCGGCAATACCGACGGTGCAATCATTTTCAAGCGCGATGCCGCCATATTGTTTGCCGCC
AAAAGGACAAGCCTGCCGTCTTCGATACATGCCGTCTGAAAATGCGGGTGCAGGTTGGCA
GGCAGCAGTTTTTTCACGGCGGCATCCAACCGCCGCCACTGTCCCGCCTGTTTCAAAAGT
CCGGAAAGCAGCGCGTCCCGCCTGCCCAACTGTTCCAAATTCATAAAACATACACCCAAA
AAGATTGAAATACCGCAAACGCGCCTTTATTTCAGACGGCATTAGCACTTTGCACAAACG
CTTGTGTTAAAATCGCGTTTTCGCCCACTATTATATCAGGCGCAGGAATTATTCATGCTG
ACAAACATTGCCAAGAAAATCTTCGGCAGCCGCAACGACCGCTTGCTGAAACAATACCGT
AAATCCGTTGCCAGAATCAACGCGCTCGAAGAACAGATGCAAGCCCTAAGCGATGCTGAT
CTGCAAGCCAAAACTGCCGAATTCAAACAACGCCTCGCCGACGGTCAGACTTTGGACGGC
ATTTTGCCCGAAGCCTTCGCCGTCTGCCGCGAAGCGTCCCGCCGCACCCTCGGTATGCGC
CACTTCGACGTGCAGCTTATCGGCGGTATGGTGCTGACGACGGCAAAATCGCCGAAATG
CGTACCGGCGAAGGCAAAACCTTGGTCGCCACCCTCGCCGTCTATCTCAACGCGCTGGCC
GGCAAAGGCGTACACGTCGTTACCGTCAACGACTACCTCGCCTCACGCGATGCGGGCATT
ATGGAGCCGCTCTACAATTTCCTCGGCCTTACCGTGGGCGTGATTATTTCAGATATGCAG
CCGTTCGACCGTCAAAACGCCTATGCCGCCGATATCACCTACGGCACCAATAATGAATTC
GGCTTCGACTACCTGCGCGACAATATGGTTACCGACCAATACGACAAAGTGCAGCGCGAA
TTGAATTTTGCCGTTGTCGATGAAGTGGATTCCATCTTGATTGACGAAGCGCGCACTCCG
CTGATTATCTCCGGTCAGGCGGATGACAACATCCAGTTGTACCAAATCATGAACACCGTT
CCGCCCCACCTCGTCCGTCAAGAGACAGAAGAAGGCGAAGGCGACTATTGGGTCGACGAA
AAGGCACATCAGGTCATCCTGAGCGAAGCAGGTCACGAACACGCCGAGCAAATCCTGACC
CAAATGGGATTGCTGGCAGAAAACGACTCCCTCTATTCCGCCGCCAATATCGCCCTGATG
CACCACCTTATGGCGGCATTGCGCGCGCATTCCCTCTTCCACAAAGACCAACATTACGTC
ATCCAAGACGGCGAAATCGTCATCGTGGACGAATTCACCGGCCGGCTGATGTCCGGCCGC
CGCTGGTCGGAGGGTCTGCATCAAGCCGTCGAAGCCAAAGAAGGCGTGGAAATCAAACGC
GAAAACCAAACGCTTGCATCTATTACCTTCCAAAACTATTTCCGCCTGTACACCAAGCTC
TCCGGCATGACCGGCACAGCCGATACCGAAGCCTTCGAGTTCCAAAGCATCTACAACCTC
GAAACCGTCATCATTCCGACCAACCGCCCCGTACAGCGCAAAGACTTCAACGACCAGATT
TTCCGTTCCGCCGAAGAAAAATTCGAAGCCGTCGTTAAAGACATTGAGGAATGCCACAAA
CGCGGGCAGCCCGTCCTCGTCGGCACCACCAGCATTGAAAACTCCGAACTGGTATCCAAG
CTGCTGACCCAAGCCGGACTGCCGCACAACGTCCTCAACGCCAAAGAACACGAACGCGAA
GCCCTGATTGTCGCCCAAGCCGGCAAAGTCGGCGCGATTACCGTTGCCACCAATATGGCG
GGACGCGGTACGGACATCGTTTTAGGCGGCAACCTGAAGCACCAAACCGATGCCATCCGC
GCCGACGAAACCTTGAGCGACGAAGAGAAACAGGCACAAATCGCCGCACTCGAAGACGGC
TGGCAGGCGGAACACGACAAAGTGATGGAAGCAGGCGGTTTGCACATCATCGGTACGGAA
CGCCACGAAAGCCGCCGCATCGACAACCAATTGCGCGGACGTTCCGGCCGTCAGGGCGAC
```

```
CCCGGATCCAGCCGCTTCTATCTCTCCTTTGAAGACCCATTGCTGCGCTTATTCGCACTC
GACCGCGCCGCCGCCATCCTCAACCGCCTCGCCCCCGAACGCGGCGTCGCCATCGAACAC
AACCTGCTGACGCGCCAAATCGAGGGGCGCAACGCAAAGTCGAAGGCAGAAACTTCGAT
ATGCGCAAACAGGTTTTGGAATACGACGACGTTGCCAACGAACAGCGCAAAGTCATTTAC
AGCCAGCGCAACGAAATTCTGACCAGCAAAGACATCAGCGACCTGATGCAGGAAATCCGT
TCTGATGTCGTCAGCGACCTCGTGGATACCTATATGCCGCCCGACAGCATGGAAGAACAA
TGGGACATCCCGACTTTGGAGAACCGTCTGGCTGCCGAATTCAGACTGCACGAAGACATC
CAATCCTGGCTGAAGGCGGACAATGCGATTGACGGTCAAGACATCAAAGAACGCCTGATC
GAACGCATCGAAAACGAATATGCCGCCAAAACCGAACTGGTCGGCAAGCAGGCAATGGCC
GATTTCGAGCGCAACGTGATGTTGCAGGTCATCGACAACCAATGGCGCGAACACCTCGCC
GCTATGGACTACCTGCGACAAGGCATACACCTGCGCAGCTATGCCCAAAAAAATCCGAAG
CAGGAATACAAACGTGAAGCCTTTACCATGTTCCAAGACCTGTGGAACGGCATCAAATTC
CATATTGCCTCCCTGCTTACCTCGGTTCAAATCGAACAAAACCCTGTCGCGGTGGTTGAA
GAGCAACCCATCGGCAACATCCAGTCCATCCATTCCGAATCGCCCGATATGGAAGAACTT
TTGGGTCAGTCGCAAACCGATCTGGTTACCGAAGCCTTTAATCCCGATGGGACAGATTTC
AGCCCCGAAGCCTTGGAAGCGCGGGGGCAAATCGTCCACCGCAACGACCCCTGCCCCTGC
GGCAGCGGTTTGAAATACAAACAATGCCACGGCAAACTGGCTTAAGCGTTTGAACGCAAA
TGCCGTCTGAACATCCCGCTCCCGTTTCAGACGGCATTTTGCCTGAACCGCCACATCCGA
CTGCCATTCCGAAAAATCCCGATTTCGTACCGTCCGTACCAAAAACAGACATCCCGTCCG
CCCCACATCATGATTCCATCCGACTTCATTGACGAGCTTTTAGCCAAAACCGATATTGTC
GATATTATCGACGAGCAGGTTCCGCTGAAAAAAGGCGGGGCGAACTATATGGCGTGTTGC
CCGTTCCACAAGGAAAAAACGCCGTCGTTTTCGGTCAGTCCAACCAAGCAGTTTTACCAT
TGTTTCAGTTGCGGGGCACACGGCTCAGCGATTGGTTTTGTGATGGAACATCAGGGACTG
TCGTTTCCGGAGGCGGTTCAGTTCCTTGCCGACCGCGTGGGTATGGTCGTGCCGAAAGTG
CACGGGCAAAACGATAATCCCGAAGTCCGTGCCGAACGTAAGAAAAAACAGCAGACACTG
GAGGAAACGACGGCTGCGGCAGCTGATTTTTACGCGCAACAGCTAAAATTCAATCCAGCG
GCAAAAGCTTATTTGGACAAGCGCGGCTTGAGTGCAGAAGTTATCGCGCATTATGGTTTG
GGCTATGCGCCCGACGGCTGGCAGCCTTTGACGCAAGTGTTCCAACCGTATCCTAATACC
GCGTTAGTGGATACGGGGATGGTGATTGACAATGAGGGACGGCCATTACGACCGCTTCCGC
CATCGGATTATGTTCCCCATCCGCAATCCGCGCGGGCAGGTTATCGGTTTCGGCGGCAGG
GTGCTGGACGACTCGAAGCCGAAATATTTAAATTCTCCCGATACGCCTTTGTTCGATAAG
GGGAAAAACCTTTACGGACTGTATGAAGGGCGTGCCGCTGTCAAGGAAGCGGGGCGGATT
TTGGTGGTCGAAGGCTATATGGACGTGGTCGCGCTGGCACAGTTCGGCGTGGGCTACGGC
GTGGCGGCTTTGGGTACGGCGACGACGGCGGAACACGTCAAAATCCTGATGCGTCAGGCA
GACAGTATTTATTTCTGTTTCGACGGCGACAGCGCGGGGCGAAAAGCGGCTTGGCGCGCG
CTGGAAAACGCGCTGCCGCAGTTGAAGGACGACAAATCGCTGCATTTTTTGTTCCTGCCG
GAAGAACACGACCCCGACAGCTACATCCGCGCCTACGGCAAAGCGCAATTTGAAGACGCG
CTTCTGAATCAAAGCAAGCCTTTGTCGGAGTATTTCTGGGAACACCTTTCAGACGGCATT
CATCTCAATACGCAGGAAGGCAAGGCGGAATTGGTAAAAACCAGTTCGCCGCTTTTGGCG
CAGATTACCGCGCCGGCATTGGCTTATTTGTTAAAACAACGGCTTAGCGAGCTGGTCGGC
ATCGACCCCGACAACCTCGCGCAACTGCTAGGACAGGAAGCGCCGAAGCGGCACGTCAAA
CAAAAAAACTACAAACTGCCTCCGATTTCCGTCAAACAGCCCGTCATGCTGACGCTGGTA
CAGCGGCAAATCCGCAGCCTCTTGATAAATCCGGATTGGGCTGCATATATAGACCTGCCC
GATTATCTGGCGTTGGACGGTGATTTCGCCTGCCTTGCCAATCTTGCCGAATCGATTAAA
AACCATGCCGCCGTACCCGAAACCGCTCAGGTTTTAGAGTATATGCGCGGCTCGCCTTAC
GAAGAAACGATAACCCGAATCTTCCATTCAACGCACCAATCGGAAGAAATGAACAGCAGC
AGTGAAGAAGATTGCGAGAATTTCCAAATCGGCATGAAAAAACTGCTCAATGAGTTAAAA
TACAGCCAAATCGAAACATTAAAACAAAAAAGCCTGCAATCCGGCTTAAATGAAAGCGAG
AAAAAACTTTTGCTGTCGCTGCTGACCGCAAAACAAAATTGACCGGCGGATTCCGCCATC
CGTAAACCGTTATGCCGTCTGAAAAGCATTCACCCCGGCTGCAACAACGACACCTGCAGA
ACACCCATCCCCAAAAGCCTTCAGACGGCATCAGAGTACCCTACTCTGCCACGCCTTCAG
GTGCGTCCAAACGCAAACCGTCGGCATCTTACCAACAGAAAGCAGACAATGTCCAGAAAC
CAAAATCACGAAGAATATCAAGACGACACCCGTCCGTTAAGCATTGAAGAGCAACGCGCG
CGCCTGCGTCAGCTCATCATCATGGGTAAAGAACGCGGCTACATCACCTACTCCGAAATC
AACGACGCCCTGCCAGACGATATGTCTGATGCCGACCAAATAGACAATATCGTCAGCATG
ATTTCCGGTTTGGGCATCCAAGTTACCGAACACGCCCCCGATGCGGAAGACATATTGTTA
AGCGACAATGCCGCCGTTACCGACGATGATGCCGTCGAAGAAGCCGAGGCCGCCCTTTCC
AGTGCAGATTCCGAGTTCGGCAGAACCACCGACCCCGTCCGTATGTATATGCGCGAAATG
GGACAGGTCGACCTGCTGACCCGCGAAGACGAAATCATCATCGCAAAAAAAATTGAAAAC
```

-442-

GCCCTGAAAAATATGGTTCAGGCCATCTCCGCCTGCCCGGGATCCATTGCTGAAATCTTA
GAACTCATCGAAAAAATCCGCAAGACGAAATCCGCGTCGACGAAGTCGTAGAAGCCATT
ATCGACCCGAATGAAGTATTGCTCAACGAATTGGGCTTGGGGCACTTGGAAACCACAGCG
CCCGAGAAACCTTCCAACGACAATTCGGACGAAAACGAAGACGACGAAGAATCGGAAGAA
GATGCGGATGAAATCTCGGCAGCCAATCTCGCCGAATTGAAACAAAAAGTCATCGGCCAC
TTTGCCCAAATCGAAAAAGACTACAAAAAAATGATTGGCCGTTTGGAAAAACACCACAGC
CGGCACAAAGACTATCTCGCCTACCGCGACGCGATTGCCAACAAACTGCTGGAAGTCCGT
TTCGCCACCCGGCAAATCGACAGCCTCAGCAGCAGCCTGCGCGGGAAAGTAGAAAACATC
CGCAAACTCGAACGCGAAATCCGCGACATCTGCCTCGACCGCGTCCATATGGAACGCGAC
TACTTCATCCAAAACTTCCTGCCCGAAATCACCAATCTAGAATGGATTGAAGAAGAAATC
GCCAAAGGCAGGGTTTGGAGCGACGCGCTCGACCGCTTCCGCCACGCCATCCTCGAAAAA
CAAACCGAGTTGGCGGATATGGAAAAGAAACCCGCATTTCCATCGAAGAGTTGAAAGAA
ATCAACAAAAATATGGTGTCGAGCGAAAAAGAAACCGCAGCCGCCAAACAGGAAATGATT
CAGGCAAACTTGCGCCTCGTGATTCCATCGCCAAAAAATATACCAACCGGGGCTTACAA
TTCCTTGATCTGATTCAGGAAGGCAACATCGGTTTGATGAAAGCGGTCGATAAGTTCGAA
TACCGCAGAGGCTATAAATTCTCCACCTACGCAACCTGGTGGATCCGCCAGGCAATTACA
CGCTCGATTGCCGATCAGGCGCGTACCATCCGCATTCCGGTACATATGATTGAAACCATC
AACAAGATGAACCGCATCTCGCGCCAACACCTTCAAGAAACCGGCGAAGAACCCGATTCC
GCCAAACTTGCCGAACTGATGCAGATGCCCGAAGACAAAATCCGCAAAATCATGAAAATC
GCCAAAGAGCCGATTTCGATGGAAACCCCCATCGGCGACGACGACGATTCGCACTTGGGC
GACTTCATCGAAGATGCCAACAATGTTGCGCCGGCCGATGCGGCAATGTACACCAGCCTG
CACGAAGTAACCAAAGAAATCCTCGAAAGCCTGACACCGCGTGAGGCAAAAGTCCTGCGT
ATGCGTTTCGGCATCGATATGAACACCGACCACACGCTGGAAGAAGTCGGCAGACAGTTT
GACGTAACGCGCGAACGCATCCACAAATCGAGGCAAAAGCACTCCGCAAGCTGCGGCAT
CCGACAAGAAGCGACCGTTTGAGAAGTTTCTTGGACAGCGAAGACAGCAAGCTGTAAACC
AAAAAACCGCAGGTTTCAAATACCTGCGGTTTTTTCTTACACAATAAACAACGCTTCCAC
ATATCCCACACTCCTATCCCGAGACCTTTGCAAAATTCCCCAAAATCCCCTAAATTCCCA
CCAAGACATTTAGGGGATTTTCCATGAGCACCTTCTTTCAGCAAACCGCACAAGCCATGA
TTGCCAAACACATCGACCGTTTCCCACTATTGAAGTTGGATCAGGTAATTGATTGGCAAC
CGATCGAACAGTACCTGAACCGTCAAAGAACCCGTTACCTTCGAGACAACCGCGGCCGTC
CCGCCTATCCCCTGCTGTCCATGTTCAAAGCCGTCCTGCTCGGACAATGGCACGCCCTCT
CCGATCCCGAACTCGAACACAGCCTCATCACCCGCATCGATTTCAACCTGTTTTGCCGTT
TTGACGAACTGAGCATCCCCGATTACAGCACCTTATGCCGCTACCGCAACTGGCTGGCGC
AAGACGACACCCTGTCCGAACTGTTGGAACTGATTAACTGCCAACTGACCGAAAAAGGCT
TAAAAGTAGAGAAAGCATCCGCCGCCGTCGTTGATGCCACCATTATTCAGACCGCTGGCA
GCAAACAGCGTCAGGCCATAGAAGTCGATGAAGAAGGACAAGTCAGCGGCCAAACCACAC
CGAGTAAGGACAGCGATGCCCGTTGGATCAAGAAAAACGGCCTCTACAAACTCGGTTACA
AACAACATACCCGTACCGATGCGGAAGGCTATATCGAGAAACTGCACATTACCCCCGCCA
ATGCCCATGAGTGCAAACACCTGTCGCCGTTGTTGGAAGGGTTACCCGAAGGTACGACCG
TCTATGCCGACAAAGGCTATGACAGTGCGGAAAACCGGCAACATCTGGAAGAACATCAGT
TGCAGGACGGCATTATGCGCAAAGCCTGCCGCAACCGCCCGCTGTCGGAAGTGCAAACCA
AGCGTAACCGATATTTATCGAAGACCCGTTATGTGGTCGAACAAAGCTTCGGTACGCTGC
ACCGTAAATTCCGCTACGCCCGGGCAGCCTATTTCGGACTGATTAAAGTGAGTGTGCAAA
GCCATCTGAAGGCGATGTGTTTGAACCTGTTGAAAGCCGCCAACAGGCTAAGTGCGCCTG
TTGCCGCCTAAAAGGCAGCACGGATGCCTGATTATCGGGTATCCGGGGAGGATTAAGGGG
GCGTTTGGGTAGAATTAGGAGATATTTGGGCGAAAACAGCCGAAAACCTGTGTTTGGGT
TTCGGCTGTCGGGAGGGAAAGGAATTTTGCAAAGGTCTCATCCTGTTATTTTCACAAAAA
CAGAAAACCAAAAACAGCAACCTGAAATTCGTCATTCCCACGAAAGTGGGAATCCAGTGC
GTTGAGTTTCAGCTATTTAGAATAAATTTTGAAACTCTAATCGCGTCATTCCCACGAAAG
TGGGAATCCAGGACGCAAAATCTCAAGAAACCGTTTTACCCGATAAGTTTCCGCACCGAC
AACTCTAGATTCTCGCCTGCGCGGGAATGACGAATCCATCCATACGGAAACCTGCATCCC
GTCATTCCCACGAACCTGCATCCCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAG
TTTCAGTCATTCCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGG
AATGACGGGATTTGAGATTGCGGCATTTATCAGGAGCAACAGAAGCCGCTCTGCCGTCAT
TCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTCCCGATAAATTGCCTTAG
CATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATCCATACGGAAACCTG
CACCACGTCATTCCCACGAACCTACATTCCGTCATTCCCACGAAAGTGGGAATCCAGTTT
TTTGAGTTTCAGTCATTCCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTG
CGCGGGAATGACGAATCCATCCGTACGGAAACCTGCATCCCGTCATTCCCACGAACCTAC

-443-

```
ATTCCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTTCCGATAA
ATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATCCGTA
CGAAAACCTGCACCACGTCATTCCCACGAAAGTGGGAATCCAGTTGCTTGAGTTTCAGTC
ATTTCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGA
ATTCATCCGTACGGAAACCTGCACCACGTCATTCCCACGAACCTACATTCCGTCATTCCC
ACGAAAGTGGGAATCCAGTGCGTTGAGTTTCAGTCATTTCCAATAAATTGCCTTAGTATT
GAATGTCTGGATTCCCGCCTGCGCGGGAATGACGAATTCATCCGTACGGAAACCTGCATC
CCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTCCCGATAAATT
GCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGGCGGAAATCTTGTTT
ATATTGAATCAAAAAAAACCTGCACCTTAATCAGTTGGCGGTTTAGTCCGACTTTTGGGG
TGCAGATCAAGCTTTCAGACGGTATTTCCTTTAAAACTTCATTTCGAGCGCGAGACTGAA
GTTCCTGCCCGGTGCGGCATACCTTCCATAGTTGCTGTCGCCGCCGTGCCGGTTTGCCGT
GCTTTCCGCAGTCTGGCGCAAGGATTCCCAAGTAACGTAGCGGTAGTTGCCGATATTGTA
GATAGCCGCCCTCAAGGTCAGCCGTTTTTTCAGATTCAGATAGGCGGAAACGTCTGCCGT
CGACCAAGAAGACGACGCTCTTTTTGTCGAATATCGTTTTTGATCGCCTGCCAGATAAGC
AAGCTCGTCAGGGTTTTTCCCTTTGGAATAGGTCAGCATAATGTTTGCGCCCCATTTCCC
CTCAGGCTGGTCGTATCCGAACCCCAAAACATAACGCGACGGCTGTACCGCATCCAAAGC
ATAGCTGCGGAGGGACAGTCCCGGCCGGTTGGATACCGATTTCGGTTTGATGCGGTTGTA
CGCCAATGTGGTGTACAAACCTTCGGGCAGTTTGCCATACACGCCGTTCCAGTCGATTTT
TCCCAATATATTAACGCCTTGAAGCGACATATTTTGGGCATTGTAATAATCGCGTATATC
AATCTCTGTCAATTGTCCTGCCTGATTCGGCAATTTGGTTTTGTGATCGGCAACGGCAAT
CATATCGGTATAACGGTTGCGGAAGCTGCTGATTTCCAAAAAGCCGAAATCGCCCTTCCA
CTGCAAACCGATTTCCCGGTTGGCTGCCTTTTCCGATTTCAGGGCGGGACGCTGCCAGCC
TTTCGGATAATCGTGATAAATGTCTATCCCGAAAAGTTCTTGGAATGAGGGCGTTCTGAA
GCCGCTGGAGGCACGGTAAGACACGGAAAAATGCCGGTTCGGTTTGAACAAGATGCCGCT
GTTCCACGAACGGTCAACATACCGCCCGCTGCGGACGAGTTCTTCCGACGTGGTGAAGTT
TTTCCGGTCGTACCTGCCGCCCAAGCTGAAATCGAAATATTTGCCGATTGAAAAACGGTC
GTTCAAAGAAATATGGATATTGCTGCCGTTGATTTTTCTTGGCACGCATTTGCGGGAACG
CAGGGTTTCGATGTAGCCGCAGACCGACCCTTCGACGACTTCGGGCTTACCCAAAAGATA
CTTATCTTGATTGTTTTCATCGAATCCCGTGGATTCCGAAATCCTTGCCGCATTGTGGGA
AAGCTGTTCGGGGCGGGAAATCGCTTTGGAAGCATCGTAACCGAAGCCCAAAGTCAGATG
GTGTTTCGTCCATTTGTTTTTCAGCGATTTCTCAAACGAGGCATTCAAAACATTGTGCTG
TTCGCGGTAGTGGAAACGGTCGCTGCTGTCGTAGGAATACGGTTTGTCCGCCGACGCGCG
GCAGGATTTGTCCACAGCAGGATACACGGCGCAATTCAGCTTCAGCGTGTTGTTATCGGT
TGCCACGCCCTGTTTGTCAAACGACAACACCGCCTTATCCGCCCAATTGTCAGAATACGC
TTCGTTTTCATAACGATACAGCAAACCCATACGGCGGCGGCGGTGATGTTCGTCAATAAA
TTTGGTGCGGGAATATTTCAAACCTATGCCCCTGACCAAATTTTTATCGCCCTTCCACTC
TTCTATATTCGGCACAAAATACAAGCCGTCGCGGAAATCGTCGCCGTCGTACACCCCGCT
CTTGTCTCTAAACTTTTCCGCCTCGTCCGTACCGTAATACTGTTTTTCCGTCATATCGCG
GATATCGTAACGCTGTTTGGTATCCTCAAACACGCCGCCGACATAATGCCTGCCGCCGAA
GCGGTAGCCCAGCTTGGCAAGCCAAGAGCCGCTGCGGTAATCCATCGGATCGGGCAATAT
CCTGCCGCCGCCCGTGTAAGCTTGGGCGGACAGATTTTCGTGGCGCGCCTGCGCCTCCCG
CACCTGCGCCTCTTCTTCAGCACTTAAAGGCTGATTTTGTTCAATACGTTCTTTTACCCA
GCGGTTGAGCTGGTTGTTCAAATATTTCCCGTAGCCCGCCAATTTTGCCACGGGCTTGGA
TTCACGCTCGCCCTCTACTGAGAAAATGGCTCTCTTGTCTTGCGTTTAATATCGTATGT
CTGACGGAACGCGTCCAAACGGTCTATGCCGTATTCCACCCCGTCCGCAATATCGCCGTG
CGGGCGCGTTTCCCGCCCTTGGCGTTCGGTTCGGATTAACAGCCCTTCCCAACCGTCTTT
GCTGAACCCCGCGCCGAGCGACTTCATAAATTGGCGGTTTTTACTGCCGTAGGCGGTTTT
TGCCTGTATCCCCCAACTTTTGCCGTCTGAAATCAGGTCTGCCGCCTCTTTGGTGCGGAA
GGCGACCGCGCCGCCGAGTGCGCCGCTGCCGTGATCGGACGAACCGGCACCTTTGTCGAT
TTCCACCGTGCTGATGTTTTCATATTCGATTCGTTGATTGCACCGCTGCCGCCGCGTCC
GCCGTATCCGCTCAACGATCCCTGCACGGTAAACGCCTGTATTTGGGCAACACCGTCGAC
CGAAACCGCCACACGGTTTTTATCCACGCCGCGTATCGAGTAGCCGCCGCTCGCGCCGTT
GCCCTGTTCGACAACCGCCACGCCCGGATCGTAGCGCGTCAGGTCGCGGATACCGAGTAC
CTGTTCTTTGTTCAACGTTTCCGACGTTTTGACGATTTTGCCCAAACCGGTCGCCTCTTT
CGATCGCCGTCCCACTTTGGCGGCACGGACGGTAATCTCTTTCAGGGATTGGGTCTGCGC
GGCATCAGGTGTCGCCCCCCCCGCTTGGGCAGCATAAGCCGGAAAAGCGGTTGCAATGGC
CAAGGCAGTCAGAGTCAGCGGAAAACCGTGTTTCTTATTCATTTTTCCACCTCCTGCATA
TCTTTCTTCGCACCGAATACCACGCCGAATTGGTGTTTAACTTCAGATTCTAACTGTTTG
```

CCAACATCAACTTCAGCATCAACTTCAGCTTCAACATCAACTTTATTTTCAGTACCTTCA
GTTATACCAAGAGATTTCCCATCATTATTGAAAATAATACCGCCCAATTCCTCCGCCTGC
GGGCCGTAAAATCCCCCTTCTACACGAAGATTACTAGCTTGGAAGGTTTTGGGGTCGGTC
GAACCATTTCCCGAAAGATTGATGCCGTTCTCCCGAGTGCGTGCTGTCGCGTAGAAACCG
TTGCCCTCAATCTTGCCGTTTTCAATATGGAAAGCAGGTTCTACACCGTTTTCCTCCGTC
AGCGTTCCGGAAATCGATTTCTTGCCGAAATCAACGGTAAATACTGCTTTTGCCGCTTCT
TTATCCGCCTGATTGTCCCATTGAATGGGTTTGCCGATACGCGCTTCCCAAGTGCCGGTA
TAGTGTGCTTCTCCAGTTTTCGGAATATCCGTTTCCGCCGTGCGGATACCTTTCAGGAAA
AGGTCGATGTTCCTGCCTTTAGGGGCTTCCGGAGCGGGCAGGATGCCGTCTGAACCGCTG
CCGCCTTCTTCTGTCGGCGATTCTTCTTCGGGTTCTTCAGCTTCATCTTCACCTTCTACG
GCTTCGTCTTCTTCGCTGCCTTCGTCTTTTACGGCTGCGTCTTCGGTGCCTTCTTCATCG
TCGATTTCGTCTTCGCCTTCTTCGACGCTATCAACGCCTGTATCCTCTTCGTCCCTCTCT
TCGTCCTGCGCCTTCGGTTTGGCGGCGGGACGTTCGGTTTGCATCCGTCCGATTTTCACA
TAGGTCAGAAAATCGCAGCAGGTTCGGATTGTCGTTTTCCTACCATCGGCAAGCTCGATG
GTTTGTTCTTTGTTTACCAAAGGAATTTCACGCCCTTCGACAAGAAGTTTGTCGGGATGA
CCAAAATCGGGCATAGAGGAAATGGCAAACTCACGGGGATTTTTATCACTTGCCTCGTCA
ACGGAAATTTTCAGAGAATCCAAGATTTTGGTGTGTTTCCAGACGACAGGGCAGGTTTT
GTATCTGCTGCGTTTTCTGTCTCTGTTTTTTGTTGCCTGCGAATACGCCGAATACGCTG
TTGTCGTTGCTGATAAACCGTCCGGCAAGCTCTTCTCCGTTATCGCCGAAAAAACCGCCC
TCAAGCCGCTGATCGGCATCGGTATGGAAAAACAAATATTCTTTATCAGCGTGTTGCGTC
TTCACCTCGGTGCTAACTTTGGCACTGCCGGTAAAGCGGTTGCCGTCCAATGTTGCGGTA
ATGTCGTAAATGGTCAGCGGTTTTTTGGGCTCATTTGGATTACTTTTATTTTGCACATAC
TGATTTTTAATCAGCTTGCCATTCAGGGTTTTGTTATCAAAATCAACCGTATATTCGGCA
GGATGCTTTTCCCTGTCGTCGGCATCCCTAGCCTCATAAGAAGTTGCCCCAATTTCATTA
CCATAATATGTGGTATAACCCAAATCCGTACTGGAAACCGCCTTACCTGTCCGATGACGT
TTGGCATCGGTCATATATTGCCAGTTACCGGAATATTGCACCGTTCCCGCGCTCGGTAAA
GATTGGGAAGGACGTTCTCCGGAATAATATACAAAACCGTCATAACTAAATCGGTTAACA
AACTCCTTACCATCAGAAGTCTTTTCTTTTTCATTATCCTTTCCTTCCGCCCTGGTAAAC
ACATAGCCCGCACGGACAAATTGATATTGATATTTTTCTTCTTCTTTTTTCGATGTGATA
ACCCTCACATCAGAATACCGTTCGTTGATTTTCTTTTTAAGTTTGTCAGCCTGTTCTTTC
AGCGTACCGTCTAAAAACAGGATATCCTTCTCTTTAAGCGGCAGATGCTCCTCTGCCTGA
TGCTTGTCGGGAATTTCCGTACCGTCTTGTTTATAGGAAGCAATATTCCGCCTTGGCAGC
CGCATTGCCGCACCGACGGCGGGCCGGTTGACCGGCGTGGTTTCTACCGAAGACCCGGCA
GGGGGCGGAGTGGGAACGTCCTTAGATTTGAAGGTGACGGGGTACGCGGTCGGCGTTGAT
TCGACAACAGGCTGCACGCCGAAATTGCCGCCGATACAAGATGCTAAAAGTAAGGGCAAC
AAGACAATGCCGCCATAATTCGGTTTACACATCCCTACTTTTCCTCTATTTGATTAATAA
TAATTATCATTATATTAATATGTACAGATAATATCAAGCCGTTTTTATAGTGAATTAACA
AAAATCAGGACAAGGCGACGAGCCGCAGACAGTACAGATACATTCCGTCATTCCCACGAA
CCTACATCCCGTCATTCCCACGAACCTGCACCACGTCATTCCCACGAAAGTGGGAATCCA
GTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCTACTTCGTCATTCCCACGAA
CCTGCATCCCGTCATTCCCACGAAAGTGGGAATCCAGGACGCAAAATCTCAAGAAACCGT
TTTACCTGATAAGTTTCCGCACTGACAGACCTAGATTCCCGCCTGCGCGGGAATGACGGG
ATTTGAGATTGCGGCATTTATCGGGAGCAACAGAAGCCGCTCTGCCGTCATTCCCACGAA
AGTGGGAATCCAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCCACTTCGT
CATTCCCACGAAAGTGGGAATCCAGTTTTTTTGAGTTTCAGTCATTTCCGATAAATTGCCT
TAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGGATTTTAGGTTGGGGGCAT
TTATTGGGAAAAGCAGAAACCGCTCCGCCGTCATTCCCACGAAAGTGGGAATCCAGTTCG
TTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCCACTTCGTCATTCCCGCGAACCTAC
ATTCCGTCATTCCCACGAAAGTGGGAATCCAGTTCGTTCGGTTTCGCTTGTTTTAAGTTT
CGGGTAACTTCCACTTCGTCATTCCCACGAACCTGCATCCCGTCATTCCCACTAAAGTGG
GAATCCAGGACGCAAAATCTCAAGAAACCGTTTTACCTGATAAGTTTCCGCACTGACAGA
CCTAGATTCCCGCCTTATATGATGCGCTCTATCAAAGGGGCGCATTAATTTTCTTAACAT
TCCCCTTTGACAGCCAAGTGAAAGGGGCTTTTTTATGTCAGCAGTAAATGTAATATTTTC
CTGTTCTTATTGGAGAATATTTAAAAAATCAGATTCTTGTGTTTTGTGTTTTTATCAGTT
CAGACATGGCGAACCGCATAAACTCATTAATCAAGAGAATTTTTCAAAGCTTTATCAGGC
GTTCGATTATATAGATTCGGTTGGTTCGAATTTTCCAGTGATTATCACAACGGATGGTTG
TGGTCTTTTTTGTTGATCTTTAAAAGTTTGTCAGGATTTGGCTTTCGGTCGTTGACCGTC
GTACGCGCTTTAGCGCGGAAGACGGGAAACGGCTGAAAGCCCCCCCCTTGACTAACAGGG
GGGGAGCGAAATTAAAAAACCAATTCCAAGAGTAGTGAACGAATGAGTGAAGTTGAATATT

```
TCTCACACTTTATATCGGACGGAAAAGGGAAGCTTTTAGAAATTCCGCAGCGAAGAGGTA
AGCAAGACGGGGTTTTTGTTGATTGGATTTCATTCACATTCCATGAAGATACTTTACTGA
AAGTTTCCGGTTGCCCTTTATTTTCTGATGCTGAATACATGTATGTATTAAGCAGAAAGC
TGGAAGAAATTCTAGGTTTTGGCATAACGCGCAAATGCAAATCAAGGGGCAACAAATTCT
ATGAATCCATGTATAGGTTAGGTTCGGATGATGTTGATTATGGAGAGGTGCATTTCGGAG
GTCAGCGCAATACTGTTTTAGTTGAGTTGAAAGGTACTGGTTGCAGCGTTGCAAGTCCGG
GTTGGGAGTTGAGGCTAAAGCAGTTTCTCGATGATTCGATAAGGACAAGAATAACGCGAA
TTGACCTAGCACTTGATTTTTTTGATGGAGAGTACACGCCGGATCAGGCGTTGTTAGATC
ACGATAATGGTTTTTTTGATAACAGCAATCAAAGGCCGAAATCTGAAACGATCGGTACGG
CTTGGCGGAATGAGGACGGGAGCGGCAAGACATTTTATGTAGGTCGCAAGAAAAATTCTC
GTTTTGTTCGTGTTTATGAGAAAGGCAGGCAGCTTGGAGATAAAGAAAGCAAATGGGTAA
GGTTCGAGATCCAGTTTAATTATGGAGATATAGAAATACCCTTGGATATTTTAATAAATC
AGGGTTCGTATTTCTGTGGAGCTTTTCCAATTTGTAGAAAATTTAAAAATATGCCGGTTC
CCGAAAGGTTTGATCAGAGAAGAAAAAGCTTAATTTAACTTTCGAGCATAAATTGCATT
ACGCGAAAAACGCGGTTGGAAAACTGGTCAATTTCATGATTGAAATGGGTTTTGATAATA
GCGAAATTGTGGAATCTTTAAAGGCAGATTCGGGATTTCCCAAAGGATTAGAACCTGAAA
AATATGCTCTGGAAATGTTAAGGGACGGTTTGAAACACGGTTTTATTCATGAACAGCCGG
ATATTGATTTGGAAATTGAACTTGATGAATTGGGGGTTATTGCTTTTAAAAATTCTGACA
AATTCGATAGGGAAAAAAGGCTTTTTAGTCCTGATTATGATGTCGAGAAAGAAAGGAAAT
ATCAGGAATATTTAAGTAAAGTTTATCATCAAAATGTAGATTATGATTATTTTTAAAGGA
AATCAAAATGTTTAATCAAACTCAAACTGTAACTTATCCTGCAACTTTTTTGGGAGCCAA
AAAATTCAAAGGCGAAATTGATGGCTCTAATATCGACACTTGTTCCGTATTGGTTGCAAC
ACCTTTGCCGGCACAGTCGGGAAATGCTGTTGGATTCACGGCAGCACAAATGAAGTTCGG
GGACAGTAAGAATTTCTCAAAATTAGAGAATCTCAAATACCCGTGCGAAGTTATGGTAAC
GGTTGAAATGACTTCGACAGGTAAGGGCATGGTTCCTTCATTAATTGATTTTCAGGTGGC
AGAAAAGCCGAAAGGTTGATTTATGAAATTTGAAGAACGTTTCATAGTTCAAGACTTGGA
AACGCATGACTTTATTTATCCCGATCCTTTCGGTGATGTGGGGTTTACTCAAAATATTAA
ATCAGCAGGTCAATTTGAAAGCTACGAAGATGCGTTGAATTCAGGCATAAATGAAATAGG
CGGAGGATTCCAGATATTTCAGTTCTTCGTAAAATCGGAATAAAAGAAAAACAGGCTCGG
CGGGCGGTCTGTCAACCTTTCACAAAGCCCGCAACAAAGGAAAAATATCATGAAAATGAA
CCTTGCAACACTAATTATCGGCTGGGTGGTCTGTATGTTTCTTTTTCTTTTCGCAATCCT
CTATTTTATCGGCTAAAAACGAGATTCGGAAAAGACTTCGTCCGGATGAAGCAAGTCAAG
AAGTCGTCTTATTTTAAATATCAAAAAAGGAAAAAAACGATGAACATCGTTAAAAAAATAC
GCTGTAAAAGCAGCCTTGGCAGCCGGTATCTTCACACCGGCCATTGTTATGGCAGATACC
TTTGATCCATCCGCGATTGGTACGCAAGTAGCGAATGTAATCATGGGTTTCGTGTCAATG
GTTTCCGCCGTGGGTATGGCGGCCATTACCGTGATTCTTGCAATCCAAGGCTTCAAAATG
GCTTGGAGCATGATTAAATCTGTCAAATAAACAGAGTGAAGAAAAGGGGCGTATAAATG
GGCTATCGTGTCGGCATAAATTGTTTTGATACAAGATTGCAGGCAGACGACTATTTATTG
TCGTCCCTTCCTCCTACTGTTACCCAGGACGGAAAAATCATCAGGCCGGAAAGGGTGGGC
GATAAATGGATTTGAACGGAAAGCCGGTTACGTTGTCTTATCCGGAATGTTCCAATTTT
GAGCAGATAAAGCAAGGTTCTTATGTCGGTTCGACGGTTCTAATTCTGTTTGTAGTCATT
TACGGTTTCAGGCTTCTGATTAATTTTTTAAAAGACATAGGCAAGGTTGGGACTGATTGA
TGATTATAGATTTCTGGTTTCTTCTCGGTTTCTTCTTGGCTTTGTCTGTTGCTTGGCTGT
TTTGGTAACGGTTGGTAGAATCGGCTTTTTAGAGTGTTTTAAAAGGTCCGAATTATGTTT
ATTTCTGAATATCATTTAGTTAAATTTCAAACTGATTCACATATTTATAGAGATTTACCA
CAAGCGTTAATTTATTATAGGGAATTGATTAGAAAAGGGGTTTTTAAAACTTCGTTTTCA
TTTGATATTTTTAGGAATTTCTTTCATCGTTATGATAGAGATTTTATAGAAATTCAATTC
CCTGATTCTTCTACATTATTAATTAAATTAGATGAAGCAAAATGTTATGTTTATTATCCT
AGGGCGAAATTTTTTAAAGATTATCCTATGCTTTAGTTTTTTTGTATCTAAATTTGCATT
GGCATCAGTAAATGCTCCGGGTAAATTTGATAGGGTTGAAGTTTATGATGATGGCAGATA
TTTAGGTATTCGAGGTTCAGATGACAAAAGAAGAAGAATTTGGAAAGGTGTATTTGATAG
AGAATCGGGAAGATATTTAACTTCAGAAGCTCAAGATTTAAAAGTTAGGCATGTATCTAC
TGGAGCATCAAGTACGGGTAAAGTTAGTTCGGTTGTATCTTCATCAGTTTCCCGCGCTGG
CGTATTGGCGGGGGTCGGCAAACTTGCCCGCTTAGGCGCGAAATTAAGCACAAGGGCAGT
TCCTTATGTCGGAACAGCCCTTTTAGCCCATGACGTATACGAAACTTTCAAAGAAGACAT
ACAGGCACAAGGCTACCAATACGACCCCGAAACCGACAAATTTGTAAAAGGCTACGAATA
TAGTAATTGCCTTTGGTACGAAGACAAAAGACGTATTAATAGAACCTATGGCTGCTACGG
CGTTGACAGTTCGATTATGCGCCTTATGTCCGATGACAGCAGATTCCCCGAAGTCAAAGA
ATTGATGGAAAGCCAAATGTATAGGCTGGCACGTCCGTTTTGGAATTGGCATAAAGAAGA
```

-446-

ACTGAATAAATTAAGTTCTTTGGATTGGAATAATTTTGTTTTAAATAGTTGCACATTTGA
TTGGAACGGCGGAGATTGTGTGGTCAATAAAGGTGATGATTTCAGAAATGGGGCTGATTT
TTCCCTTATTCGCAATTCAAAATACAAAGAAGAAATGGATGCCAAAAAGCTGGAAGAGAT
TTTATCGTTGAAAGTCGATGCCAATCCCGACAAATACATAAAGGCAACCGGTTATCCCGG
TTATTCCGAAAAAGTAGAAGTCGCACCCGGAACAAAAGTGAATATGGGTCCCGTCACGGA
CAGGAACGGGAATCCCGTTCAGGTTGTCGCAACATTCGGCAGGGATTCGCAAGGCAACAC
CACGGTGGATGTTCAAGTAATCCCGCGTCCCGACTTGACCCCCGGAAGCGCGGAAGCACC
GAACGCACAGCCGCTGCCCGAAGTATCGCCCGCCGAAAACCCCGCAAACAACCCGAACCC
CAATGAGAACCCCGGCACGAGCCCCAATCCCGAACCCGACCCCGATTTGAATCCCGATGC
AAATCCCGATACGGACGGACAGCCCGGCACAAGACCCGATTCCCCCGCCGTTCCGGGACG
CACAAACGGCAGGGACGGCAAAGACGGAAAGGACGGCAAAGATGGCGGCCTTTTGTGCAA
ATTCTTCCCCGACATTCTCGCTTGCGACAGGCTGCCCGAGTCCAATCCGGCAGAAGATTT
AAATCTGCCGTCTGAAACCGTCAATGTAGAGTTTCAGAAATCAGGAATCTTTCAAGATTC
CGCACAGTGTCCCGCACCTGTCACTTTCACAGTGACTGTGCTTGATTCAAGCAGGCAGTT
CGCGTTCAGCTTTGAGAACGCATGTACCATAGCCGAACGGCTAAGGTACATGCTTCTCGC
CCTTGCTTGGGCGGTTGCCGCCTTTTTTTGTATCCGCACAGTATCTCGTGAAGTCTAGCA
GGCGCAGCACCGCCGGGCTTCAGTAACTTGTACCAAGGCAGGGGGAGGACGTCCAGAAAG
ATTTGTAAAGACGGCTTTATCGTCTTTATAAATCTTTTTGGATACCCCTTGCCGCCCCGC
CAAAAGAACACATTCTGCCGCAAGGGCAGGTGGTAAGGCGCGCGCCTTTTGCGCCGTTCC
CCCTGCCCCCGCGGCGTCGCAAGTGAGACTGGGGGTGCGGGGGCTAGTCCCCGCAAAGCC
TTTCAGCTTCGGAAGCCACGGCCGAAAGGCAGGCGCAGCACTGCCGGTCTGAGCGGAAGC
CAGGCTACAGGCAGGCGCAGCACCGCCGAGCTAGGCGGAAGCCAGGCTACAGGCAGGCGA
AGCACCGCCGGTTGGGCGGAAGCCACGGCCGAAAGGCAGGGCGAAGCACCGCCAGGCTTA
GGCGGAAGCCACCGCCGAAAGGCAGGCGAAGTACCGCCGGTCTGGGCGGAAGCCATGGTA
AAAGGCAGGCGAAGCACCGCCGGGCTTCAGTAACCTTTGTTCAGGCAGGGGGAGGATGTC
CGTAAAGAATCGTAAAGGCGGGGTTTTTTCGCCTTTATGATTCTTTTTGGATACCCCTTG
CCGCCCCGCCAAAAGAACACATTCTGCCGCAAGGGCAGGTGGTAAGGCGCGCGCCTTTTG
CGCCGTCCCCATGCCCCCGCGGCGTCGCAAGTGAGACTAGGGGGTGTGGGGGACTAGTCC
CCCGCAAAGCGTTCAGCTTCGGAAACTTTGGCCGAAAGGCAGGCGAAGCAGCGCACTTTG
CGACGAATGTCGCAAATAGCCGAGAAGCGCGGGGGGGATTGGCGATAAGCGCGAGGGGGGT
GTCCCCACAGCGCCGCCGCGCCGCGAATGCGGCGCAAAATCTTTCAGATTAAGAAACATT
TGTTTAATGAGGCAACCGTGCCTTTTAAGAAAGGGATAGCAAATGAAATTGTTGGCCGCA
TTGATTCCGCTTTTGATGAGCGTGGCAGGCCGTATATTGACTGCATTAGGCTTGATGGCG
GTAACCTATTCAGGGGTGGATAGATTGGTAGCCCATTTTCAGCAGGCGATAACCAATAGC
ATAACGGGCGCGCCTCAAGCGATGTTGCAGCTTTTTTATATAAGCGGCGGTGGAACCGTT
CTTAATATCCTGTTTGGCGCGATCGCCTTTATTCTGTCATTCAAACAAATGACAAAACTA
GCAACCTCAATCGGGAAGAAAAAATAAATGGCAGAGATCTGTTTGATAACCGGCACGCCC
GGTTCAGGGAAAACATTAAAAATGGTTTCCATGATGGCGAATGATGAAATGTTTAAGCCT
GATGAAAACGGCATACGCCGTAAAGTATTTACGAACATAAAAGGCTTGAAAATACCGCAC
ACCTACATAGAAACGGACGCAAAAAAGCTGCCGAAATCGACAGATGAGCAGCTTTCGGCG
CATGATATGTACGAATGGATAAAGAAGCCCGAAAATATCGGGTCTATTGTCATTGTAGAT
GAAGCTCAAGACGTATGGCCGGCACGCTCGGCAGGTTCAAAAATCCCTGAAAATGTCCAA
TGGCTGAATACGCACAGACATCAGGGCATTGATATATTTGTTTTGACTCAAGGTCCTAAG
CTTCTAGATCAAAATCTTAGAACGCTTGTACGGAAACATTACCACATCGCTTCAAACAAG
ATGGGTATGCGTACGCTTTTAGAATGGAAAATATGCGCGGACGATCCCGTAAAAATGGCA
TCAAGCGCATTCTCCAGTATCTATACACTGGATAAAAAAGTTTATGACTTGTACGAATCA
GCGGAAGTTCATACCGTAAATAAGGTCAAGCGGTCAAAGTGGTTTTACACTCTGCCAGTA
ATAGTATTGCTGATTCCCGTGTTTGTCGGCCTGTCCTATAAAATGTTGAGCAGTTACGGA
AAAAAACAGGAAGAACCCGCAGCACAAGAATCGGCGGCAACAGAACAGCAGGCAGTACTT
CCGGATAAAACAGAAGGCGAGCCGGTAAATAACGGCAACCTTACCGCAGATATGTTTGTT
CCGACATTGTCCGAAAAACCCGAAAGCAAGCCGATTTATAACGGTGTAAGGCAGGTAAGA
ACCTTTGAATATATAGCAGGCTGTATAGAAGGCGGAAGAACCGGATGCGCCTGCTATTCG
CATCAAGGGACGGCATTGAAAGAAGTGACGGAGTTGATGTGCAAGGACTATGTAAAAAAC
GGCTTGCCGTTTAACCCATACAAAGAAGAAAGCCAAGGGCAGGAAGTTCAGCAAAGCGCG
CAGCAACATTCGGACAGGGCGCAAGTTGCCACATTGGGCGGAAAACCGTAGCAGAACCTA
ATGTACGATAATTGGGAAGAACGCGGGAAACCGTTTGAAGGAATCGGCGGGGGCGTGGTC
GGATCGGCAAACTGAAGAAAACGGCAAGAGAGAAAAAAGACCCGTAAACCGTTTGAATAT
AGACGGTTTACGGGTCTTTGTTTCGCGCAAAGCAAGGGCTAAGGCAGTCAGGCAGCAAAT
CCCGCAATGTATTAAAAACAGACGCGTAGAAATGCCGGCTGCCTTTATCCATCCTCGAAAT

TGAATATCATCCTAGCCGTATCAAGGCTGTATAAATAAGGAAAATACCAATGAATATAAT
CGGGCTGGACATCTCAAAGGACACCATAGACGCAACATTGCATAAAACAAACGGAAGTAT
CCATTACATTAAATTTAAGAATAATGATGATGGATTAAAACAGTTTAGATTGTGGATAAA
GGGAAACAGAATCAGAAAAGTCTATATCGGCATGGAGGCAACAGGCATCTATTACGAAAA
GGCAGCAGATATGCTTTCTTCCTACTATACTGTTTACGTTATTAATCCCTTAAAAATCAA
GGACTACGGAAAAAGCAGGTTTAACCGTACCAAAACCGACAAAGCAGATTCAAACCTGAT
AGCAGACTACATAAAAAGGCATCAAGATACATTGATACCGTATCAGATACCCAAAAACAA
AGCACTGCAAAAACTGATTAACCTTAAAAATCAATTACATCAACATCAGAAGCAAATTAA
AAACCGTCTTCATAGCACTGAAGAAGACTTCATAAGGAACATACATCAAGACTTGATAGA
TACCATACAGGACAAGATGGAACAGGTAAAAATAGCCATATCCGAACAAATCAAAAAACA
AACGGACAATAACCATTACCGCAATCTTCAAACCATCCCGAGCATAGGCAAAGACACCGC
ATCAGTTCTTTATGCGCAACTGACAGAAAAACATTTTAAAACCGCAAACCAGTTTGTATC
CTATGCCGGATTAAATCCCGCCATCATACAATCAGGGACAAGCGTAAGAGGTCGGGGCAG
ATTGAGCCGATACGGAAACAGACGATTAAAAAGTACGCTGTATATGCCCGCCCTTTGTGC
TTACCGTTTTAACGCATTTCCGAAATTAATAAATAATCTGAAAAAAGCGGGTAAGCCAAA
GATGGTAATCATCGTTGCCATCATGCGCAAACTGGCGAAGCTCGCCTATTACATTGTTAA
AACCGGCCAGCCTTACGATGCGGAAAGACACCGATTGAATCAATAAAATTCAACAAAATT
AAACGGTTACGCGAATATATTTGTGTAACCGTGCATTTGCATATCGTAAATAAACGTAAA
TAAAAATAACAATATAAATCAGTATATTGCAACTTTGTTTTTTATTTTGTGTTGACGGGC
AACATATCATCTGCGCGGGAATGACGGGATTTGAGATTGCGGCATTTATCGGGAGCAACA
GAAGCCGCTCCGCCGTCATTCCCACGAAAGTGGGAATCTAGTTCGTTCGGTTTCGCTTGT
TTTAAGTTTCGGGTAACTTCCACTTCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTG
AGTTTCAGTCATTCCCGATAAATTGTCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCG
GGAATGACGAATCCATCCATACGGAAACCTGCATCCCGTCATTCCCACGAACCTACATTC
CGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTCCCGATAAATTG
CCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGGGATTTTAAGTTGGGG
TCATTTATTGGAAAAAGCAGAAACCGCTCCGCCGTCATTCCCACGAAAGTGGGAATCCAG
TTTTTTGAGTTTCAGTCATTTCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGC
CTGAGCGGGAATGACGAATCCATCCGTACGGAAACCTGCACCACGTCATTCCCACGAACC
TGCATCCCGTCATTCCCACGAAAGCGGGAATCCAGTTCGTTCGGTTTCGCTTGTTTTAAG
TTTCGGGTAACTTCTACTTCGTCATTCCCGCGCAGGCGGGAATCCAGTGCGTTGAGTTTC
AGCTATTTAGAATAAATTTTGAAACTCTAATCGCGTCATTCCCACGAAAGTGGGAATCCA
GTTTTTTGAGTTTCAGTCATTTCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCG
CCTGCGCGGGAATGACGAATCCATCCATACGGAAACCTGCACCACGTCATTCCCACGAAA
GTGGGAATCTAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCCACTTCGTC
ATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTCCCGATAAATTGTCTT
AGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATCCATACGGAAACC
TGCATCCCGTCATTCCCACGAAAGTGGGAATCCAGCTTTTTGAGTTTCAGTCATTTCCGA
TAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGGATTTTAGG
TTGGGGGCATTTATTGGGAAAAGCAGAAACCGCTCCGCCGTCATTCCCACGAAAGTGGGA
ATCCAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCCACTTCGTCATTCCC
GCGCAGGCGGGAATCCAGTGCGTTGAGTTTCAGCTATTTAGAATAAATTTTGAAACTCTA
ATCGCGTCATTCCCACGAAAGTGGGAATCCAGCTTTTTGAGTTTCAGTCATTCCCGATAA
ATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATCCATA
CGGAAACCTGCACCACGTCATTCCCACGAACCTGCATCCCGTCATTCCCACGAAAGTGGG
AATCTAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCCACTTCGTCATTCC
CGCGCAGGCGGGAATCCAGTTTCTTGAGTTTCAGTCATTTCCGATAAATTGCCTTAGCAT
TGAATGTCTAGATTCCCGCCTGCGCGGGAATCCAGTGCGTTGAGTTTCAGCTATTTAGAA
TAAATTTTGAAACTCTAATCGCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTT
TCAGTCATTCCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGGGAA
TGACGGCGGAGCGGTTTCTGTTTTTTCCGGTAAATACCCACAAGCTAAAATCCCGTTATT
TTCACAAAAACAGAAAACCAAAAACAGAAACCTGAAATTCGTCATTCCCACGAACCTACA
TCCCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTTCCGATAAA
TTGCCTCAGCATTGAATGTCTGGATTCCCGCCTGCGCGGGAATGACGGCGGAGCGGTTTC
TATTTTTTCCGGTAAATACCCACAAGCTAAAATCCTGTTATTTTCACAAAAACAGAAAAC
CAAAAACAGAAACCTGAAATTCGTCATTCCCGCGCAGGCGGGAATCTGGTTCGTTCGGTT
TCGCTTGTTTTAAGTTTCGGGTAACTTCCACTTCGTCATTCCCGCGCAGGCGGGAATCCA
GTGCGTTGAGTTTCAGCTATTTAGAATAAATTTTGAAACTCTAATCCCGTCATTCCCACG
AAAGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTCCCGATAAATTGCCTTAGCATTGAA

```
TGTCTAGATTCCCGCCTGCGCGGGAATGACGGCTGCAGATGCCCGACTGTCTTTATAGTG
GATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCG
ATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACG
CCGTACTGGTTTTTGTTAATCCACTATACTGTAATCAGGGATGCTCAGTTCGTCGAAACG
GCAAAACAGGTTGAAGTCGATGCGGGTGATGAGGCTGTGTTCGAGTTCGGGATCGGAGAG
GCTGTGCCATTGTCCGAGCAGGACGGCTTTGAACATGGACAGCAGGGGATAGGCAGGACG
GCCGCGGTGGTCTCTAAGGTAACGGGTTTTTTGACGGTTCAGGTATTGTTCGATCAGCTG
CCAATCAATCACCCGGTCCAACTTCAATAGCGGGAAGCGGTCGATGTGTTTGGCAATCAT
GGCTTGGGCGGTTTGCTGGAAGAAGGTGCTCATGAGAAATCTCCTAAATGTCTTGGTGGG
AATTTAGGGGATTTTGGGGAATTTTGCAAAGGTCTCAACTTGAGTTTCACGCCCCGCTTA
ACAATATTCAGTTGGTAAATATTAGATAAAACCATAAAAATTAAATTGATGGCTTTTATA
ATCCCCGATTTGCGAAAATGCCGTCTGAAAGTCTTCATTCAGGCTTTCAGACGGCATTTT
GATCATCAAGTAACGCTTTATCAGGCTTTTTTATTGTTCAACGCAGCTTTGACAAACGCG
GTGAACAAAGGATGCCCTTTGCGCGGATTGGAGGTAAACTCGGGGTGGAACTGGCAGGCG
AAGAACCAAGGATGGTTCGGCAGTTCGATGGTTTCGACCAAGCGTTCGCGTCCGGCAGAT
ACACCGCCGATGACCAAACCTGCCTGTTCCAGTGTAGGAACGTAGTTGTTGTTGACTTCG
TAGCGGTGGCGGTGGCGTTCGCGGATATGTCCGCTGCCGTAGATTTTGGCGGCGAGGCTG
CCTGCTTTCAATTCGACTTCTTGCGCGCCCAAACGCATCGTGCCGCCCAAATCGGTGGAT
TCGTCGCGGGTTTCGACGCTGCCGTCGGCAGTTTGCCATTCGTCAATCAGGGCAACGACT
GGCGCGGCGCATTTGAGGTCGAACTCGGTGGAATTCGCGCCTTTCAAGCCTGCCACGTCG
CGGGCGTATTCGATCAGCGCAATCTGCATACCGAGGCAGATGCCCAAGTATGGCACGTTG
TTTTCGCGGGCGTAGCGCACGGCGGCGATTTTGCCTTCCACACCGCGCGAACCGAAACCG
CCGGGAACGAGGATGGCGTCCATGTCTTTAAGCATGGAAACGTCGCCCTTGTTTTTCTCG
ATGTTTTCGCTGTCGACAAAGGTAATCTGCACGTCGGTTTCGGTGTGAATGCCTGCGTGT
TTCAAGGCTTCGATCAGCGATTTGTAGGACTCGGTCAAATCGACGTATTTGCCGACCATG
GCGATTTTGACGGTGTGTTTCGGGTTTTGGATGGCGTGGACGATTTTTTCCACGCGGTC
AAATCCGCCTGCTGCACATTAAGCTGCAACTGCTCGGTAATGATGTTGTCGATGCCTTGG
TCGTGCAGCATTTCGGGGCATTCGTAGATGCTGTCCACATCGTAGCTGCCGACAATCGCG
CGTTCTTCCACGTTGCAGAACAAGGCGATTTTGCGGCGTTCGTCCGCAGGCATTGTCCTG
TCCATACGGCAAATCAGGATGTCGGGTTGCAAACCGATGCTCAACATTTCTTTAACGGTG
TGCTGGGTCGGCTTGGTTTTGATTTCGCCTGCGGCGGCGATGTAGGGGACGTAGCTCAAG
TGGGCAAACAAGGTGTTGTTGCGCCCCAACTGGCTTCGCATCTGGCGGATGGCTTCCAAA
AACGGCAGCGATTCGATGTCGCCGACCGTGCCGCCAATTTCGACAATCGCCACATCGTAA
CCTGCCGCGCCTTCGTGGATGCGTCGTTTGATTTCGTCGGTAATGTGCGGAATGACTTGA
ACCGTACCGCCGAGGTAGTCGCCCCGTCGTTCTTTGGCGATAACGTTTTCGTACACCTGT
CCCGTGCTGAAGCTGTTGCGGCGGGTCATCGTGGAATCGATAAAGCGTTCGTAGTGTCCC
AAGTCGAGGTCGGTTTCCGCGCCGTCGTCGGTTACGAACACTTCGCCGTGTTGGAACGGG
CTCATCGTGCCGGGATCGACGTTGATATAAGGATCGAGCTTGAGCATGGTAACGTTCAAG
CCGCGCGATTCGAGGATGGCGGCAATAGAAGCGGCGGCGATACCTTTACCCAGTGAGGAG
ACAACGCCGCCGGTGACGAAAATGAATTTGGTCATAATGAAATACCCGTATTGGAATGCG
TGATTTTAACGTGAAGCGCGCGGTTCTGGCAAACGGACGGATGCCGTCTGAACGATGGAC
GGCTGTTTTCAGACGGCATCTTTTCTTTATTTCCCGGTACTTTGCCGCAACTCGCGGCGC
AGGATTTTGCCGACGTTGGACTTGGGCAACTCGTCGCGGAATTCGATATTTTTCGGTACT
TTATATGCGGTTAATTCGGTGCGGCAAAAAGCGATAAGTTCTTCTTTGGTCAAAGACGGG
TCTTTTTTGACGACGAATACTTTGAGTGCCTCGCCGGTTTTTTCGTCGGGAACGCCGATA
CAGGCGACTTCCATGACTTTGCCGTGATGCGCGATGACTTCCTCGATTTCGTTCGGATAA
ACATTGAATCCGGAAACAACGACGAGGTCTTTCTTACGATCGACCAGCTTCAACCAGCCT
TTTTCGTCCATGACGGCAATATCGCCGGTTTCCAAGAAGCCGCGCGCGTCTATGGCTTTG
GCGGTTTCTTCGGGGCGGTTCCAGTAGCCTTGCATCACTTGAGGGCCTTTTACCCACAAT
TCGCCCGGCTGCCCGACGGGGACTTCTTTGCCGTTTGCGTCGCGCAGTTCGACTTCGGTG
GACGAGACGGGCAAACCGATGCTGCCGCTGTATGATTCGATGTTTAAGGGGTTGCAGCAC
ACGCCGGGGCTGGCTTCGGTCAGACCGTAGGCTTCGACGATGGGCGTGCCGGTGATTTTT
TTCCATTTTTCGGCAACGGCTTTTGGGTCGCCATACCGCCGCCCAAAGTCAGCCGCAAT
TCTGAAAAATCGACTTCGGCAAAATCAGGACGGTTAACCATCGCGTTAAACAGCGTGTTC
ACGCCGATAAATACATTAACCCGCTGTTTTTTCAGTTCTCCGATAAAGCCTTTCATATCG
CGCGGGTTGGTAATCAGGATGATTTTCGAGCCGGCATTGGCAAAAATCATCAGATTCACG
GTTAAGGCAAAAATATGGTACAGCGGCAAGGCGGCGATAACGGTTTCTTTGCCCTCGCGC
AACTGGTTTTTAATCCATTCTTTTGCCTGAAGCATATTGGCGCAGATGTTGCCGTGACTC
AGCACCGCCCCTTTGGCAACACCTGTCGTGCCGCCCGTGTATTGCAACAGCGCGGTATCT
```

```
TCGCGGTTTAATGCGACAGGTTGGAAAACGTGCTTCGCCCCTTCTTTCAATGCCGTCTGA
AAGGAAACGGTTTCCCGAATACCGTATTCGGGCACCATTTTCTTGATTTTCCGGATGACG
AAATTGATCAGCGAACCTTTAAGCAGCCCGAACATTTCGCCGACGGAGGCTACGATGACG
TGTTTGATCTGCGTGCGCGGCAGCACCAGCTCCAGCGTGTTGGCGAAATTTTCCAAAACG
ATGATGGCGGTCGCGCCGCTGTCTTTCAACTGATGCTCCAGCTCGCGCGGGGTATAGAGC
GGATTGGTGTTCACCGCTACCAGACCTGCCTGCAAAATGCCGAAAAGGGCAACCGGATAT
TGCAGTACATTGGGCAACATTATTGCCACGCGCTCTCCTCGAGGCAATTTAAGGACGTTT
TGCAGATAAGAAGCAAAATCTGTTGCCAGTTTGCCGGTTTCGGCATAAGTCAGCGTCTTA
CCCATGTTTTGAAAAGCAGGTTGGTCGGCAAATTTTTCCACGCTTTGGCGGAATACGTCG
CTGACGGAATTGTATTGCGTGATGTCGATTTCGGCACTGACGCCCTTCTCGTAGCTGTCT
AACCAGATTTTTTCCATAGGTATCGGTCTTTAAAGTGGAATTGAGCGGAACAATGCCGTC
TGAAAACCGTTTCAGACGGCATTACCTTTATCGTGTGATGATGACGGGTTTGTCGGTCGT
TTGGATGATACCGCCGCCCAAACAGATATCGCCGTCGTACAGCACGGCGGACTGACCCGG
CGTAACCGCCCATTGCGGTTCGTCAAACACCAGCTCGGCGGTTTCATCATCCAAATAGCG
CAACTCACAAGGCGCGTCCGCCATACGGTAACGCGTTTTGCAGGTATAGCGTCCTGCCTT
CGGGCGTTCGGGCAGCGTGAAACTCAAATCGTTCATCACAAGGCTGCGGGTATAAAGCAG
CGGATGGTCGTGTCCTTGCACGACAATCAGTTCGTTTTTCGTCAAATCTTTAGCCGCAAC
AAACCACGGTTCGCCCGCGCCGCCAATGCCCAAACCTTTGCGCTGTCCGAGCGTGTAGAA
CATCAGCCCGACGTGTTCGCCGACGGTTTTCCCTTCGGGCGTAACCATTTTACCATTGTC
GGTCGGCAGGTATTTCTGCAGAAACTCGCGAAACGGGCGTTCGCCGATGAAACAGATGCC
CGTGCTGTCTTTTTTAGCGGCGGTCGGCAGTTTGAACTCGGCGGCAAGGCGGCGCACTTC
GGGTTTTTCCAAACCGCCCAACGGAAAAATCGCGCGCTCGAGTTGGAAAGGCTTGAGGCG
GTAGAGGAAATAGCTTTGGTCTTTGTTTCGATCCAAACCTTTGAGCAGGTAATGCACGCC
GTTGCGAACTTCTTTGCGCGCATAGTGGCCGGTGGCGATGGTATCCGCGCCCTGCCCTAC
GGCGTAGTCCAAAAAGCATTTGAATTTGATTTCGGCGTTGCACAACACATCCGGATTCGG
CGTGCGCCCCGCACTGTATTCCTGAAGAAAATAAGCAAAGACTTTGTCTTTATATTGCGC
GGCGAAATTAACGATGTCGATATCGATGCCGATAATATCGGCAACGGCGATGGCATCGAA
CGAATCCTGTTTGATGCTGCAATATTCGTCGTTGTCGTCGTCTTCCCAGTTCTGCATGAA
CACACCGCGCACTTGATAACCCTGCTGCTTGAGCAGGGCGGCGGTTACGGAAGAATCGAC
ACCGCCGGAGAGCCCGACGATGATATTGGAAGGGTTTGCTGTCGTATTCATGCGTAGAAT
ATGGTTGGAAACGGCGGTTTTTAAAGGCGGATTTTAACACATTTTAAAGGCGGGCATAAA
AATGCCGTCTGAAAGCCCGGGCTTTTTCAGACGGCATTTCAAACATTTTCAGCAGATTAG
TGCTGATGCGCTTCGCCGTGGTGATGACCGTGGTTCATTGCCGGCATCGGCGCGATTTTG
ACTTCCAGTTGGACGGTTTGCGCTTTGGCGTTTTTAAATTTCAGGGTAACGGGAATTTTA
TCGCCCTCTTTTTAATTGTTTTTTCAAACCCATAAACATCACATGATAGCTGCCGGGTTTG
AGTTCGGTAACGGATTTCGCTTCCAAAGGCACGCCGCCTTCGACTTCGCGCATCCGCATC
ACGCCGTTGTCGTTGATGTGGGTATGCACTTCGACGCGGTCGGCAACGGGGCTGCTTCCG
CCGAGCAAAAAGTCTTGTTTGGCTTCGTCGTTGTGGATTTTCATGAACGCGCCGCCTATT
TTCATACCTTCGACGGTGGTGCGCGCCCAGCCGTCCTCAACGTGGACTCCGGCGGCGGAA
ACCGCGCCTGCCAAACCTGCCATCATCACGGCCGCCAATAATTTTTTCATCTTTCTGCTC
CTTATAATATCAGACGGGGAATGTGCTTAATCTTATAGCGGATTAACAAAAACCAGTACA
GCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGGA
TCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAAT
CCACTATACATACAAATACTGCCTGGAAATTTGATGTAGATTAAGTGAATAATAAATACC
ACATACTAATCCTAAAGGATTACAAATCCTGCTGCAAGCGTTTTACCCGAACAGGGCAGA
CAGCCAAACCGCCGCCAACATCAGCATCGCGAACAATTGTGCGGCAGAACCTGCGTCTTT
GGCGAGTTTGGCCAGCTCGTGTTTTTCGGTCGAAGTATGATCGACGGCAGCTTCGACGGC
GGTGTTGAACAGTTCGACAATGACCGACACAAAGACGCGATAATCAACGGCAGGCGGAC
GGCGGTTTCGGAAACCCAAAAAATGCCGCGCACACCAGCAGTACGTTCAGCCACAAAC
CTGACGGAATGCCGCTTCGTAACGGTAGGCGGCGGCGATGCCGTCTATCGAATAGCCGAA
TGCGTTAATGACGCGCCTGATGCCGCCTTTGCCTTTTTTTTCTGCCGCGTAGGAGGAAGG
TTCCATCGGTATCCTTTCAAAATGTTCTCAATATAGTGGATTAACAAAAACCTGTACGGC
GTTGCCCCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCGAGTGAATC
GGTTCCGTACTATTTGTACTGTCTGCAGCTTCGCCGCCTTGTCCTGATTTTTGTTAATCC
ACTATATATACCGTCTGAAAACGGGGCGGCGGGGTGTCCGTACGGTATTAAGCGTATCCC
TGCCGGCTGAGAGAAACCCTGCCTGCCCAATCAAACCAGGCGGTTGTGAAGCAAAAGCC
TTTCAGACGGCATCGGTTTAACGTACCGACCACGCGGCAACGGCATCGGCAAACATTGCC
GCCACATCGAAACCTTTTTGTTTCATAATTTCTTGGAATCCGGTCGGGCTGGTTACGTTG
ACTTCGGTCAGGTTGCTGCCGATAACGTCCAAACCGGCCAGCAGGATGCCGCGCCGTTTG
```

```
AGTTCGGGGGCGAGCGTTTCGGCAATTTCGCGGTCGCGTCCGCCCAATTCCTGCGCCACG
CCGCGCCCGCCTGCCGCAAGGTTGCCGCGTGTTTCGCCGTTTTGCGGGATACGCGCCAAA
GCATAGGGGACGACTTCGCCGCCGATAATCAGGATGCGTTTGTCACCGTGTACGATTTCG
GGAATGTAGCGTTGCGCCATAATGGTGCGGGAATCAAGCTGCATCAGGGTTTCGAGGATG
CTGCCGATGTTGGGGTCTTTTTCGGTCAGGCGGAAAATTCCCATACCGCCCATGCCGTCG
AGCGGTTTGATGATGATGTCGCCGTGTTCTTTCAAAAATGTGCGGACATCGGCGGAACGG
GTCGTTACCAGCGTGGGCGCGATAAAGCGGCTGAAGTTCAAAATCGCCAGTTTTTCATTA
AAGTCGCGCATCGCCTGTCCGCTGTTAAAGACCTTCGCGCCCTGCTGTTCCGCCAGCGTC
AGTAATTGGGTGGCGTAGAGGTATTGCATATCGAACGGCGGATCGGTACGCATAATCACG
GCATCAAATGCTTCCAATGCCGTCTGAACTTTGTCGGCAGATTTGAACCACGCATGATCA
TCATCGTTTTTTGCACCCAAAAATTCAAATGCCGATGCCTGCGCCGTTACCAAACCGCCG
TTTACAGACAATTCCCCGCTCAATGTGTGAAACAGCCGCCAGCCGCGTTTTGCCATTTCG
CGCATCATCGCGTAGGTGGTGTCTTTATAGGTTTTGAAACTTGCCATCGGGTCGGCGATA
AAGAGGACTTTCATCATATTTCCTTTCCGGTGTGCCGAATGTGCCGCATTTCGCGGGTAA
AGGAGAAATTCCGCCCGAACAATATTCAGACGGCAGGGATGGGGTTTTACTTAGGCTGCC
AAGAGTCTTTCAGCGTTACCGTGCGGTTAAACACCGGCGTGTCTTTGCCGTGGTCTTTAC
GGTCGGTTACGAAGTAGCCGATACGCTCGAACTGCCAACGGCTTTCTGCCGGCAAATCTT
TGGCGGCAGGTTCGGCGTAGGCGGTGATTTCCTTGACGGATTCCGGATTGAGGAAATCGG
TGAACGGCAGGTATTCGCCGTCTTCGCCGCGCACGGCATCGGGACGCTCGACGGTAAAGA
GGCGGTCGTACAGACGGACTTTGATTTCGGCGGCGTGTTCGGCGGAAACCCAATGAATCA
CGCCTTTAACTTTACGGCCTTCTGGATTTTTGCCCAAGGTGTCGTGGTCGATGCTGCATT
TGAGTTCAACCACATTGCCTGCTTCGTCTTTGACGACTTCATCGCACTTGATGACATAGC
CGTGGCGCAAGCGTACTTCGCCGCCGGGAATCAGGCGTTTGAAGCCTTTGGGCGGATTTT
CGGCAAAGTCGTCGGCTTCAATATAGATGGTTTGGGAAATAGGTACTTCGCGCTCGCCCA
TTTCCTCGTGGTTCGGATGGAACGCGGCACGGCGGCTTTGGGTTCTGCCGGTTTCAAAGT
TGGTCAGGGTCACTTTGAGCGGGTTCAACACCGCCATCAGGCGTGGGGCGGAATTTTCCA
ACTCTTCGCGAATCGCGCCTTCCAACACGCTCATATCGACGATGTTTTCAGATTTGGAAA
TACCGGCGCGTTTGGCAAACAGGCGCAGCCCTTCGGGCGTGTAGCCGCGTCGGCGCATAC
CGGAAATGGTCGGCATACGCGGATCGTCCCAGCCGGAAACGTGTTTTTCCACAACCAACT
GATTCAATTTCCGTTTGGAGGTAATGGTGTACAAAAGCTCCAAACGGGAAAACTCGTATT
GGCGCGGACGGGTGGCATGCGGCGCAGGAATGTTGTCCAACACACAGTCGTACAGCGGAC
GGTGTGCTTCGAATTCGAGCGTACACAAGGAATGCGTGATGCCTTCGATGGCATCGGAGA
TGCAATGCGTGTAGTCGTACATCGGGTAGATACACCATTTGTCGCCGGTGTTGTGGTGAT
GGGCGCGGCGGATGCGGTAGATGACGGGGTCGCGCATATTGATGTTGCCCGATGCCATGT
CGATTTTCAGGCGCAGGGTTTTGCTGCCGTCGGGGAACTCGCCGTTTTTCATGCGTGTGA
ACAGGTCGAGGTTTTCTTCGACGCTGCGGTCGCGGTAAGGGCTGTTTTTACCCGCTTCGG
TCAGCGTACCGCGGTATTCGCGCATTTCTTCGGGCGTCAAATCATCGACATACGCTTTGC
CGTCTTTAATCAAACCGACGGCGTAGTCATAAAGCTGGTCGAAATAGTTGGAAGCGAAAC
GCGGCTCGCCCGCCCAATGGAAACCGAGCCACTCGACATCTTCTTTGATGGCGTTGACGT
ATTCGTCGTTTTCTTTTTCGGGGTTGGTATCGTCAAAACGCAGGTTGCACAAGCCGTCGT
AAATATACGCCAAACCGAAGTTCAGGCAGATGGATTTGGCGTGTCCGATGTGCAGGTAGC
CGTTGGGTTCGGGCGGGAAACGGGTTTGGACAGCTGTATGTTTGCCGCTTTCGAGGTCTT
CTTCGATGATGGTGCGGATAAAATGGTTGTCCGCAAATTGGTCTTTATTGAGCATAGTTT
TCTTTGAACAGATGGCTTCAGACGGCATTGGAATGATTCCGTATGCCGTCTGAAGCGGTT
TGGGAATGTGTTTATTGTACCCGACTTGCGCGCTTTGACATAGCGTTCAGACGGCATCGG
CAATCAAGCATTCCACCCCCGCCTCTTTCAGCATCTTCTGCATCGCGGTATCGGGCAGCC
GGTCGGTAAATACTTTGTCAAACGCCGTAATGTCGCCGAGCCTGACCAGCGCGTTGCTGC
GGAATTTACTGTGGTCCACGCCGAGGAAGCGGACGCGCGCATTGGCAATCATCGCCTGCA
TCACGCTGACTTCTTTGTAGTCGTCGTCCAAAAGCGAACCGTCGCTTTCCACGCCGTGCG
TACTCATCACGGCATAATCGACTTTGAACTGGTTGATAAAATCGACGGTTGCCACGCCGG
TAATACCGCCGTCCAAAGGGCGGACGACTCCGGAAGTGATGATGACCGTATAATCCGTCC
GCGCCGAAGCAATCGAGGCGGCGTGGATATTGTTGGTAATCACCCTCAGGCTGCCGCGCC
GCCTGACCAGCTCCGACACCACGGCCTCCATCGTCGTGCCGATACTGACAAACAGCGACG
AACCGTCGGGGATGTGTTCCGCAATCAGCCGGGCAATGGCGTTTTTTTCGTTTTGACACC
GGGTTTGGCGGTCGGCGGGCAGGCCCTCCGGCAAGTTTCCGCCCGAAGATGCGCCGCCGT
GATGGCGTTTCAGGCTGCCGACCTCCTCCAACTCGCGGATGTCGCGGCGTATCGTCTGCG
GGGTAACGTCCAATGCGGCGGCAAGCTCGTCCACCGACATAAACTGATGCCGGCGGACAA
GGCTTAAAATCTCTCCGTGCCTTTGGATTTTCGGCTTCATCGTTTTCTGCCTCCTTGCAT
CGGGATGCCGATTTTACCGCGTTCAACCCAAAGCGGAAAACACCACCATCAGAAACGGGG
```

```
CGGCGATATTGACCACCACGCCGAAGCTGACCGCTACCGGCACGACTTCCAAACCGCCCG
CACCCTGAATCACGGGCAATGTAAAATCCATACTGGTCGCACCGCCAACCCCCACCGCCG
CATCTGGAAAACGCTTCATCAGCAGCGGGATAAATGCCAGTGCAAACAGCTCTCGTGCCA
AATCGTTCAGCAGCATGATGCTGCCCCATACCGCGCCGTAAGCCTCGGTCATGACCAAAC
CCGAGAGGGAATACCAACCGAAGCCGGAAGCCATCGCCAAACCTTTCGTCCACGACACAC
CGTCTGTCGATGCGGCAAACAGCAGCCCGCCCGAAAGAGATGAAAGCATAAACCAGACCG
ACAACCGAATACCCCTGCGGTTGACCAAAACCTGCCGCAACGATACGCCGCTGCTTTTGA
GCTGTACGCCGATGAGGAACACCAGCAGCATCAGACAATACATGCCCGCGCTTTCAGACG
GCATCCAAATATCGCGCATCAGTTTGCCGAATGCAAATCCGAGCAGCACGCATCCGAGCT
GCCCCACACTGCCCGACACGCCGACCGAAACGCCCTTCCCTTTCCCCTTTATCCGCCACG
GGAATAACTTTCCCAACACTGCCAAAGCAAGCAGGTTCGCCCCGACCGTACAAACAAACA
GCCACAGAACCGTCAACGCCATATCGTCCAACCGCGAACCCAAATCCTCCACGCGCGACA
ACGAGACGCCGATCAGCAGCAGCACAGCATACACCAAGACCGATAGCACCTTATCCAAAG
CGGGCAGGTAAGGCTTGGGCACACGGATAAAAAATCCGGCAAACATCGGTATCAATACCG
AAAGCAACGTCATCAGGCTGTCCATCTACTGCTCTCCTTTATTGCCGCATGATATGTGCG
GTTTAAAAATTGCCGTCTGAAAATTGCAGATACCCGCATCCATATTTCAGACGGCATCAG
GTTCGCCATTAAAAAACCGCCTGAAGGTTCAGGCGGCTTATCCGCTCCGGCATTCAATCT
TCCAAAGTCTTTTCCAAACGCTCCATACAGTTGCCCAAATGGCGGCGCAGGATTTTGACC
ACGCGGTTGCGCCTGCCCGCCAGCAGCAGGTCGAGGATTTCGCGGTGTTCGGAATGCGTA
TGCGTATTGATGGCGTGTTTTTCCTCGCGATGCACGCCCGCCACGGCGACAATCAGGGAA
GACCGCGCGCACAGCGTATTCATAATGTCGAACAGCACATCGTTGCCCACCAGGCGCGCC
AGTTCGACGTGGAAGGCATTGGACAGGCGGTTCCAGCCGACGCGGTCGCCCCTGCCGGAG
GCCTCTTCTTCGCGCCGTATCATCGCATAAAGCGGCTTGAGGCGCGTTTCCAAATCCGGC
AAATCTGCGAGGATATTCAAAATCATCGTCTCCATTTCGATGCGCGCATTGAACACATCC
TGCATTTCTTTCAAATCGGGAACGTGGACGAACGCGCCCCTGTTGGGTTGCAAATCGACA
ATCTTGTCGTGCGCCAAAAGCGACAGCGCGCCGCGGACGGTGTTGCGCGAACACACCATC
TGACGGCAAAGTTCGGATTCGGTCAGCTTTTTGCCGGGCAGCAGCACCTGATCGGTAATG
CCGTCCAAAATCAGGGCGTAAACACGGAACAGCTCCGAATCGTGCCGCTCTTCGAGAATC
AGGGAAGACGTGGTCGGCGCATGGATAATGTCGTCGTTTTCAAAGTTCATGATGTTTTCC
GTATTTTTACGCTTTCAAATTTTTTAAGATGTTTTAAGGCGGCTGTGTTTCAAATCGTGT
CAGAGGAATTAAAGCATTGCACAAATTTATTTTATAGTGGATTAACAAAAATCAGGACAA
GGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCAC
CTTAGAGAATCGTTCTCTTTGAGCCAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATC
CACTATAATTCAATAAATTAATATATGGCTTAAAATAACGGGATTCTCGCCTCCCGCCCG
CCCGCAGAAGCAGGCGGATATCATTTTAAAACGCGGCATTTAAAATTTGACCGAAAATTG
TTGACAATCCGGAATCAAGTCTGCACAATACCCCGACAAGTCCAAGTATTATAAAGGCTG
AATAAAGAGGAAACAGCAGGCAGATATATTCGGGAGGTGCAGTCCGAATATATCTGCTTT
TTTATGCGCCTCCGGATTGCCTGCCGCACCTTTCCCTTCAGACGGTATCAGCCGTTTCCC
CATAATGCCGCCCGATGCCTATTTATCTGCCCCGGCAATTTCAAAACTGTGGGTAATCTT
TGCCGCTTTGCCCAACATAATCGAAGCCGAACAGTATTTTTCGGCAGACATCTGAACGGC
GCGCTCAATGGCCGATTCTTTCAAATCATGCCCGAATACTTTGAAATGGATGTGGATTTC
GGTAAACACGCGCGGCGCATCGTCCGCCCGTTTCGCCGTAACCGTCGCACGGCAGTCAGT
CACTTTCTGACGCTGTTTTTCGGCAATCATCACCACATCGATGCTCGAACAGCCCGCCAC
GCCCAACAGCAGCATTTCCAAAGGGCTGGGCCCGCGCTTAGCCTTACCTTCTGCCGCCGA
CCCCTCCATAACGACGCTGTGCCCGCCTTCCGTCGTGCCGACAAAACACATCCCGTCTAT
CCATTTTGATGTAACCTGCATGGTGTCATTCCTGAAAATAGCGTTAAAACCGCTTTGCAT
ATGGCGTTATTGTAAACAATTTCAAGCGGCTTATGCAGAAATATGGACAAAACGGCAAAA
AAACACTTGAAAACCGATTTACGGTTTGGCTGCCTGGCCGTTGATCTGCACCGATTTGAG
TTTCAGCGTATAGGTTTTGCCGTCGTCGGTATAGCCGATTGTGCCGGAATATTGTTCAG
GGACGGTGCGAAGAAATACATTACCGCATCGTCGCCGCGCCGCACCCGATATTTGACGAC
TTCGGTTTCCACGCCGCCTATGCTGTATTTTCCTGTACCCGCCTTATTCAAACCGCCGAC
GGAATAAAGTTTTTTGCCGTTGGTGATTTTCAGCCCCGGGGGGAGTTTCGCGTCATTTGC
CGCCAACTGCCAGGCAAGCGTGAACAAATCCATAGCCTTGGGGCTTTGCTCGGTTTTGCT
CTCGCCCGCTTTGCCGTAAGTTACGCTGCCGTCGGCGAATTTGGCTTCCGCATACAGTTT
GCCCCTGCGTATGTCTCTATAGTAGGTAGGGTGCAGGGTATTGCCGACAACCGTACCGCC
GGACTCGAAACGGATATTGTATAGCGGCACTTTAATCGTCGAAACGATTTTGTAAGCATT
GCCGCTGCGTTCAAATGTCATCGTGGCGGGAATGCCGTAGCTGCCGGAATAGTGCAGCAC
GGCGGATTGGGGCAGCCCTGCCGCATACGCGCACGGCAGGGCGGCGGACAAAATGGCGGC
GGAAAATATATTTTTAAAAGTCTTCATCATTTGCTCCCGCCCGGTTTACGCCGTCAGAAA
```

```
ACGGGCGGCATCGGCGTTTTCCGAATTTCTGACGCGGTTTCCCTCAATAATCAGGCGGCC
GGCGGCAAAATCGGCAACGGCTTTCGGATAAAGTTTATGCTCGACAGCCAAAACCCGTGC
GGCAATATCGTCTGCCGTATCGCCGTCGAGTATCGGCACAACCCCTTGCGATACAATCGG
GCCGCAATCCAGTTCGGCAGTAACGAAATGGATGGTGCAGCCGGCAACGCGGCAGCCCGC
CTCCAAAGCGCGTTCGTGCGTATGAAGTCCGGTAAACGAGGGAAGGATGGACGGGTGAAT
GTTCATCAGCCTGCCTTCGTAACGGGCGCAAAACTCGGGGGTCAGAATCCGCATAAAACC
TGCCAAAACCACCAAGTCGGGTTGATATGCGTCGATTTTCTCCATCATGGCGGTATCGAA
GGCAAGCCGGGATGTAAAGTTTTTATGATTCAGGCTATCGGTCGGGATGCCGCGTTCGGC
CGCCCATTGCAAACCGGCAGCCGTTTCGCTGTTGCTCAACACGGCGGCAATGCGGACGTT
GTGAATGGCGGCATTGACGATTGCCTGCATATTGCTGCCGCGTCCAGAAATCAGGATGAC
GATGTTTTTCATAATGGTGCGCTTTTGAAAGGGATGCCGTCTGAACCGCTGTTTGGTGGT
TTCAGACGGCATTTGCCGTAAAAATGCCCGAAAACCTGTTTCGGGCATGGATTCGGACTT
AATTTACTTTTTTGATGTCGACTTGAGCCGGCTGCTTGGCGGGCGCGTTTTCGGGTGCGC
CGATTTTGACCAGTTTCACATCAAATACCAAAGTGGCGTTCGGACCGATTTTGTCGCCCG
CACCCTGTTCGCGGTAGGCAAGGTTGGACGGGATGTAGAACGTGGCTTCGCCGCCTTCTT
TCAGAAGCTGTACGCCTTCGGTCCAACCCGGAATCACTTGGCTCAAAGGGAAGGTGACCG
GGCCGCCGTTGGCTTTGCTGCTGTCGAATACCGTACCGTCAATCAGGCGGCCTTCGTATT
CCACGGTAACGATGTCGTCTTTGGTCGGCTGTTTGCCTTCGCCCTGTTTGGTGATTTTGT
ATTGCAGGCCGGAAGCAGTGGTCTTCACGCCGTCTTTGGCGGCATTTTCTTTCAGAAAGG
CTTCGCCTTTTTCTTTATTGGCCTTCGCGTCCGCCTTGTGTTTTTCTACGGCTTTAGCCT
GTTGTTCCTGAAGGAATTTCATCATGACTTCCTGAGCCTGCTCTTCGGTCATTTTGATTT
CTTTGCCGTCATACACTGCCTGCATGGCTTCGGTAAAGACTTTCAAATCGATTTCCGCGC
CCTGTTCCTTCATTTGCTTCAGGGAGCGTCCGATGTCCACGCCCATCGCATAGCTTGCCT
GCTGCATCGTGCTGCCGATCGAAGAGGTGTCGCCCTGCGCGGAAGAAGCGGCGGCAGGTT
CGGATGCAGATGCGGGGGCGGCTTCTTTTTTGCCGCAGGCGGAAAGTGCCAAAGCGGCGG
AAAGGGTCAGTGCGCTGATTTTGAAAATGGTGTTCATGATGGATCTTCGCTGTCGATAAG
GTCGGAAAAACGGGATTATAGCCGAGTTTGAATGTTTCAACACACAGGATGACACATAAA
GCGTCAATCGTGTGTTGCCCTGTTTTGGAAGGGATTGAACCTTCCAAAATAAGTTTTGAT
TCTACCGCCCCGAGGGACAGATGTCCAAGTGGCGGGGTTCAACCGATAAGGAAATTTTAA
TCAAATAGAATCAAGCCTGTTTAAATTTTGTAAATGCGGCATTTCAGACGGCATTTTATG
CCTTGCCCTCCATGCCGTGATGTTCGATGGCAAAACCGCTTCGGCGGTAGGCGGTAAAGC
GTTCGCGCGCGTCGGCGAGCTCTTCCAAGCTGTTGCCGACGATTTCCAAAACGCGCGCGG
GCAAGACCGGAGCGGTGTTCCAAAAACCGTCGGACAGGTTCAAAACGGTCATGCCTTCGG
GAATTCGGGGCAGATTGCCGCCGCAGGCAAGCAGGACGGATGGTTCAGACGGCATGGCTT
CTTCCGTTTCCCAAATTTCGTGCGGAATGAAACTCTCGGCCTCGTATTGCCAAAGCATTT
TGTCCAATTCCTGAAGCTGCCCGAACGAATCGGACCACACCAGTATCCTGCCGCCGTCCC
GAATCGCACGGGCAATCAGGCGGCAGGTGAAAATCGGAACTTGGGCAACGTGCGTGTAAA
AGGTGGCTTTCGGCATATTGTTTGAACATTTGGCAGGATAATGCCGTCTGAAAGGCTTCA
GACGGCATTGTGGGAAAATTAAAGATTCCGCAGATAGTTCAGCAGCAAGGGAACGGGACG
GCCGGTCGCACCTTTTTCCGCACCGGATTTCCACGCCGTACCCGCGATGTCAAGGTGTGC
CCATGGATAGTCTTCGGTAAAGTAGGATAGGAATGTTGCGGCGGTAATCGTGCCCGCGCC
GGGCGTGCCGATGTTTGGAATGTCGGCAAAGTTGGATTTGAGTTGGTCTTTGTAGGTCTC
AAAGAGCGGCAGTTGCCATGCTTTGTCGTCCACGTTGTAGAAGCGGCAAGCAGGCTGTCG
ATCAAATCCTGATTGTTGCCCATCACGCCGCTGACATCGTGCCCCAAGGCAACAATACAC
GCGCCGGTCAGGGTGGCGACGTCGATGACGGCTTTGGGTTTGAACTGCTCGGCGTAAGTG
AGCGCGTCGCACAAAATCAGACGGCCTTCGGCATCGGTGTTCAACACTTCGATGGTCAGC
CCTTTCATACTTTTCACGACATCGCCCGGTTTGTTTGCCGCGCCGGAAGGCATATTTTCA
CAAGTGGCGACGACGGCAATCAGGTTAATCGGCAGTTGCAGTTTGACGGCGGCGCAGAAG
GTGCTGATGACGGTTGCCGCTCCGCACATATCAAACTTCATTTCGTCCATGTTCAGGCCG
GGCTTGAGGGAGATGCCGCCGGTGTCGAAGGTAATGCCTTTGCCGACCAATACCACAGGC
GCGGCTTCTTTGTCGGCTGCACCGAAATAGCTCAGTTCGACCAAATAGGGGGCTTCCGCG
CTGCCTTTGGCGACCGACCAAAACGAACCCATGTTTTCTTTGATGTAGTCTTTTTCGATG
ATTTTGGCGTGCGCGCCCAGTTTTTCGGCTTCGGCTTTGGCGGTGCGCGCTAAAAATTCG
GGCGTGCATTCGTTGGGCGCGGCGTTGCCCAAGTCGCGGCAGAGGCTTTGTCCGTAAACT
TGCGCTTCGGCGACGCGCAAGGCTTCTTTGACGGCGGCTTCGTGCGCGGTATGGAACACG
GCAGTTTCAAATTTGGCGGGCTTGGCTTCTTTTTTGTAGCGGTCGAAACGGTAGGCGGCA
TTGCCGAACGCAATCGCAAACGCTTCGGCAACGGCTGCAGCCTGCGCTTCTTCAAAGACG
TGAACGTCCACATTGACCGTTTCCTGATTTTGCGCCCATTTGGCGGCTTCGGCGGCGGCC
TTGTTCAATGCGGCGCGGCCGGTGCTTTTCAGACAGCATACGGCAACAGCCTGCAAACCG
```

```
ACGGGCGGCATCGGCGTTTTCCGAATTTCTGACGCGGTTTCCCTCAATAATCAGGCGGCC
GGCGGCAAAATCGGCAACGGCTTTCGGATAAAGTTTATGCTCGACAGCCAAAACCCGTGC
GGCAATATCGTCTGCCGTATCGCCGTCGAGTATCGGCACAACCCCTTGCGATACAATCGG
GCCGCAATCCAGTTCGGCAGTAACGAAATGGATGGTGCAGCCGGCAACGCGGCAGCCCGC
CTCCAAAGCGCGTTCGTGCGTATGAAGTCCGGTAAACGAGGGAAGGATGGACGGGTGAAT
GTTCATCAGCCTGCCTTCGTAACGGGCGCAAAACTCGGGGGTCAGAATCCGCATAAAACC
TGCCAAAACCACCAAGTCGGGTTGATATGCGTCGATTTCTCCATCATGGCGGTATCGAA
GGCAAGCCGGGATGTAAAGTTTTTATGATTCAGGCTATCGGTCGGGATGCCGCGTTCGGC
CGCCCATTGCAAACCGGCAGCCGTTTCGCTGTTGCTCAACACGGCGGCAATGCGGACGTT
GTGAATGGCGGCATTGACGATTGCCTGCATATTGCTGCCGCGTCCAGAAATCAGGATGAC
GATGTTTTTCATAATGGTGCGCTTTTGAAAGGGATGCCGTCTGAACCGCTGTTTGGTGGT
TTCAGACGGCATTTGCCGTAAAAATGCCCGAAAACCTGTTTCGGGCATGGATTCGGACTT
AATTTACTTTTTTGATGTCGACTTGAGCCGGCTGCTTGGCGGGCGCGTTTTCGGGTGCGC
CGATTTTGACCAGTTTCACATCAAATACCAAAGTGGCGTTCGGACCGATTTTGTCGCCCG
CACCCTGTTCGCGGTAGGCAAGGTTGGACGGGATGTAGAACGTGGCTTCGCCGCCTTCTT
TCAGAAGCTGTACGCCTTCGGTCCAACCCGGAATCACTTGGCTCAAAGGGAAGGTGACCG
GGCCGCCGTTGGCTTTGCTGCTGTCGAATACCGTACCGTCAATCAGGCGGCCTTCGTATT
CCACGGTAACGATGTCGTCTTTGGTCGGCTGTTTGCCTTCGCCCTGTTTGGTGATTTTGT
ATTGCAGGCCGGAAGCAGTGGTCTTCACGCCGTCTTTGGCGGCATTTTCTTTCAGAAAGG
CTTCGCCTTTTTCTTTATTGGCCTTCGCGTCCGCCTTGTGTTTTTCTACGGCTTTAGCCT
GTTGTTCCTGAAGGAATTTCATCATGACTTCCTGAGCCTGCTCTTCGGTCATTTTGATTT
CTTTGCCGTCATACACTGCCTGCATGGCTTCGGTAAAGACTTTCAAATCGATTTCCGCGC
CCTGTTCCTTCATTTGCTTCAGGGAGCGTCCGATGTCCACGCCCATCGCATAGCTTGCCT
GCTGCATCGTGCTGCCGATCGAAGAGGTGTCGCCCTGCGCGGAAGAAGCGGCGGCAGGTT
CGGATGCAGATGCGGGGGCGGCTTCTTTTTTGCCGCAGGCGGAAAGTGCCAAAGCGGCGG
AAAGGGTCAGTGCGCTGATTTTGAAAATGGTGTTCATGATGGATCTTCGCTGTCGATAAG
GTCGGAAAAACGGGATTATAGCCGAGTTTGAATGTTTCAACACACAGGATGACACATAAA
GCGTCAATCGTGTGTTGCCCTGTTTTGGAAGGGATTGAACCTTCCAAAATAAGTTTTGAT
TCTACCGCCCCGAGGGACAGATGTCCAAGTGGCGGGGTTCAACCGATAAGGAAATTTTAA
TCAAATAGAATCAAGCCTGTTTAAATTTTGTAAATGCGGCATTTCAGACGGCATTTTATG
CCTTGCCCTCCATGCCGTGATGTTCGATGGCAAAACCGCTTCGGCGGTAGGCGGTAAAGC
GTTCGCGCGCGTCGGCGAGCTCTTCCAAGCTGTTGCCGACGATTTCCAAAACGCGCGCGG
GCAAGACCGGAGCGGTGTTCCAAAAACCGTCGGACAGGTTCAAAACGGTCATGCCTTCGG
GAATTCGGGGCAGATTGCCGCCGCAGGCAAGCAGGACGGATGGTTCAGACGGCATGGCTT
CTTCCGTTTCCCAAATTTCGTGCGGAATGAAACTCTCGGCCTCGTATTGCCAAAGCATTT
TGTCCAATTCCTGAAGCTGCCCGAACGAATCGGACCACACCAGTATCCTGCCGCCGTCCC
GAATCGCACGGGCAATCAGGCGGCAGGTGAAAATCGGAACTTGGGCAACGTGCGTGTAAA
AGGTGGCTTTCGGCATATTGTTTGAACATTTGGCAGGATAATGCCGTCTGAAAGGCTTCA
GACGGCATTGTGGGAAAATTAAAGATTCCGCAGATAGTTCAGCAGCAAGGGAACGGGACG
GCCGGTCGCACCTTTTTCCGCACCGGATTTCCACGCCGTACCCGCGATGTCAAGGTGTGC
CCATGGATAGTCTTCGGTAAAGTAGGATAGGAATGTTGCGGCGGTAATCGTGCCCGCGCC
GGGCGTGCCGATGTTTGGAATGTCGGCAAAGTTGGATTTGAGTTGGTCTTTGTAGGTCTC
AAAGAGCGGCAGTTGCCATGCTTTGTCGTCCACGTTGTAGAAGCGGCAAGCAGGCTGTCG
ATCAAATCCTGATTGTTGCCCATCACGCCGCTGACATCGTGCCCCAAGGCAACAATACAC
GCGCCGGTCAGGGTGGCGACGTCGATGACGGCTTTGGGTTTGAACTGCTCGGCGTAAGTG
AGCGCGTCGCACAAAATCAGACGGCCTTCGGCATCGGTGTTCAACACTTCGATGGTCAGC
CCTTTCATACTTTTCACGACATCGCCCGGTTTGTTTGCCGCGCCGGAAGGCATATTTTCA
CAAGTGGCGACGACGGCAATCAGGTTAATCGGCAGTTGCAGTTTGACGGCGGCGCAGAAG
GTGCTGATGACGGTTGCCGCTCCGCACATATCAAACTTCATTTCGTCCATGTTCAGGCCG
GGCTTGAGGGAGATGCCGCCGGTGTCGAAGGTAATGCCTTTGCCGACCAATACCACAGGC
GCGGCTTCTTTGTCGGCTGCACCGAAATAGCTCAGTTCGACCAAATAGGGGGCTTCCGCG
CTGCCTTTGGCGACCGACCAAAACGAACCCATGTTTTCTTTGATGTAGTCTTTTTCGATG
ATTTTGGCGTGCGCGCCCAGTTTTTCGGCTTCGGCTTTGGCGGTGCGCGCTAAAAATTCG
GGCGTGCATTCGTTGGGCGCGGCGTTGCCCAAGTCGCGGCAGAGGCTTTGTCCGTAAACT
TGCGCTTCGGCGACGCGCAAGGCTTCTTTGACGGCGGCTTCGTGCGCGGTATGGAACACG
GCAGTTTCAAATTTGGCGGGCTTGGCTTCTTTTTTGTAGCGGTCGAAACGGTAGGCGGCA
TTGCCGAACGCAATCGCAAACGCTTCGGCAACGGCTGCAGCCTGCGCTTCTTCAAAGACG
TGAACGTCCACATTGACCGTTTCCTGATTTTGCGCCCATTTGGCGGCTTCGGCGGCGGCC
TTGTTCAATGCGGCGCGGCCGGTGCTTTTCAGACAGCATACGGCAACAGCCTGCAAACCG
```

TTGCCTGTCGGGATTTTTGTGTCGGCAAAATTTTGACCTTCTTCAAGCGAAGACAAAAGG
GCAAGGACGGTCGGGTTGCTCAGTTGCGATGCTTCGGTGCAGACAAATAACTGTGCGCCT
GCCTGCTGTTCCTGCAAGATTTCGGTTTTTGTGCTAAATTCCACGTTTATTCTCCTGATT
GAGACGGTTGTCGGTAGTTTTCGGACGGCCTTTCGCTCAAAAGACCGTCTGAAGACGGCT
GGCACGATTGTACCCCATTTGAAGCACCGTCTGAAACCTTGCGCGGACAATCCGCCTGCG
CCGAACCGCTTACCGCCCCCCTGACCGCGATTCTATGATTTATCAAAGAAACCTCATCAA
AGAACTCTCTTTTACCGCCGTCGGCATTTTCGTCGTCCTCTTGGCGGTATTGGTCTCCAC
GCAGGCAATCAACCTGCTCGGCCGTGCCGCCGACGGGCGTGTCGCCATCGATGCCGTGTT
GGCATTGGTCGGCTTCTGGGTCATCGGTATGACGCCGCTTTTGCTGGTGTTGACCGCATT
TATCAGTACGTTGACCGTGTTGACCCGCTACTGGCGCGACAGCGAAATGTCGGTCTGGCT
ATCCTGCGGATTGGCATTGAAACAATGGATACGCCCGGTGATGCAGTTTGCCGTGCCGTT
TGCCGTTTTGGTTGCCGTCATGCAGCTTTGGGTGATACCGTGGGCAGAGCTACGCAGCCG
CGAATACGCTGAAATCCTGAAGCAGAAGCAGGAATTGTCTTTGGTGGAGGCAGGCGAGTT
CAACAGTTTGGGCAAGCGCAACGGCAGGGTTTATTTTGTCGAAACCTTCGATACCGAATC
CGGCATCATGAAAAACCTGTTCCTGCGCGAACAGGACAAAAACGGCGGCGACAACATCAT
CTTCGCCAAAGAAGGTAACTTCTCGCTGAACGACAACAAACGCACGCTCGAATTGCGCCA
CGGCTACCGTTACAGCGGCACGCCCGGACGCGCCGACTACAATCAGGTTTCCTTCCAAAA
ACTCAACCTGATTATCAGCACCACGCCCAAACTCATCGACCCCGTTTCCCACCGCCGTAC
CATTCCGACCGCCCAACTGATTGGCAGCAGCAACCCGCAACATCAGGCGGAATTGATGTG
GCGCATCTCGCTGACCGTCAGCGTCCTCCTACTCTGCCTGCTTGCCGTGCCGCTTTCCTA
TTTCAACCCGCGCAGCGGACATACCTACAATATCTTGATTGCCATCGGTTTGTTTTTAAT
TTACCAAAACGGGCTGACCCTGCTTTTTGAAGCCGTGGAAGACGGCAAAATCCATTTTTG
GCTCGGACTGCTGCCTATGCACATTATCATGTTTGCCGTTGCACTCATCCTGTTGCGCGT
CCGCAGTATGCCCCAGCCCTTCTGGCAGGCGGTTGGCAAAAGTCTGACATTGAAAGG
CGGAAAATGAACCTGATTTCACGTTACATCATCCGTCAAATGGCGGTTATGGCGGTTTAC
GCGCTCCTTGCCTTCCTCGCTTTGTACAGCTTTTTTGAAATCCTGTACGAAACCGGCAAC
CTCGGCAAAGGCAGTTACGGCATATGGGAAATGCTGGGCTACACCGCCCTCAAAATGCCC
GCCCGCGCCTACGAACTGATTCCCCTCGCCGTCCTTATCGGCGGACTGGTCTCCCTCAGC
CAGCTTGCCGCCGGCAGCGAACTGACCGTCATCAAAGCCAGCGGCATGAGCACCAAAAAG
CTGCTGTTGATTCTGTCGCAGTTCGGTTTTATTTTTGCTATTGCCACCGTCGCGCTCGGC
GAATGGGTTGCGCCCACACTGAGCCAAAAAGCCGAAAACATCAAAGCCGCCGCCATCAAC
GGCAAAATCAGCACCGGCAATACCGGCCTTTGGCTGAAAGAAAAAAACAGCATTATCAAT
GTGCGCGAAATGTTGCCCGACCATACGCTTTTGGGCATCAAAATTTGGGCGCGCAACGAT
AAAAACGAATTGGCAGAGGCAGTGGAAGCCGATTCCGCCGTTTTGAACAGCGACGGCAGT
TGGCAGTTGAAAAACATCCGCCGCAGCACGCTTGGCGAAGACAAAGTCGAGGTCTCTATT
GCGGCTGAAGAAAACTGGCCGATTTCCGTCAAACGCAACCTGATGGACGTATTGCTCGTC
AAACCCGACCAAATGTCCGTCGGCGAACTGACCACCTACATCCGCCACCTCCAAAACAAC
AGCCAAAACACCCGAATCTACGCCATCGCATGGTGGCGCAAATTGGTTTACCCCGCCGCA
GCCTGGGTGATGGCGCTCGTCGCCTTTGCCTTTACCCCGCAAACCACCCGCCACGGCAAT
ATGGGCTTAAAACTCTTCGGCGGCATCTGTCTCGGATTGCTGTTCCACCTTGCCGGACGG
CTCTTCGGGTTTACCAGCCAACTCTACGGCATCCCGCCCTTCCTCGCCGGCGCACTACCT
ACCATAGCCTTCGCCTTGCTCGCCGTTTGGCTGATACGCAAACAGGAAAAACGTTGAACC
AATGCCGTCTGAACCTCTCTTCAGACGGCATTTGTTTTCATTGACACATTCCCACAGACA
GATAGCCGTTCCCTATTACATTACCTGTCATAACAGTTCCATTTTTGTTAAAACTAGTCT
ATGATAGCGGTACAAATATTGTTTACAATATTTAACGCAAATCATTTGCAACCCGACAAA
AGAAAAACAGAAAAAGGAACAAAGAGATGTTAGAAGCCTATCGTAAAGCCGCCGCCGAGC
GCGCCGCCCTCGGCATTCCCGCCCTCCCTTTGAACGCGCAGCAAACCGCCGATTTGGTTG
AGCTGCTGAAAAGCCCGCCCGCAGGCGAAGGCGAGTTCTTGGTCGAACTGCTTGCCCACC
GTGTTCCGCCCGGTGTGGACGATGCCGCCAAAGTCAAAGCCTCATTCCTGGCTGCCGTTG
CCGAAGGCAGCGCGTCCAGCCCGCTGATCTCCCCCGAATATGCGACCGAACTCTTAGGTA
CAATGCTCGGCGGTTACAATATTCACGCCTTAATCGAACTCTTGGACGACGACAAACTCG
CGTCCATTGCTGCCAAAGGCTTGAAACATACGCTTCTGATGTTCGATTCCTTCCACGACG
TTCAAGAAAAAGCCGAAAAAGGCAACAAATACGCGCAAGAAGTTTTGCAATCTTGGGCAG
ATGCCGAATGGTTCGCCTCACGCGCCAAAGTTCCCGAAAAAATCACCGTTACCGTTTTCA
AAGTTGACGGCGAAACCAATACAGACGACCTCTCCCCCGCGCCCGACGCGTGGAGTCGTC
CCGATATTCCGCTGCACGCGCTGGCCATGCTGAAAAACCCGCGCGACGGCATCACGCCCG
ACAAACCGGGCGAAGTCGGTCCGATTAAATTGTTGGAAGAACTCAAAGCCAAAGGCCATC
CGGTTGCTTACGTCGGCGACGTGGTCGGTACTGGTTCTTCACGCAAATCCGCGACCAACT
CCGTCATTTGGCATACCGGCGAAGACATTCCGTTCGTGCCGAACAAACGCTTCGGCGGCG

```
TATGTTTGGGCGGCAAAATCGCGCCGATTTTCTTCAATACCCAAGAAGATTCCGGCGCGC
TGCCGATTGAAGTCGATGTATCTGCTCTAAAAATGGGCGATGTCGTCGATATCCTGCCTT
ATGAAGGCAAAATCGTGAAAAACGGCGAGACTGTTGCCGAGTTTGAATTGAAATCACAAG
TATTGCTGGACGAAGTGCAAGCCGGCGGCCGTATCAACCTGATTATCGGCCGAGGTCTGA
CCGCCAAAGCGCGCGAAGCCCTGAAACTGCCTGCCTCTACTGCATTCCGCCTGCCGCAAG
CGCCTGCCGAAAGCAAAGCCGGTTTCACCTTGGCGCAAAAAATGGTCGGCCGCGCCTGCG
GTCTGCCCGAAGGACAAGGCGTGCGCCCGGGTACTTACTGCGAACCGCGTATGACGACGG
TCGGCTCGCAAGACACGACCGGCCCGATGACCCGCGACGAGTTGAAAGACTTGGCTTGTT
TGGGCTTCTCCGCCGATATGGTGATGCAGTCTTTCTGCCACACCGCCGCCTATCCGAAAC
CTGTCGATGTAAAAACCCATAAAGAACTGCCCGCCTTTATTTCCACCCGTGGCGGCGTGT
CACTGCGTCCGGGCGACGGCGTCATCCACTCGTGGCTCAACCGCCTGCTGCTGCCCGATA
CCGTCGGCACCGGCGGCGACAGCCATACCCGTTTCCCCATCGGTATTTCCTTCCCCGCCG
GCTCCGGCTTGGTTGCCTTTGCCGCCGCAACGGGCGTAATGCCGCTCGATATGCCCGAGT
CTGTATTGGTACGCTTCAGCGGCAAGCTGCAACCGGGCGTAACCCTGCGCGATTTGGTGA
ACGCCATCCCGCTGTACGCAATCAAACAAGGTTTGCTGACCGTTGCCAAAGCCGGTAAGA
AAAACATCTTCTCCGGCCGCATCCTCGAAATCGAAGGCCTGCCTGATTTGAAAGTGGAAC
AAGCCTTTGAATTGACCGACGCATCCGCCGAACGCTCCGCCGCCGGCTGTACCGTGAAGC
TCAACAAAGAGCCGATTATCGAGTACATGAAATCCAACGTCGTGTTGATGAAAAACATGA
TTGCCAACGGCTATCAAGACCCGCGCACTTTGGAACGCCGCATCAAGCTATGGAAAAAT
GGCTGGCAAATCCCGAGTTGCTCGAAGCGGATAAAGATGCCGAATACGCCGCCGTGATTG
AAATCAACATGGACGACATCAAAGAGCCGATTATCGCCTGCCCGAACGACCCGGACGACG
TGTGCTTCATGTCCGAACGCTCCGGCACCAAAATCGACGAAGTATTCATCGGTTCGTGTA
TGACCAACATCGGCCACTTCCGCGCCGCCCTCCAAACTTTTGGAAGGCAAGGCAGACACCC
CCGTCCGCCTGTGGATTGCGCCGCCGACCAAAATGGACGCGAAACAATTGTCCGACGAAG
GACACTACGGCGTACTCGGACGTGCCGGCGCGCGTATGGAAATGCCGGGTTGCTCCTTAT
GTATGGGTAATCAGGCGCAAGTACGCGAAGGTGCGACCGTTATGTCCACCTCCACCCGCA
ACTTCCCGAACCGTTTGGGTAAAAACACCTTTGTTTACCTCGGTTCGGCGGAATTGGCAG
CGATTTGCTCCAAACTGGGTAAAATCCCGACCGTTGAAGAATATCAAGCCAATATCGGCA
TCATCAACGAACAGGGCGATAAAATCTACCGCTATATGAACTTCAACGAAATCGACAGCT
ACAACGAAGTAGCCGAGACCGTGAACGTTTAATCCCCGTCATCCGTATGAAGTAAGGGAT
TGACCGCAATGCCGTCTGAACAACCTTCAGACGGCATTGCAACATTCCGCTAACCCTTCT
TTCCGCAAACGCTGCAAATACGGCGTTCACGCCCCCACATAAAGGAAACGACAGTGAACC
TGAAAAACCGCCATTTTCTGAAACTTTTAGACTTCACGCCGGAAGAAATCACCGCCTACC
TCGACCTTGCCGCCGAATTGAAAGCCGCCAAAAAAGCAGGGCGCGAGATTCAGCGGATGA
AAGGGAAAAACATCGCCCTGATTTTTGAAAAAACCTCTACTCGGACGCGCTGCGCGTTTG
AAGTCGCCGCGCGCGATCAAGGCGCGGGAGTGACTTATTTAGAGCCGTCCGCCAGCCAAA
TCGGGCATAAGGAAAGCATCAAAGACACCGCCCGCGTGTTGGGCAGGATGTACGATGCCA
TCGAATATCGCGGTTTCGGTCAGGAAGTTGTTGAAGAATTGGCGAAATACGCGGGCGTAC
CCGTGTTCAACGGGCTGACCAACGAGTTCCATCCCACACAAATGCTTGCCGACGCACTGA
CTATGCGCGAACACAGCGGCAAACCTTTGAACCAAACCGCGTTTGCCTACGTCGGCGACG
CGCGTTACAACATGGGCAATTCCCTGCTGATTTTAGGGGCAAAATTGGGGATGGACGTGC
GTATCGGCGCACCGCAAAGCCTGTGGCCGTCTGAAGGCATTATTGCCGCCGCACACGCCG
CCGCCAAAGAAACCGGCGCAAAAATTACCCTGACCGAAAACGCGCATGAAGCCGTGAAGA
ATGTTGATTTTATTCATACCGATGTGTGGGTCAGCATGGGCGAGCCGAAAGAAGTCTGGC
AGGAACGCATCGATTTGCTGAAAGATTACCGCGTTACGCCCGAACTGATGGCGGCATCGG
GCAATCCGCAAGTCAAATTCATGCACTGCCTGCCCGCCTTCCACAACCGCGAAACCAAAG
TCGGCGAATGGATTTACGAAACCTTCGGGCTGAACGGTGTGGAAGTTACAGAAGAAATAT
TCGAAAGCCCCGCCAGCATCGTGTTCGATCAGGCGGAAAACCGTATGCACACGATTAAAG
CGGTAATGGTCGCGGCTCTGGGCGACTGACAGAACTGTGCCTGTTTAAATTCATCCGCAA
CACAGATACCGTCTGAACACGATGTTCAGACGGTATCCATATATAGTGGATTAAATTTAA
ACCAGTACGGCGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCT
TGTCCTGATTTTTGTTAATCCACTATAAAAAAACTGCCTACACGATGTGTAGGTAGTCCC
GTTTGAAAACAATCAGTTTTTGTCTTGGTCAACCAATTTGTTGGCAGTAATCCAAGGCAT
CATGGCACGCAGTTGTGCGCCGACTTTTTCAACTTGGTGGTCGGCATTCAGACGGCGGCG
GGCAGTCATAGACGCATAGTTGACATTACCCTCTTGGATAAACATTTTTGCGTATTCGCC
GGTTTGAATGCGTTTCAGGGCATTGCGCATGGCTTCTTTGCTGGAAGCATTGACCACTTC
AGGGCCGGTAACGTATTCGCCGTACTCCGCATTGTTGGAAATGGAGTAGTTCATATTGGC
AATACCGCCTTCGAAAATCAGGTCAACGATCAGTTTCATTTCGTGCAGACATTCGAAGTA
AGCCATTTCAGGCGCGTAACCGGCTTCGGTCAGGGTTTCAAAACCCGCCTTGATCAACTC
```

```
GACCACGCCGCCGCACAATACGGCTTGTTCGCCGAACAGATCGGTTTCGGTTTCTTCGCG
GAAAGTGGTTTCAATCACACCGCCTTTGGTGCCGCCGTTGGCAGCCGCATAAGACAGGGC
GATGTCTTTGGCTTTGCCGGAATTGTCTTGGTAAACGGCAATCAGAGAAGGCACGCCGCC
GCCGCGTTTGTATTCACTGCGTACGGTATGGCCCGGACCTTTGGGGGCAACCATAATCAC
GTCCAAGTCGGCACGCGGAACGATTTGGTTGTAGTGCACGTTGAAGCCGTGTGCAAATGC
CAGCGTTGCGCCTTCTTTCAAATTGGCTGTAACTTCGGCGTGATAGACGGCAGGCATGGT
TTCGTCAGGCAGCAGCAGCATAACGACATCGGCTTCTTTGGTCGCTTCAGCAACGGTTTT
GACGACATGACCGGCTGCTTCGGCTTTTTTCCAAGAAGAACCTTGGCGCAGACCAATCAC
CACGTTTACACCCGAATCTTTCAGGTTGGCGGCATGGGCATGACCTTGCGAACCGTAACC
GATGATGGCAACGGTTTTGCCTTTGATTAGGGACAGATCGGCATCTTTATCGTAATAGAC
TTGCATTTGATTTCCTTTAAGGTAAATGGTTGTCGAAGCCTTAAAATGTTGAGCGGCTTC
GGACGGGTTAAACAGAGTGTGCCGCTTAATCGGCAACTTCATTCATCAATACGATTTCCA
ACGCTTCGGTTTTGCCGTCGACGGACTGGACGAAGGCTTGGAAATGCGCGCTGGCGTTAT
GTTCGTCAATAGCTGCTTGAGATTTCCAATTTTCCACGAAAACAAACGGTTCGGTTTGC
CGATTTCCTGATGGAGATCGTAGCTGATGTTGCCCTCTTCTGCACGGCTGGCTTTGACCA
GTTCTTTAAACTGTGCTGCCAGTGTTTCTGTGTATTCCGGTTTGACGGTAACCAGTGCGA
CAATTTTAATGTTCGACATAAATCTCTCCTGCCGTTCGTTTTTCAGACGACATTCAAATA
CCGTGCCGTCTGAAAGGTTACGGCGTTAAATTTTCAAAATACGCTCACCGCGACCGATGC
CGGCCGCGCCTGTGCGTACGGTTTCCAAAATTTGGGCGCGTCCGACCGTTTCCAAAAAGG
AATCCAGCTTGTCTGTCGAGCCGGTAATTTCAATCGTATAGCTGCGGTCGGTTACGTCGA
TGATGCTGCCCCGGTAGATTTCGGTCAAGCGTAAAAATTCGTCGCGGTCTTTGCCGGCGG
CACGGACTTTTACCAACATCAGTTCGCGTTCGACAAAACGGCTTTCATTCAAATCGACCA
CTTTAATCACTTCAATCAATTTATTGAGTTGCTTGGTAATTTGTTCGATGACCTGCTCGT
CGCCGTGGGTAACGATGGTCATCCGTGACAGGGTTTTGTCTTCGGTCGGCGCAACCGCCA
AAGAATCGATATTGTAATCGCGTGCAGAGAACAAACCGACCACGCGGCTCATCGCACCTG
ATTCGTTTTCAATCAGAACAGATAAGATATGTCGCATTTGTCTCTCCTTACGCCTTTCCG
TCCGCACGCATATGCGGCGGAAGTACCATTTCGTCCAAACCTTTGCCGTTGCCGACCATG
GGCATCACATTCTGTTTCTGGTCGGTCAGGAAGTCGATAAACACCAGCCTGTCTTTTTGG
TTCAATGCTTCCAACAACGCACCTTCCACATCAGACTTCTTGTCCACGCGGATACCGATA
TGGCCGTATGCCTCGGCAAGTTTGACGAAATCGGGCAAAGAATCGAAATAGGTTTCCGAC
TCTCGTCCGCCGTAATATATTTCCTGCCACTGGCGTACCATACCGAGATAACCGTTGTTC
AGCGTAATGACGTTAACCGGAATCCGATATTGGAAACAGGTGGACAGCTCTTGGATGTTC
ATCTGGATCGAGCCGTCGCCGGTGATACAGAATACGTCTTGATCCGGGGCGGCAAGTTTT
GCACCAATCGCATAAGGCAGACCCACGCCCATCGTACCCAAACCGCCGGAATTGAGCCAT
TGGCGCGGACGTTCGAAGGGATAATATTGAGCCGCAAACATTTGATGCTGCCCTACATCC
GATGTGATGATTGCCGAATTGCCGGTAATCTCGGCAAGCTTCTGAATCACATATTGTGGC
TTGATAATTTCGCTGCCGTTGTCAAACCACAAGCAATCTCGGGAACGCCATTCCTCTATG
GTTTTCCACCATTTGCCCAAAGCATCTTCAGACGGCACGGACTCTTGTTTTTGCCACAGC
GCAACCATCTCGGACAAAACGTTTTTCACGTCGCCGACAATCGGAATGTCCACCTTCACG
CGTTTGGCGATGCTGGAAGGATCGACATCGATATGGATAACCTTCTTCGCCTTCTCGAAA
AATTTGGACGGTACGGAAACCACACGGTCGTCAAAACGCGCACCTACGGCAAGAACGACA
TCCGCATTCTGCATGGCAAGGTTTGCCTCGTAAGTACCGTGCATACCGAGCATACCGAGG
AATTGGCGGTCGCCGGAAGGATAAGCGCCCAAGCCCATCAGCGTACCCGTGCACGGAGCA
CCCGTCATTCGGACAAATCGGGTCAGCTCTTCAGAAGCATTACCCAACACCACGCCGCCG
CCAAAATAGACGACCGGACGTTGGCAGATGCCAACATCTGCACGGCCTTTTTAATCTGA
CCGATATGTCCTTGAACAACCGGTTGATACGAACGGATAAAAATGTCTTCCTGAGGATAG
CTGAATTTCGCCATCGCCTGCGTAACATCTTTCGGGACATCAACCACCACGGGCCCCGGT
CGGCCGCTTGCGGCAATTTGGAACGCCTTTTTAATGGTTTCCGCCAACTCATTGATGTCC
GTAACCAGGAAATTGTGTTTGACGCACGGACGGGTAATACCCACCGTATCAACTTCTTGG
AACGCATCCGTACCAATCAGGGAATTGCCTACCTGCCCGCTGATGACCACCATCGGAATC
GAATCCGTATAGGCAGTAGCAATACCGGTCAGTGCATTGGTAACGCCCGGGCCGGATGTA
ACCAATGCCACGCCCACCTTACCGCTGACGCGCGCATACGCATCTGCCGCGTGTACTGCC
GCCTGCTCATGGCGGGTAAGAATGTGTTTGAATTTATTGAGTTGGAAAAGGGCATCGTAG
ATTTCGATAACCGCACCGCCGGGATAACCGAAAACGTACTCGACACCTTCGGCTTTGAGA
CTCTGCACTATGATTTGCGCGCCTGATAACTGCATAACGACCTCTTTTATACGGTTTCAA
ACCAATAGGGACAAACCGCTTTGCCACAGCACCTGTAATGCAATTCCACCAAGCAGCGAT
TTAGGGTACGCGCATTGGGGGAACACGGCAACAGACGGATTATCCAATCAATTGGAAAGG
AACACAGAGTTTGTGAAAAAGAGTAGAAACGATAACGCAAACGACAGTTCAATCAAGAA
AAATCTTTCATCTTTTAATATTTTTTGAAAGCAGAGAAATTATTGATTGATTTTAAAAGA
```

```
ATAAAATCAGGAGTACCTTTTTTGAAAGATGGAAATTGTTGACAGTTTGTGTAGGAGGGG
CAGATGTGAAAAACCCTTCTTCGATATCAAGAATTGTAAAATTTACAGGGTTTCATCCCA
ATAAAGACTCGGGATATTGATTGAACTTGATTTTATTTTTGATATATCAAAAATATTCCC
AACCATACTTCCTGAAAATGGCTCATTGCACCGGACTGTATTGGACGGCATTGACAGAAC
CAAGAGGGCTAACAACGACTTAATATATTGATTGTATAGTGGATTAACAAAAATCAGGAC
AAGGCGACGAAGCTGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGC
ACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTAAATTTA
ATCCACTATATTTAGTTTTATCTATTTCATTAAACAGCAATAGACAAAAAAAATAACCGC
TCTAAAAGCGGTTGTGGTGCCCAGGGTCGGACTCGAACCGACACACCTTGCGGCGGGGGA
TTTTGAGTCCCCTGCGTCTACCAATTTCGCCACCTGGGCTGGTGAAGAAGTCGTCATTAT
AATGGCTTTTGAAATTCTGTAAACCTTTTTTTTGAAATTATTTTATCTGTTTTTATTTTA
TTTTTGATTTTAAATAGAATTTTTATTATTTTAATCTTACTGTTCTTTCCGCTCCAAAGA
TTCTGTATGATTCGGCAATTCCTGCCGTGCAGACAACGTAAAAAAATACTACATTAAATC
TGCCAAACGCGTTAAGATGGAAATATTCAAATTCCGTACGAATCAGGTTTTGCTATTTAT
TCTTGGGAGATTGTCATGTTTTCCGTACCGCGTTCCTTTTTGCCGGGCGTTTTCGTACTT
GCCGCGCTTGCCGCCTGCAAACCTCAAGACAACAGTGCGGCGCAAGTCGCTTCTTCAAGT
GCATCCGCGTCGGCTGCGGAAAATGCGGCAAAGCCGCAAACGCGCGGTACGGATATGCGT
AAGGAAGACATCGGCGGCGATTTCACGCTGACCGACGGCGAAGGCAAGCCTTTCAACCTG
AGCGATTTGAAAGGCAAGGTCGTGATTCTGTCTTTCGGCTTTACGCACTGTCCCGATGTC
TGCCCGACAGAGCTTTTGACGTACAGCGACACGTTGAAGCAGTTGGGCGGGCAGGCTAAG
GACGTGAAAGTGGTGTTCGTCAGCATCGATCCGGAACGCGACACGCCTGAAATCATCGGC
AAGTATGCCAAACAGTTCAATCCGGACTTTATCGGTCTGACGGCAACGGGCGGCCAAAAC
CTGCCGGTCATCAAGCAGCAATACCGCGTGGTTTCTGCCAAAGTCAATCAAAAAGACGAC
AGCGAAAACTATTTGGTCGACCACTCTTCCGGTGCGTATCTCATCGACAAAAACGGTGAG
GTTGCCATTTTCTCGCCTTACGGAAGCGAGCCGGAAACGATTGCTGCCGATGTAAGGACC
CTGCTCTGATAAAACCGTATGCCGTCTGCACCGTCGGCGCCTATTCAGACGGCATTATTG
TTTCAACCGACAAAGGACATCCACACCATGCAGGATAATGCTTTGACCATCGCCTTATCC
AAGGGGCGCATTTTTGAGGAGACGCTGCCGCTGCTTGCCGCTGCCGGCATTGTTCCGACT
GAAGAGCCTGAAAAATCGCGCAAGCTGATTATCGGGACGAACCATGAAAACATCCGCCTT
GTCATTGTCCGCGCAACCGATGTGCCGACTTATGTCCGCTACGGCGCGGCGGACTTCGGC
ATTGCGGGCAAAGACGTGCTGATCGAACACGGCGGCACGGGGCTTTACCGGCCTTTGGAT
TTGGAGATTGCCAAGTGCCGCATGATGGTTGCTGTGCGTAAAGGGTTTGATTACGAAGCA
GCTTCGCAACCCGGATGCCGTCTGAAGATTGCCACAAAGTATCCTGAAATCGCGGCATCT
CATTTTGCCGGCAAGGGTGTCCATGTGGACATTATCAAACTGTACGGCTCGATGGAACTT
GCGCCGCTGGTCGGCTTGAGCGATGCGATTGTGGACTTGGTTTCGACGGGCAACACCTTG
AAGGCAAACGGCTTGGAAGCAGTCGAACACATCGTCGACATTTCCAGCCGCCTGGTGGTC
AACAAGGCTGCTTTGAAAACGAAATACGCGCTGCTGGAGCCGATTATTCAGGCGTTCGGC
GGCGCAGTGAAGGCGAAGTAAGCATCCATTTGAATAAAGATGCGTTTTCAGACGACCCTA
TCCGTTCCCGCCGACAGGTCGTCTGAAAATATCACCGGCAGTAAACTGTATAGGAGAAGT
TAAAATGGTTGCAAAAATAAAAAAATTCTCAGATTCAACCCTTTCCGTTTTGAATAACGG
CGAGCGTCGGTTTTATGTCTATTGTCTGACCGACCTGAAAAAAGACAAAATCCTCTACAT
CGGCAAAGGCTGCGGTAATCGTATCTTCGAGCATGAATGGGTTGCTAGTCGTTCACAAGA
TCCAGTCTCCGGCGAGATTATCGATCGGAAACTCAAAGCCATCTCCAAATGCAAGAAACT
CGGTCGCTATATCATCAGCTATCATCTGACTGAAGTCGAAGCACTCGCCGCCGAATCTGC
CTTAATTCATTTTGTTAAATCTGTCTTGGGTAAAAAACTCAAAAATAAAATTGCCGGGCA
TGGTCCGGGTGGTATTAGCGTAGAAGAACTAGATCGCCGCTTTGGATTCTCTTCTCTCCC
ACTTAACGAGATTAACCCCGACGGGCTGATTCTCGCCATCAAAATCCACAATGCTTTCGA
TTTAGATACTGACGAAGAATTAGACTACCTTTTCGACAACCAAGACGATGCCAACCTCAA
ATCGCGTACGTTGGGCAACTGGGTTATCGGTAAAGATGTTGCTTCAAAAGTGAAATACGT
TATCGGCGTTCACACCGGTCTGCAAAACGCTGTTGTCAGTGCATACGAAGTGGACGGTTT
TGAAACAATGGTTGAGGAAACCAAAAACGGTAGAAAACAATCCCGTTACCGTTTCCGCAC
TACCTCTCGTAGCGAAGAGGTATTAGCCAAACTCGGTCTGCAACAAAAATGCCTGCCCGA
ATTGAAGTTTGGTAGCGGGGGAGAAAAAGCGTATATCAGACCCAAAACAGAGACAGAAAC
TGAACAAGAGAATATTCAGACGACCCCCAATCCAAAAATAAAAAAGGAAAAAACCAAATC
ATGAAAAAACTCAACACCCAATCGCCCGATTTCCAAGCCGGACTCAAAGCCCTGCTGGCT
TTTGAAACCGCGCAAAACCCCGAAACCGAACGCATCGTCGCCGACATTTGCGCCGACGTG
CAAAAGCGCGGCGATGCGGCTTTGATTGAATACACCAACAAATTCGATCAGACAAACGCT
AAAAGCATCGATGATTTAATACTCACGCAAGCCGATTTGAACGCGGCGTTCGAGCGCATT
CCGAACGACGTTCAGACGGCATTGCAGACCGCCGCCCGCCGTGTCGAAAGCTACCACCAA
```

-457-

```
CGCCAAAAAATGGAATCGTGGAGCTACACCGATGAAGACGGCACGCTGTTGGGACAACAA
ATCACACCGCTTGACCGCGTCGGCATTTACGTCCCCGGCGGCAAGGCGGCGTATCCGAGT
TCCGTCATCATGAACGCCATGCCCGCCCACGTCGCAGGTGTGAAAGAAATCATCATGGTC
GTGCCGACACCAAAAGGCGAACGCAACGACATCGTACTTGCCGCCGCATACGTCGCCGGC
GTAACCAAAGTCTTCACCGTCGGCGGCGCGCAGGCGGTTGCCGCCCTCGCCTACGGCACG
GAAACCATCCCCCAAGTCGATAAAATCACCGGTCCGGGCAACGCCTTCGTCGCCGCCGCC
AAACGCCGCGTGTTCGGCGTGGTCGGCATCGACATGGTGGCGGGGCCGTCTGAAATCCTG
GTCATCGCCGACGGCACGACACCTGCCGATTGGGTGGCGATGGATTTGTTCAGCCAGGCC
GAACACGACGAAATTGCCCAAGCCATCCTCATCGGCACGTCGCAAGCGTATCTCGACGAA
GTAGAAGCCGCTATGGACCGCCTGATCGAAACTATGCCGCGCCGCGACATCATCGAAGCC
TCGCTCGGCAACAGGGGCGCGATGATACTCGCCAAAGACTTGGACGAAGCCTGCGAAATC
GCCAACTACATTTCCCCCGAACACTTGGAACTGTCAGTCGAAAACCCGCAGGAATGGGCG
AAAAAAATCCGCCACGCCGGTGCGATTTTCATGGGACGCTACACCGGCGAAAGCCTCGGC
GACTACTGCGCCGGTCCAAACCATGTGTTGCCCACCAGCCGAACCGCCCGCTTTTCCTCG
CCTTTGGGGACATATGATTTCCAAAAACGCTCCAGCCTGATTCAGGTTTCGGAACAGGGC
GCGCAAAAATTAGGCGAAACCGCCAGCGTGCTGGCACACGGCGAAAGCCTGACCGCCCAC
GCCCGCGCGGCAGAGTTCCGTATGAAATAATGCCGAAACGGCGTACAGGCATATTCCAAC
CATTAAGGAAACACGATGAAATCCGTCCGCTCCTTCATCCGCGACGACATACAAGCTATG
TCGGCATATCAGATTGCCGACGTTCCGCCCGGCTTTGCCAAACTCGATTCGATGGAAAGT
CCCGTCCACCCTTTTGCCGGACATGAAACGCTGTTGCAGGAATGGCAGGCACGGCTTGCC
GCCGCGCCCATCCATCTTTACCCCAATCCCTCCGGCAGCGGTTTACAGGAAGCATTACGT
TCGGCGTTCGACATTCCCGACTGCGCCGACATCGCGCTGGGCAACGGTTCGGACGAACTG
ATACAGTTCATCACGATGCTGACCGCCAAACCGGGCGCGGCAATGTTGGCAGCCGAACCC
AGTTTCGTCATGTACCGCCACAACGCCGCGCTGTACGGCATGGATTATGTCGGCGTTCCA
CTGAACGGAGATTTCACCCTCAACCTGCCCGCCGTCCTCGAAGCCGTCAGGAAACACCGC
CCTGCCCTGACCTTTATCGCCTACCCCAACAACCCCACCGGCGTATGCTTCACGCGTGCC
GAAATCGAAGCCGTCATCGAAGCTTCAGACGGCATCGTCGTCGTCGATGAAGCCTACGGC
GCATTCAACGGCGACAGCTTCCTGCCGCAGGCAGGCAGGATTCCCAACCTGATAGTCTTA
CGCACCCTCAGCAAAATCGGTTTTGCCGGACTGCGTATCGGTTATGCGGCAGGCTGCCCC
GAAGTCATCGGCGAACTGCAAAAAATCCTGCCGCCCTACAATATGAACCAATTGAGCCTG
ACCACTGCCAAACTCGCCCTGCGGCACTACGGCATTATCTCTGCCAACATCGACAGCCTG
AAAAACGAACGCGAACGGATGTTCGCCGAATTGGGCAAAATATGCCGTCTGAACACCTTT
TCAAGTCAGGCAAACTTCATTACCATACGCGTACCCGATGCCGATTTGTTGTTTGACACG
CTCAAACAAAACCGCATCTTGGTTAAAAAAACTGCATGGCGCGCACCCGCTTTTGGAACAC
TGCCTGCGCATTACCGTAGGCAGCCCCGCACAAAACGATGCCGTTCTCAACATCATTCGC
CAACTTTACTGCCAACCAACGGATTTCCTATGAATTTGACTAAAACACAACGCCAACTGC
ACAACTTTCTGACCCTCGCCCAAGAAGCAGGTTCGCTGTCCAAGCTCGCCAAACTCTGCG
GCTACCGTACCCCCGTCGCACTCTACAAACTCAAACAACGCCTTGAAAAGCAGGCAGAAG
ACCCAGATGCACGCGGCATCCGTCCCAGCCTGATGGCAAAACTCGAAAAACACACCGGCA
AACCCAAAGGCTGGCTCGACAGAAAACACCGCGAACGCACTGTCCCCGAAACCGCCGCAG
AAAGCACCGGAACTGCCGAAACCCAAATTGCCGAAACCGCATCTGCTGCCGGCTGCCGCA
GCGTTACCGTCAACCGCAATACCTGCGAAACCCAAATCACCGTCTCCATCAACCTCGACG
GCAGCGGCAAAAGCAGGCTGGATACCGGCGTACCCTTCCTCGAACACATGATCGATCAAA
TCGCCCGCCACGGCATGATTGACATCGACATCAGCTGCAAAGGCGACCTGCACATCGACG
ACCACCACACCGCCGAAGACATCGGCATCACACTCGGACAAGCAATCCGGCAGGCACTCG
GCGACAAAAAAGGCATCCGCCGTTACGGACATTCCTACGTCCCGCTCGACGAAGCCCTCA
GCCGCGTCGTCATCGACCTTTCCGGCCGCCCCGGACTCGTGTACAACATCGAATTTACCC
GCGCACTAATCGGACGTTTCGATGTCGATTTGTTTGAAGAATTTTTCCACGGCATCGTCA
ACCACAGTATGATGACCCTGCACATCGACAACCTCAGCGGCAAAAACGCCCACCATCAGG
CGGAAACCGTATTCAAAGCCTTCGGGCGCGCCCTGCGTATGGCAGTCGAACACGACCCGC
GCATGGCAGGACAGACCCCCTCGACCAAAGGCACGCTGACCGCATAAAAAAACCATACCGT
CTGAAACACCCGCAGGCTTTTCAGACGGTATCGGAACAGATAAGATTACACTACACTACA
AACAGAAAAGGAGTAAACATCATGTCCGCAAACGAATACGCACAAATCGGCTGGATAGGC
TTAGGGCAAATGGGTCTGCCTATGGTAACGCGGCTCTTGGACGGCGGCATCGAAGTCGGC
GTATACAACCGCTCGCCCGACAAAACTGCCCCCATCTCCGCCAAAGGCGCAAAAGTTTAC
GGCAACACCGCCGAACTCGTCCGCGACTATCCCGTCATTTTCCTGATGGTTTCCGACTAT
GCCGCCGTGTGCGACATCCTGAACGGAGTCCGCGACGGATTGGCCGGCAAAATCATCGTC
AACATGAGCACCATCTCCCCCGACCGAAAACCTCGCCGTCAAAGCACTTGTCGAAGCCGCA
GGCGGACAGTTTGCCGAAGCACCCGTTTCCGGATCGGTCGGGCCCGCCACCAACGGCACG
```

-458-

```
CTGCTGATTCTGTTCGGCGGCAGCGAAGCCGTTTTAAACCCGCTGCAAAAAATATTTTCC
CTCGTCGGCAAAAAAACCTTCCATTTCGGCGATGTCGGCAAAGGTTCGGGCGCGAAACTC
GTCTTGAACTCGCTCTTGGGCATTTTCGGCGAAGCGTACAGCGAAGCGATGCTGATGGCG
CGGCAGTTCGGCATCGATACCGACACCATCGTCGAAGCCATCGGCGrCTCGGCAATGGAC
TCGCCCATGTTCCAAACCAAAAAATCCCTGTGGGCAAACCGCGAATTCCCGCCCGCCTTC
GCCCTCAAACACGCCTCCAAAGACCTCAACCTCGCCGTCAAAGAGCTTGAACAGGCAGGC
AACACCCTGCCCGCCGTCGAAACCGTTGCTGCCAGCTACCGCAAAGCAGTCGAAGCCGGC
TACGGCGAACAGGACGTTTCCGGCGTTTACCTGAAACTGGCAGAACACTGATTGCCTTTT
CCAAACACAATGCCGTCTGAACATATTTCAGACGGCATTTTTATCACCCCACGCTTAAAA
TCAGTCCCGATTATGACTATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCG
CAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGT
TCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATAATCCGC
ACAAATTTAGTCAATATCAAGACCAATTATGAACCAACTCGACCAACTTGGCACCCGTAT
CAACCTGATTTGCAATGTCTTCGACAAATGGATCGGGCAGCAGGATCTGAATTACAACCT
CTTTGCCGTACTTTATACCCTGGCAACCGAAGGCAGCCGCACGCAAAAGCATATCGGCGA
AAAGTGGAGCCTGCCCAAACAGACCGTTTCAGGCGTATGCAAAACCCTTGCCGGACAAGG
GTTGATTGAATGGCAGGAAGGCGAACAGGACCGGCGCAAACGGTTGCTGTCGTTGACCGA
AACAGGCAAAGCCTATGCCGCACCTTTAACAGAAAGCGCGCAGGAATTCAGCGACAAAGT
ATTTGCCACATTCGGCGACAAGCGCACAACTCGGCTGTTTGCCGATTGGATGCACTGGC
TGAAGTGATGGAAAAAACAATCTCGGAAAATAAAAAATAGGGGGGCAAATATGTGGAAAA
TGTTGAAACACATAGCCCAAACCCACCGCAAGCGATTGATTGGCACATTTTCCCTGGTCG
GACTGGAAAACCTTTTGATGCTGGTGTATCCGGTGTTTGGCGGCCGGGCGATCAATGCCG
TGATTGCGGGGGAGGTGTGGCAGGCGTTGCTGTACGCTTTGGTTGTGCTTTTGATGTGGC
TGGTCGGTGCGGTGCGGCGGATTGCCGATACGCGCACGTTTACGCGGATTTATACCGAAA
TCGCCGTGCCGGTCGTGTTGGAACAGCGGCAGCGACAAGTCCCGCATTCGGCGGTAACTG
CGCGGGTTGCCCTGTCGCGTGAGTTTGTCAGCTTTTTTGAAGAACACCTGCCGATTGCCG
CGACATCCGTCGTATCCATATTCGGCGCGTGCATCATGCTGCTGGTGCTGGAATTTTGGG
TCGGCGTGTCGGCGGTGGGCATACTTGCGTTGTTTTTATGGCTTTTGCCACGTTTTGCCG
CCATCAGCGAAAACCTGTATTTCCGCCTGAACAACAGCTTGGAACGCGACAACCACTTTA
TCCGAAAAGGCGACCGGCGGCAGCTGTACCGCCATTACGGACTGCTTGCGCGCCTGCGTG
TGCTGATTTCCAACCGCGAAGCCTTCGGCTATCTCTGCGTCGGCACGGCGATGGGTATTT
TGTTCGGCTTTGCTTTTGTGATGATGACGCTCAAAGGCTACAGCAGCGCGGGGCATGTCT
ATTCGGTCGGCACTTATCGTGGATGTTTGCCATGAGTTTGGACGACGTGCCGCGATTGG
TCGAACAATATTCCAATTTGAAAGACATCGGACAACGGATAGAGTGGTCGGAACGGAACA
TCAAAGCCGGAACTTGAAAAATGCCGTCTGAACACGCTTCAGACGGCATTTCCATCCGTT
CGGCAAACTACATCACATCCGCCCGCCGGTTGACAAGTTTGGCAAACAACTTTTCAACAG
AAGCTTCCGCCTGCAAACCAATGCGCTGGATCAGGCTTTGCTTCTCCTGATATTTCACTT
CGATAACCTGTTTGTTTTCAAACGCTTTCAACAACAAATCATCACTGGTCGAAATCTCGT
CAATCAAGTTCAACGCCAACGCCTGCCGACCGAACCAATGCTCGCCCGTTGCCACTTCCT
CAATATCCAATTGAGGGCGGTTCTCGCTGACAAACTGCTTGAACAACTGATGCGTTTCCT
CCAGTTCCTGTCGGAATTTCTGTTTGCCCTTTTCCGTATTTTCACCCATAAAAGTAACCG
TGCGCTTAAATTCGCCCGCCGTCATCACATCCACATCAATATCATGTTTTTTCAACAGGC
GGTGGATATTCGGTACTTCCGCCACCACACCCACCGAACCGACAATCGCAAACGGAGCGG
AAGCAATTTTATCCGCCACACACGCCATCATATAACCGCCGCTCGCCGCCACCTTATCGA
CGGCGACGGTCAGCGGAATATTGCGTTCGCGCAAACGCyTAAGCTGCGAAGCCGCCAAAC
CGTAACCGTGAACCACGCCGCCCGGACTTTCCAATCTGAGCAGAACCTCATCTTCAGGCT
TGGCAATCAAAAGCACCGCCGTAATCTCATGACGCAAGGATTCTACGGCGTGTGCATACA
AATCGCCGTCAAAATCCAACACAAAAGGCGGGATTTTTGCGTTTCGGCAGATTTCTCCC
CACCCTCCTTCAAACGCTTTTTCTCTGCTTTGGCTTCCGCCTTTTCCTTTTTCTTTTCCT
CTTTTTCCTGATGTTTTGCCTCTTCCCCGCTTAAAAAGAATGCTTCAAACGATTGCCGCT
GTTTTTTATAATTTTCCGAAAAATCCGTCAGTACGACACTGCCGCTTTCCGACTGTTTCT
TACTCTGTACGATAGCCAACACAATCAGCGCAATTGCGCCGAACACGGTAAGCAGTTCGA
GCAGGAAAATACCGTAATTCAGTAAAATTTCTTTCCACATTGATTGGATTTCCTCTTGTT
CAGGCATGAACATGTCAATATTGTCCATCACCGTCCGACAGATAAAAAAATAACCGCTTG
GAGCGGCATTGTCATTTTCAGCTTGGTGCCCGGAGCCGGAATCGAACCGGCACGGGATGT
TTAGTCCCGACGGATTTTAAGTCCGTTGTGTCTACCTATTTCACCACCCGGGCATTTGTG
AAAGGTGGAGGCGGGGGCGCGGATTTTAACCGGCCTGTATGAAGATTGCACTCCTCATAG
CATAAACACTCTGCCACCCCGCCATAGTACGATAATGGAGGCGAGAGTCGGAATCGAACC
GGCGTAGACGGATTTGCAATCCGCTGCATAACCACTTTGCTATCTCGCCCTAAAACTGGC
```

```
TTATCTAAAAAACTTGGAGCGGGAAACGAGTCTCGAACTCGCGACCTCAACCTTGGCAAG
GTTGCGCTCTACCAACTGAGCTATTCCCGCGCGTTCAAACATATCGGTTTTTGGAGCGGG
AAACGAGTCTCGAACTCGCGACCTCAACCTTGGCAAGGTTGCGCTCTACCAACTGAGCTA
TTCCCGCGTTGATATGTTTGAAATAAAACTTGGAGCGGGAAACGAGTCTCGAACTCGCGA
CCTCAACCTTGGCAAGGTTGCGCTCTACCAACTGAGCTATTCCCGCAATGATTGCGGAAG
AATGAAATTTTTGGAGCGGGAAACGAGTCTCGAACTCGCGACCTCAACCTTGGCAAGGTT
GCGCTCTACCAACTGAGCTATTCCCGCCCGATTTCATTCTCCGATATCGAAGAGACACAA
TTATTATGGATTCTGTTTTTGCCGTCAAGCTATTTTATGTTTTTTTCAGGCGATTTCTT
TCCACGCCATTTTCAGATAATACAGCATCGACCAGACTGTCAGCAAAGATGCGATAAACA
TCAATACATTGCCGATGAATGCGAGGTTAAATCCATAAAAATCGGGAAAATTCAGCAGCA
GCAGGAAGATTGCCAGCATTTGCGCGGCGGTTTTAAACTTACCGACGGTGGCGACGGCAA
CGCTGTTCCTTTTGCCCATTTGCGCCATCCATTCGCGCAATGCGGAAATGGTAATTTCCC
TGCCGATGATGATCATGGCAAACAAAACATAGGTCCGGTCGAGTTTGACCAGTAAAAGCA
AAGAGACGGCGACCATCAGCTTGTCGGCAACGGGATCGAGGAAGGCGCCGAAATCCGAGG
TCTGTTTCCACAACCTTGCCAAAAATCCGTCAAACCAGTCGGTCAAGGCGGCAACGGCAA
AAATGACGGCGGCGGTGAGATTAATCGTTTCCTCCGCGAACCACGGAAAAGGCAGGTAAA
AAAGGGCTGTCAGGACAGGAATGAGCAAGACCCTCAACCATGTGAGGAAGATGGGGAGAT
TCCAAGGCATCGGTTTTCTCTGTGCAGACTGTAAAGTTGTGATTATAACGGTTATCCTCA
TAACCCAAAACGTAAAATTGCTGCATGGGCATTCCCCCGCCCCGCCAATCTGTTTTCACA
TTCTTTTCAAACGCAGGAAAATGGCGGGCAATAAAAGCAAAATACCCAGTTTCAGGCTGA
AAACGGCAGGTTGTGCCAACACTTCGACAAGGCGGTCTTCCGTGCGGGCAAAATCTTTAT
TGCTTATAGACACTGCCACTGTTGCGGTATTCCAACAGAACGCCGTTTAAAAAACCTTTG
CCGACGGTTTCGCTTAAAACGGCTCTAACCTGCTCCGCCCTGATGGTTCTGCCGATATTG
CCGCCTGTGCACAAACTGTCGAACCCATAGCAGGAAAGCCGGTAATGCTGCCCGTCTGCA
TCCAGTTTGATTGCCCGTCCGCTGCGGTTGAGGGCGGTAACGGTCAATTCCGCATATTCG
AATGTTTTTTCTTGTTCGTGAAATGCCGTCAGGTAAGGTGCAATAAAAACGGCGGACAAC
AGCAGACAGCTTATGGCGGCAAACCATACCCAGCGATAATATAGTGGATTAAATTTAAAC
CAGTACAGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACC
AAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTA
AATTTAATCCACTATATTTCACGCTTACCCCTTGTTTCTCAAATGCCGTCTGAAATAAGC
GGCTTAATATATTGTTTACAGTATTGGGAAGCATAACAGACAAAATGCCGTCTGAAATAT
TTTCAGACGGCATTTCTTATCCGAAACGGATTATTTTTGCGTTTCAACCGCTTCCAATGC
ACGCAGGGCATAAGTGTAAGCGGCACCCGCATTCAGGGCAATGGCGGTTGCCAATGCACC
TGCGATTTCGCTGTCGGTCGCACCGGCTTTGGTGGCGGCGGCGGCGTGAACACTGATGCA
GCTCTCACAACGTGTAGTAATGGCAACGGCGATGGCAATCAGTTCGCGTGTTTTAGCATC
AAGTGCCTCTGCAGCTGCCGCTTGTTCCAATGCGCCGTAGGCCTGCAGCATTTTAGGATG
CGCCTTACCCAGCTCGCCGAACGATTTTTTAACCAATGCGGTATGTTCTTTCCAATCTTT
AAACATTTTCTTTTCCTTTCTCTTGCGTTTAACCCTGATACGCGCTTGCGTATCTGTTTT
CGATGTGCGTATTATTGCAATTATTCAGTTGTGTTTCTCGTTTAATCATCTCATTTTATG
GTTCAAAAAGATTTATGGACATTCTGGACAAACTGGTCGATTTCGCCCAATTGACGGGCA
GTGTGGATGTGCAGTGCCTTTTGGGCGGACAATGGTCGGTACGGCATGAAACCTTGCAAC
GCGAAGGATTGGTACACATTGTTACATCGGGCAGCGGCTATCTCTGCATCGACGGCGAAA
CTTCCCCGCGTCCGGTCAGTACAGGGGATATTGTATTTTTCCCGCGCGGCTTGGGTCATG
TGTTGAGCCACGACGGAAAATGCGGAGAAAGTTTACAACCGGATATGCGGCAGCACGGTG
CGTTTACGGTCAAGCAGTGCGGCAACGGACAGGATATGAGCCTGTTTTGCGCCCGTTTCC
GCTACGACACCCACGCCGATTTGATGAACGGGCTGCCTGAAACCGTTTTTCTGAACATTG
CCCATCCGAGTTTACAGTATGTGGTTTCAATGCTGCAACTGGAAAGCAAAAAACCTTTGA
CGGGGACGGTTTCCATGGTCAACGCATTGTCGTCCGTCCTGCTGGTGCTTATCCTGCGCG
CCTATCTCGAACAGGATAAGGATGTCGAACTCTCGGGCGTATTGAAAGGTTGGCAGGACA
AACGTTTGGGACATTTAATCCAAAAGGTGATAGACAAACCGGAAGACGAATGGAATGTCG
ACAAAATGGTGGCGGCTGCCAATATGTCGCGCGCGCAACTGATGCGCCGTTTCAAAAGCC
GGGTCGGACTCAGCCCGCACGCCTTTGTGAACCATATCCGCCTGCAAAAAGGCGCGTTGC
TGCTGAAAAAAAACCCGGATTCGGTTTTGTCGGTCGCACTGTCGGTAGGCTTTCAGTCGG
AAACGCACTTCGGCAAGGCGTTCAAACGGCAATATCACGTTTCGCCGGGTCAATACCGGA
AAGAAGGCGGGCAAAAATAAATCGGGGCTTCAAACGCAAATGCCGTCTGAAAAGGCTTTC
ATACAGCATTTGCGTACCGCGTCATTTCAAGGGCTGCATCTTCATCACTTCCATCAAAAA
GTTGGTAAATGCGGGGTTGTTGGGTTTGACATCCATATTTTTCCAACGCTGCTGCCAGCC
GCGCAAGGCATTCTGGATATACAGCTTGGACTGTTCCGTATTGATTGCGCCCCGCTGGCT
GTCTATCGCCGAACGCAGGTAGATTTCATACATACTGTCATCGACGGCATTGCGTCCGAC
```

-460-

```
CAGGCGTTTTCTGAAGTTGTTCAGATATTGCGCCGCCTGAACCTTGGTCATTTTACCGAT
ACCCACCTGATAGCCCAAGCGCGTCGCTTCATCGCTGATTTTGGCAACATCCGTCCAATG
CGAAGAGGCAAGGCGGAAACCTTTTGCAGGTGCTTCCGTTTTGACGGTATTGATAGGATT
CACGGGGATTTCCGTCAATGTGGGCACATAAATAGACTGGCAGCCGGAAAGAACTGCCGC
AATGGAAAGAGGGATAAGGTATTTTTTCATGCCCCCATTATAATCAAGTTTGCCTTGAGA
AAACAAATTGTTCGGCAAGAAAAATAAAATTTCGGCATCAGAAGCAGGCAAAAACACATT
CCACAAGCCTTGCCGCAAGGTTTACAATCCGACCGTCCTTATCGCAACGACCGTTTATGG
ATACCGCAAAAAAAGACATTTTAGGATCGGGCTGGATGCTGGTGGCGGCGGCCTGCTTTA
CCATTATGAACGTATTGATTAAAGAGGCATCGGCAAAATTTGCCCTCGGCAGCGGCGAAT
TGGTCTTTTGGCGCATGCTGTTTTCAACCGTTGCGCTCGGGGCTGCCGCCGTATTGCGTC
GGGACACCTTCCGCACGCCCCATTGGAAAAACCACTTAAACCGCAGTATGGTCGGGACGG
GGGCGATGCTGCTGCTGTTTTACGCGGTAACGCATCTGCCTTTGGCCACTGGCGTTACCC
TGAGTTACACCTCGTCGATTTTTTTGGCGGTATTTTCCTTCCTGATTTTGAAAGAACGGA
TTTCCGTTTACACGCAGGCGGTGCTGCTCCTTGGTTTTGCCGGCGTGGTATTGCTGCTTA
ATCCCTCGTTCCGCAGCGGTCAGGAAACGGCGGCACTCGCCGGGCTGGCGGGCGGCGCGA
TGTCCGGCTGGGCGTATTTGAAAGTGCGCGAACTGTCTTTGGCGGGCGAACCCGGCTGGC
GCGTCGTGTTTTACCTTTCCGTGACAGGTGTGGCGATGTCGTCGGTTTGGGCGACGCTGA
CCGGCTGGCACACCCTGTCCTTTCCATCGGCAGTTTATCTGTCGTGCATCGGCGTGTCCG
CGCTGATTGCCCAACTGTCGATGACGCGCGCCTACAAAGTCGGCGACAAATTCACGGTTG
CCTCGCTTTCCTATATGACCGTCGTTTTTTCCGCTCTGTCTGCCGCATTTTTTCTGGGCG
AAGAGCTTTTCTGGCAGGAAATACTCGGTATGTGCATCATCATCCTCAGCGGTATTTTGA
GCAGCATCCGCCCCACTGCCTTCAAACAGCGGCTGCAATCCCTGTTCCGCCAAAGATAAA
AAATGCCGTCCGAACATCCTTCAGACGGCATATCGGGCTTTATTTCCCCGCCTTCACATC
CTGCCACTGGCGCACCATAAACTTCAATGCCGCCGGCTGGATAGGCACCATGATAAAGCT
GTTTTTCAAATCCTCCTCGGTTGGGAAAATCGTATTGTCGTTTTTAAATTCGTCTTCCAT
CAGCTCACGCGCAGGCTTGCTCGAAGGCGCGTAAGTAACGAAATTGCCGTTTTTCGCCGA
CACTTCCGGGTCGAGGAAGTCGTTGATGTATTTGTGCGCGTTGGCGACGTTTTTCGCATC
TTTCGGAATCACGAAAGAATCCACCCAAATCCCCACGCCCTCTTTGGGCATCATCACGCG
GATTTTTTCCTTGCCGCCCGCTTCTTCGGCACGGCGTTTGGCGATGTTCAAATCGCCGCC
GAAACCGATTGTTACGCAGGTATCGCCGCGCGCCAAATCATCGATAAAGCCGGACGAAGT
AAAGCGTTTGATATTGGGGCGGTTTTTCTTGAGTAGGGCGGTTGCCTCCCTGATGTCTTC
CGTATTGCTGCTGTTCGGGTTTTTACCCAAATAGTTCAACACCATAGGATAGATTTCCGC
CGCGCTGTCCAAATAGCTGATGCCGCATTGCTTGAGTTTGGACGTGTATTCGGGGTCGAA
CACCAAATCCCACTGGTTGTCCGGCAGCTTGTCCGTACCCAAAGCCTTTTTCACGCGTTC
GGTATTGATGGCGAAGGTATTTGTCCCCCAATAAAACGGCACGGCGTATTCGTGGCCGGG
ATCGACCCCGTCCATCAGCCTCATCATTTCGGGGTTGAGGTGTTTATAATTGGGAATCAG
CGACTTATCGATTTTCTGATACGCACCTGCCTTAATCTGCCTGCCCACAAACGCATTGGA
CGGCGCGACAATGTCGTAACCGGACTTGCCTGTCAGCACCTTGCTTTCCAGCGTTTCATC
GCTGTCGTACACATCATAAGTAACCTTGATGCCGTTTTTCTTTTCAAAATCGGCAACGGT
TTCCGGATCGACATATTCCGACCAGTTGTAAATTTTCAATACGTTTTGGTTTTCCGCCGG
TGCCGGTTTTTCGGCAGGCGGTTTGTCCGAACCGCCGCACGCTGCAAGCAGCAAAGCAGT
CAGGACGGCCAGGGGCAGATGTTTGGTCATTATCATTCCTTGCATATCGGGTTGGAGAAA
GCGGCCATTATAGCCGATATTGGCAACAGGGCTTCAGACGGCATTCAAAATCCCGCCACA
CTCTTCCGAAAACCGCCGCTTCCATAGCTAGAAACAGGGATTTGCGGTAAGATACCGCCG
TTCGTTTTCCCTGCTTTTACCATGACAAGACATTTGAGAGACATTGAAAAAATTATGAAA
ACCTCCGAACTGCGCCAAAAATTCCTAAAATTTTTTGAAACCAAAGGCCACACCGTCGTC
CGCTCTTCCAGCCTCGTGCCGCACGACGACCCGACCCTGCTGTTTACCAACGCGGGCATG
AACCAGTTTAAAGACGTATTCTTAGGTTTCGACAAACGCCCGTACAGCCGCGCCACCACC
GCGCAAAAATGCGTACGCGCAGGCGGCAAACACAACGACTTGGAAAACGTCGGCTACACC
GCCCGCCACCACACCTTCTTTGAAATGATGGGCAACTTCTCCTTCGGCGACTACTTCAAA
CGCGACGCCATCCACTTCGCTTGGGAATTTCTGACTTCCCCCGAATGGCTCAACATCCCT
AAAGACAAACTGTTGGCGACCGTTTACGCGGAAGACGACGAAGCCTACAACATCTGGTTG
AACGAAATCGGTATGCCGTCCGAGCGCATCGTCCGCATCGGCGACAACAAAGGCGCGAAA
TACGCATCCGACAACTTCTGGCAAATGGGCGACACCGGCCCTTGCGGCCCCTGCTCCGAA
ATTTTCTACGACCACGGCGAAGAAATCTGGGGCGGCATTCCCGGCAGTCCCGAAGAAGAC
GGCGACCGCTGGATCGAAATTTGGAACTGCGTATTTATGCAGTTCAACCGCGACGAACAA
GGCAATATGAACCCGCTTCCCAAACCTTCCGTCGATACCGGTATGGGCTTGGAACGCATA
GCCGCCGTCATGCAGCATGTTCACAGCAACTACGAAATCGACTTGTTCCAAGACCTGCTC
AAAGCCGTTGCCCGCGAAACCGGCGCGCCGTTCAGAATGGAAGAACCCAGCCTGAAAGTC
```

```
ATCGCCGACCACATCCGCTCCTGCTCGTTCCTGATTGCAGACGGCGTCTTGCCTTCCAAC
GAAGGCCGCGGCTACGTATTGCGCCGCATTATCCGCCGCGCCGTGCGCCACGGTTACAAA
CTGGGTCAAAGCAAACCGTTCTTCCACAAACTCGTTGCCGATTTGGTCAAAGAGATGGGC
GGTGCCTACCCTGAATTGAAAGAAAAACAAGCCCAAATCGAAGAAGCATTGAAAAACGAA
GAAAGCCGTTTTGCCCAAACGCTGGAAACCGGTATGGCTTTGTTGGAAAACGCGCTGGTC
AAAGGCGGCAAAACACTCGGCGGCGAAATCATCTTCAAACTCTACGATACCTACGGTTTC
CCATACGACTTGACTGCCGACATCTGCCGCGAACGCAATATCGAACCGGACGAAGCAGGC
TTCGAGCGCGAAATGGAAGCCCAACGCGCACGCGCACGCGCCGCCCAAAGCTTCAAAGCC
AACGCCCAACTGCCTTATGACGGTCAAGACACCGAGTTTAAAGGTTATAGCGAACGCCAA
ACCGAATCCAAAGTCCTCGCCCTCTACAAAGACGGCGAGCAAGTCAACGAATTGAACGAA
GGCGACAGCGGCGCAGTCGTCATCGACTTTACCCCGTTCTATGCAGAATCCGGCGGCCAA
GTCGGCGATGTCGGCTATATCTTCTCAGGCGAAAACCGCTTTGAAGTACGCGATACCCAA
AAAATCAAAGCGGCCGTATTCGGTCAATTCGGCGTACAAACTTCAGGCCGTCTGAAAGTC
GGCGACAGCGTTACCGCCAAAGTGGACGACGAAATCCGCAATGCCAATATGCGCAACCAC
AGCGCAACCCACTTGATGCACAAAGCCCTGCGCGATGTATTGGGCAGACACGTCGAACAA
AAAGGCTCTTTGGTTACCGCCGAATCCACCCGTTTCGACATTTCCCATCCCCAAGCGGTA
ACTGCCGAAGAAATTGCCGAAGTAGAACGCCGCGTCAACGAAGCCATTTTGGCGAACGTT
GCCGTCAATGCAGCCATTATGAGCATGGAAGACGCGCAAAAAACCGGCGCGATGATGCTC
TTCGGCGAAAAATACGGCGAAGAAGTGCGCGTACTGCAAATGGGCGGTTTCTCTACCGAA
TTGTGCGGCGGCACACACGTTTCACGCACCGGCGACATCGGCCTCTTCAAAATCATCAGC
GAAGGCGGTATTGCCGCAGGCGTGCGCCGTATCGAAGCCATCACCGGCCTGAACGCACTC
AAATGGGCGCAAGAGCAAGAGCGTTTGGTGAAAGACATTATTGCCGAAACCAAAGCCCAA
ACCGAAAAAGACGTACTGGCAAAAATCCAAGCAGGCGCGGCACACGCCAAAGCATTGGAA
AAAGAATTGGCACGCGCCAAAGCCGAACTCGCCGTCCACGCAGGCGCCAAACTCTTGGAC
GATGCAAAAGACTTGGGCGCAGCCAAACTCGTTGCCGCCCAAATCGAAGCCGACGCAGCC
GCCCTGCGCGAAATCGTTACCGATTTAACCGGTAAATCCGACAACGCCGTGATTCTTTTA
GCGGCAGTAAACGACGGCAAAGTCTCCCTGTGCGCCGGCGTATCCAAACCGTTGACCGGC
AAAGTGAAAGCAGGCGATCTGGTTAAATTTGCAGCCGAACAAGTCGGCGGCAAAGGCGGC
GGCAGACCAGATTTGGCGCAAGCCGGCGGCACGGATGCCGACAAATTGCCCGCCGTGTTG
GATAGCGTGAAAGACTGGGTCGGCGCGAAGCTGGTTTGATGTGGGAAAGGCAGCCTGAAA
GGTTTCAGGCTGCCTTTTGTGCAAAGAGGCCGTCTGAAAGGTCTCGTTTGCCGTAGGTTG
GGTCGCGACCCAACAAATTTTGTGAAGTATAAAAATGTTGGTCATGACCCAACCTACCTG
CCTTTTTGTACAAAGAGGCTATCTGAAAGGCCTTGTTTGCCGTATGGTGGGTCGCGACCC
AGCAGATTTTTATTAGGGTATGACCCAAGCTACTTGCTACGATAAAAAAGGATTTTTAAA
TGAGCATTAGCCTTATTGGACTACACATTACCATAGCAATCATTTTGTTTTTTACTACAA
ATTTTATGGGAAAAAAATCATCTATATTTGGCTATTACCAACTGTCTTTTAGCGAAGAAA
ATCACTCTCCGGCATTTAATATTTTTTACAGAGCATTTACCCCTATATTATTTATCGTTA
TTTTTTCTTGGGTTGTTACTAGTCTTGAAATTCCCATTTCTCTTGAAAAGATAAACTATG
TAGTAATTTATTATTTTATAATTAGATTGTTATCTGTATTTGTTTTTGAGAAAACACACA
TAGTTAACTGGTTTAATCAACTAACAATACCCATACTATCCATAACATTATCATTTATAG
TATATAACAAAATGATTTTGCCCAAAAGTTTTCTACTTCCATCCTCACAAGAAGTAGCTA
CTACTTTTTGAATAGCGCTTGGTGGTTACATATATAATATATTAAATAATGAATCAGGGC
ATTTAAAATCTTATAAAGAAAGAAGAGTAAATTATGTAAAACACATGCACAAAAAATTTG
AAAGTTATTTTGGTAAAATTATAGATAAAATAATCAAAGAGGATAGTTATAATAATGATG
ATTTTTTAACCGATAAGAAAAAAGCACTAATATATTCAGTTTTAATTTATGAGAATTTTA
ATAGGGGACTAGTTTATAGATATTTTGAAAAAAATTATTTTGTACTGGTAGAATAAAAAC
ATTTGGAATAATGCAAGTAACCTCAGCAGAGTACCTTTCCAATGAGGAAAGTATAAAAAA
AGGCGGAAATATTCTTATGGAAAAATACAATGAAAAATATAATGAATCTATTGATGGCAA
TAAAACTCTCTATAAATCATATTATGAATCAAGAAGAGAGTATTAAAAACTACAACCC
AGATGCAAAATACATTAATGAAATTGAATCAATTTACATGATGCTTGGAGAAATCTATCC
AAATGCACCAGACTTCATGTCACCACATTTTGAGGGGGACTGCTCTGAGGGGGAATAAAA
TCATTATTTATTCTTTATTAGTTATTAGCAGGATTTGTCGGGCATAAATGCCCGACCTAC
AAATTCAATTTTTTCAAACCTCTGCCAAATATTTTCATCTTTGCAAGGCTGTCTGAAAAC
CCAAACCCCATTTTCAGACGGCCTTTTTTCGCTAAAATCCCCATACCGTTCAATCCGAAA
ACACAGGAGAATCATCATGGAAGTTACCATCTCCGCCATCATCAATGGCGAATTTGCCGA
CCAATACGGCAAGCGCGGTAGTCAGTTTAATGAAAACGGGATGCTGATTTAATTCTATTT
CCTTTGAAACTACCAATAACCTGCCTCCATCATAAAACTAAAAGCAAGCCGTAGCCTGCA
TTCCCACAAACCGCGTGCGTTGCCATGTCACACACCCTACCTGCGGGCGACGCAAACCTT
AAGAGACCTTTGCAAAATTCCCCAAAATCCCCTAAATTCCCACCAAGACATTTAGGGGAT
```

-462-

```
TTCTCATGAGCACCTTCTTTCAACAAACCGCCCAAGCCATGATTGCCAAACACATCGACC
GCTTCCCGCTATTGAAGTTGGACCGGGTGATTGATTGGCAGCTGATCGAACAATACCTGA
ACCGTCAAAAAACCCGTTACCTTAGAGACCACCGCGGCCGTCCTGCCTATCCCCTGCTGT
CCATGTTCAAAGCCGTCCTGCTCGGACAATGGCACAGCCTCTCCGATCCCGAACTCGAAC
ACAGCCTCATTACCCGCATCGATTTCAACCTGTTTTGCCGTTTTGACGAACTGAGCATCC
CCGATTACAGCACCTTATGCCGCTACCGCAACCGGCTGGCGCAAGACAATACCCTGTCTG
AACTGTTGGAACTGATTAACCGCCAACTGACCGAAAAAGGTTTAAAAATAGAGAAAGCAT
CCGCTGCCGTCGTTGACGCCACCATTATTCAGACCGCCGGCAGCAAACAGCGTCAGGCCA
TAGAAGTTGACGAAGAAGGACAAATCAGCGGTCAAACCACACCGAGTAAGGACAGCGATG
CCCGTTGGATAAAGAAAAACGGCCTCTACAAACTCGGTTACAAACAACATACCCGTACCG
ATGCAGAAGGCTATATCGAGAAACTGCACATTACCCCCGCCAATGCCCATGAGTGCAAAC
ACCTGTCGCCGTTGTTGGAAGGTCTGCCCAAAGGTACGACCGTCTATGCCGACAAAGGCT
ATGACAGTGCGGAAAACCGGCAACATCTGGAAGAACATCAGTTGCAGGACGGCATTATGC
GCAAAGCCTGCCGCAACCGCCCGCTGTCGGAAGTGCAAACCAAGCGTAACCGATATTTGT
CGAAGACCCGTTATGTGGTCGAACAAAGCTTCGGTACGCTGCACCGTAAATTCCGCTATG
CCCGGGCAGCCTATTTCGGACTGATTAAAGTGAGTGCGCAAAGCCATCTGAAGGCGATGT
GTTTGAACCTGTTGAAAGCCGCCAACAGGCTAAGTGCGCCCGCTGCCGCCTAAAAGGCAG
CCCGGATGCCTGATTATCGGGTGTCCGGGGAGGATTAAGGGGGTGTTTGGGTAAAATTAG
GCGGTATTTGGGGCGAAAACAGCCGAAAACCTGTGTTGGGATTTCGGTTGTCGTGAGGGA
AAGGAATTTTGCAAAGGTCTCCAGCAGTTTGCGCATACATGCCGTAACGGCAACCTTATA
CGGCTTACCCTCGGACAGCGGGCGTTGGTGGAAATCCCGAATAAGCGGTTCAAAACGTGT
CGCTGCCACGGTAGCCATATACAGTGCCTTAAGCACCGCAGACCTTCCGCCAAAGCAGCG
GCTTTTGAATTTGGCTTCCCCGCTCTTCCTCGGGTGCGGGGCAATGCCGACCAAACTCGC
TATCCGTTTGTGCGACAGCCGCCCCAATTCAGGTAGCATCGCCATCAGCGTAGCCGTCGT
TATCGAACCGATGCCTTTGATTGCTCCGCCACTTGGGCTTTGCCGTCAAAATGCGTGTG
GGTGTGGTCGTCGATTTGTTTGTCCGATTCGTCAATCAGCCGGTCAAAATGGGCAATCAG
TTGTTTGACGCTTCCGACTTGCGTTTCGTGAACCTGATGCAGACGGTTTTTCTCGGCAGT
CCGCATATCCGCCGATTGGTTGCGGCGGTTAACCAAGGCTTCCAACACTTCTTCCGCTTC
TGTGGGCGGGTGGTAGGGCATGGTTTGCCAATCTTCTTTCTGTGCCTTCATCTGTGCGAA
GAAGGCAGGCATTTTGGCATCTTTGGCGTCGGTTTTGGTCAGCGACTGCGATTGGGCAAA
CTGATGCGTCTGACGCGGGTTGGCGATAATCACGGCTATGCCTGCTCGGTGGATGGCTTT
GGCGGCGGGGATTTCGAGACCTCCGGTACTTTCCGTCACGACGAGGGCGACCTTGTGTTT
TTTAAGGTATTCGATAGTATGGGCGATACCTTTGGGGTTGTTGGTTTCGGTTTTGGTTTT
AGACAAAGACGAAACGGCGATGACGAAGTTTCGTTTGGCGATGTCGATATAGTGAATTAA
CAAAAATCAGGACAAGGCGGCGAGCCGCAGACAGTACGGATAGTACGGAACCGATTCACT
TGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTCGAGCTAAGGCGAGGCAACGTCGTACT
GGTTTTTGTTAATTCACTATATCTGTGCGTTACGACGGCATGCCGTCTGAAGGGTGTTTA
TGTCTGCATCTAAGAAATTTCCGATTCCTTTGAGCTATTTCAGCATCGCGCTGGGCTTGT
TTGCCTTGGGGCTGTCGTGGCGTTACGGCGCGTCTGTCGGGCTGCTGCCCGCCTTGGCCG
CCGAATCGCTGCTTGCGGCGGCTTCGGTCGTCTGGCTCTTGCTGGTGGCGGCATACCTGA
TCAAAATGTTTGCGTACCGAAACGATTTTTTGTCTGATTTACGCGACTTGGTGCAATGCT
GCTTCATCAGCGCGATTCCGATTACCGCTATGCTGGAGGGACTCGCGCTGAAGCCCTATC
AGGCAGGCGCGGCGGCAGTCCTGATTTATGTCGGCGTTGCCGGACAGTTGGCTTTTTCGA
TGTATCGGGCGGCCGGTCTGTGGCGCGGCCTGCATTCCTTGGAGGCGACGACGCCGATTA
TTTATCTGCCTACGGTTGCGACAAACTTTGTCAGCGCGTCATCTCTGGCGGCGTTGGGGC
ATCATGATTATGCAGCTTTGTTTTTCGGCGCGGGTATGTTTTCCTGGCTGAGCTTGGAAG
CCTCCATCTTGGGCAGGCTGCGCACGGCGGCACCGGTCGGCACGGCGGCGCGCGGCGTGG
TCGGCATCCAGCTTGCGCCCGCCTTTGTCGGCTGCGGCGCGTATTTTGCCGTCGGCGGTA
AAGTCGACGGTTTTGCGTTGGCATTAATCGGCTACGGCTGCCTGCAGCTTTTGTTCTTGC
TGCGCCTGACCCGCTGGTTTTGGGAAGGTGGTTTTACGATGAGCTTTTGGGGATTTTCAT
TCGGTTTCGCGGCAATGGCAGGATGCGGTCTGCATCTGGCGGCTTCCGGCGTATTGTCGG
GCTTGGGGCTGACGCTTGCCACCGCCGGATCGGCAGGCGTGGCGCTGCTTGTCGGTA
CGCTGCACCGGATAGCGACGGGGCGTTTCTTGGTACGCAGCTGATGCGTTTTGCCGCCTT
GTCAAAAATGCCGTCTGAAACGCTGGGATTCAGACGGCATTTTTATTTCACACCCTTAC
AGGTAGAATTTTTCGATGACTTTCAAATTGTCGTCCAATTTGTACACCAACGGCTGACCG
GTCGGGATTTCCAAGCCCATAATGTCTTCGTCGGAAATGCCCTCGATGTGTTTTGCCAGC
GCGCGCAGGGAGTTGCCGTGCGCCGCCACCAAGACGCGTTTGCCGCTCAAAATCGCGGGG
GCGATTTGGTCTTCCCAAAACGGCAATACGCGCTCCAGCGTTACTTTCAGGTTTTCGCCG
TCGGGTACGACATCGGCAGGCAGATGGGCATAGCGGCGGTCTTTGTGTGCGGAAAACTCA
```

```
TCGTCTTTGTCCAAAAGCGGCGGCAGGGTGTCGTAGCTGCGCCGCCAGATGCGGACTTGC
TCGTCGCCGTATTGTTCGGCGGTTTGTTTTTTGTCCAGGCCTTGCAGTTGGCCGTAGTGG
CGTTCGTTCAGCCGCCACGTTTTGATTTGCGGTACGAACAGTTGGTCGGATTCTTCCAAA
ACGATGTTGCAGGTCTTAATCGCGCGGGTCAGGACGGATGTGAAGGCGATGTCGAACTCA
TAGCCGTTTTCTTTCAGTTTCTTGCCGGCGGCGGCAGCCTCGGCAAGCCCCTGCTCGCTC
AGCTTCACGTCGCGCCAGCCTGTAAACAGGTTTTTCGCGTTCCATTCGCTTTGTCCGTGG
CGGATAAATACCAGTTCCATATCGTCTCCAATGTGTGAAAGTGGGAAAGCCTTATTTATA
ACATATTTTCACATTTCCCGTATTTGATTCAGATTCAGACACGCGCCCACTATGGTTTGC
CGTTTTGATTTACAATAATGTCCTTTGCTTTACATTCCGCATACACAATGAATACGCAAG
CGCACGCCCCACATACCGATTCCAATACGCTGATGCTCGGCCGATACGCCGAACGCGCCT
ATCTCGAATACGCCATGAGCGTGGTCAAAGGCCGCGCGCTGCCTGAAGTTTCAGACGGCC
AGAAGCCCGTGCAGCGGCGCATTTTGTTTGCCATGCGCGATATGGGTTTGACGGCGGGGG
CGAAGCCGGTGAAATCGGCGCGCGTGGTCGGCGAGATTTTGGGTAAATACCACCCGCACG
GCGACAGTTCCGCCTATGAGGCGATGGTGCGGATGGCGCAGGATTTTACCTTGCGCTATC
CCTTAATCGACGGCATCGGCAACTTCGGCTCGCGCGACGGCGACGGGGCGGCGGCGATGC
GTTACACCGAAGCGCGGCTGACGCCGATTGCGGAATTGCTGTTGTCCGAAATCAATCAGG
GGACGGTGGATTTTGTGCCGAACTACGACGGCGCGTTTGACGAACCGCTGCACCTGCCCG
CCCGCCTGCCTATGGTGTTGCTCAACGGCGCGTCAGGCATTGCGGTGGGCATGGCGACCG
AGATTCCGCCGCACAATTTGAACGAAGTGACGCAGGCGGCGATTGCGTTGTTGAAAAAGC
CGACGCTGGAAACCGCCGACCTGATGCAATATATTCCTGCCCCCGATTTTGCCGGCGGCG
GTCAAATCATCACGCCGGCGGACGAATTGCGCCGGATTTATGAAACCGGCAAGGGCAGCG
TGCGCGTGCGTGCGCGTTATGAAATCGAAAAATTGGCGCGCGGACAGTGGCGCGTCATCG
TAACCGAGCTGCCGCCGAACGCCAATTCCGCCAAAATCCTTGCCGAAATCGAAGAGCAAA
CCAACCCGAAACCGAAAGCGGGTAAGAAACAGCTCAACCAAGACCAGCTCAATACCAAAA
AGCTGATGCTGGATTTAATCGACCGCGTGCGCGACGAGTCCGACGGCGAACATCCCGTGC
GACTGGTATTCGAGCCGAAATCCAGCCGCATCGATACCGATACCTTCATCAACACGCTGA
TGGCGCAAACTTCGCTGGAAGGCAATGTGTCGATGAACTTGGTGATGATGGGTTTGGACA
ACCGCCCCGCGCAGAAAAACCTGAAAACGATTTTGCAGGAATGGCTGGATTTCCGCACCG
TAACCGTAACACGCCGTCTGAAATTCCGTTTGAACCAAGTGGAAAAACGGCTGCACATCC
TCGAAGGCCGTCTGAAAGTCTTTCTGCACATCGACGAAGTGATTAAAGTCATCCGCGAAT
CAGACGACCCGAAAGCCGATTTGATGGCGGCGTTCGGGCTGACCGAAATCCAAGCCGAAG
ACATTTTGGAAATCCGCCTGCGCCAGTTGGCGCGTTTGGAGGGTTTCAAACTCGAAAAAG
AATTGAACGAGTTGCGCGAGGAACAAGGCCGTCTGAACATCCTTTTGAGCGACGAAAACG
AAAAACGCAAGCTGATTGTCAAAGAGATGCAGGCGGATATGAAACAATACGGCGACGCGC
GACGCACGCTGGTGGAAGAGGCCGGACGCGCCGTGCTGACGCAGACCACCGCCGACGAAC
CCATCACGCTGATCCTGTCGGAAAAAGGCTGGATACGCAGCCGCGCCGGACACAATCTCG
ATTTGAGCCAAACCGCGTTCAAAGAAGGCGACTGCCTCAAACAAACCCTCGAAGGCAGAA
CGGTTTTACCCGTCGTCATCCTCGATTCATCGGGCAGAACCTACACGCTCGATGCCGCCG
AAAATCCCCGGAGGGCGCGGCGACGGCGTACCGGTTTCCTCCTTAATCGAGCTGCAAAACG
GCGCGAAACCCGTTGCGATGTTGACAGGATTGCCGGAACAACATTATTTATTATCAAGCA
GCAGCGGCTATGGCTTCATCACCAAGCTGGGCGATATGGTCGGGCGCGTGAAAGCGGGCA
AAGTGGTGATGACCGCAGACAGCGGCGAAACCGTTTTGCCGCCGGTTGCCGTCTATGCCT
CCTCGTTCATCAACCCCGACTGCAAAATCATTGCCGCCACCAGTCAAAACCGCGCCCTCG
CCTTCCCCATCGGCGAATTGAAAATTATGGCGAAAGGCAAAGGGCTGCAAATCATCGGAT
TAAACGCCGGCGAATCGATGACGCATACCGCCGTTTCTTCCGAGCTGGAAATCCTGATTG
AAAGCGAAGGCAGGCGCGGCGCGGCGCACAAAGACCGCATCCCCATCTCCCTGCTTGAGG
CAAAACGCGGCAAAAAAGGCAGACTATTGCCCATATCGGGCAGCCTGAAACAGCTTTCTT
CCCCTAAATAAACCCGGTTCCGCACATATTATGGTGATTTCCAACCCCCGCGAACTTGAA
AAACTCAAAGACCGGATTCCCAATCTGATCAACATCATCCGCGTCGCCATCGTTTTTCCG
CTGATGATTATGCACATCCTCGGGCTGGAAACCGGCAGCCGTGCGAACCTGCACGCTTCG
TGGACGGCGTGGGCGTTTTATGTTTGGCTCGCCATTGCCTGCTGGCTGATTTTCTTTTCC
ATTATCCATCCGCATTGGCAATGGCAGTCGCTGAAAATGCCGCGTTTCAGCGCGGTAGCG
GACATCACGATGATCGGCGTGCTGACCTACCTGTTCGGCGGCATCGATTCCGGCTTCGGC
ATCCTGATCCTGCCCTTCGTCGTCTGCTCCTGCCTGCTCAGCTACGGGCGCTACCCCCTG
CTCTATTCCAGCTACGCCGCCATCCTGCTGATATTCAACGCCATTGCCGACGGCGATATC
GGCAAATACCCGCTCATATCGGATGCCCGAACCGCCTCGGCAACCTTCATCCTTGTCGCC
GCCTCCTATCTTTCCGCCATCTTCACCTCACTGTCGGTCAAATACATCGACCGTGCCGGA
AAACTCGCCTACGACAGCCATATCGCCTACCACCGCATCAAAGGCTTGAGCCAAACCGTA
CTCGAACGCGTTCAGGAAGCTGTCGTCGTCATCAATGCCGAAGGGCTGGCGGTGCTGTTC
```

```
AACCGGAAGGCGAAAGACCTTTTCCCCGCGCTCGAAATCGGACGGCGCGCCGGTCTGTCC
GATTCTGCCGCCGAACTGTGGGATCAAGCCTCTCCGCACACTTTCGAATACGTCCTCGGC
ACACCCGGCCTGAACGCCGGCATCCGCGCCGTTCCGGTCAACAAAGGGTCGGACAAGCTG
CTCATCCTCTACATCCGCCCGCAAGCGAAATTCAGGCAGAAGCCCTGTCCGTCAAACTT
GCCGCGCTCGGACAACTGACCGCCAACCTCGCCCACGAAATCCGCAACCCGATGTCCGCC
ATCCGCCACGCCAACGACCTGCTGCGCGAAAATATGGAAGCGGGGGCGGCAGATCCGTTC
AACGCCAAATTGTGCAAAATCATCGACGGCAACATCTGCCGCATCGACAAAATGCTCGAA
GACATTTCCTCGCTCAACAAGCGCAACAAAACCGAACGCGAAACCATCGGCCTGATACCG
TTTTGGGAAGAATTCAAACAAGAGTTCCTGCTCGGCCATCCCGATGCCGCCGACTGCATC
CGTCCGGACATTCAAGGCGGCAGCCCGACCGCCTATTTCGATCCCGCCCACCTGCGGCAA
ATTATGTGGAACCTCGCCAACAACGCGTGGCGGCACAGCCGCAAACAGCCCGGCTCGATT
TCCGTCACCATCCGCCCCGCGCAAAAAAACACCGTCTGTATCCTCTTTGCCGACCGCCCG
AAGTGCAGGAACACCTGTTCGAACCCTTTTACACCACGGCGGAAAACGGCACCGGCCTCG
GGCTGTATGTCGCCCGCGAACTGCGCACGCCAATTTCGGCGATTTGACCTACCTACCGG
AAGCCAAATGTTTCGAACTCACATTACCGGAAAAAACCAATGACTGAACTGCAACACCCC
GTCCTCGTCGTCGATGACGAAACCGACATTCTCGACCTGATGGAAATGACCCTGATGAAA
ATGGGCTTGCGCGTCCATACCGCGTCAGGCGTTGCCGAAGCCAAAAACAAGCTCGACAGC
CAACGCTATTCGCTCGTCCTGACCGATATGCGTATGCCGGACGGCTCGGGGCTGGAAGTC
GTCCAACACATCAACAGCCGCCTGCTCGATACGCCGGTTGCCGTCATCACCGCCTTCGGC
AACGCCGATCAGGCACAGGAAGCGTTGCGTTGCGGCGCGTTCGACCCCGATACCATGCAG
ATACAGGACTATCTCGACCAAATCGAACGCGACATCATCGAACAAACCCTCAAACAAACC
GAAGGCAACCGCACGCAGGCCGCCAAACGCTTGGGCATCAGCTTCCGTTCCATGCGCTAC
CGTATGGAACGCCTCAACATCGGCTGACGACAAAACGGCATCCGCACCATCTCCGCCCAC
CCGAAAAAATGCCGTCTGAAACGGCACGGGAAAGCGGGTTCGCCCCACGCCCGAACGGAC
ACAAAACACCATGACCGACATCCTTATTGACAACACCGCCACCGAAACCGTCCGCACCCT
GATACGGGCATTCCCCCTTGTGCCCGTTTCCCAACCGCCCGAACAAGGCAGTTACCTCCT
TGCCGAACACGATACCGTCAGCCTCAGGCTTGTCGGGGAAAAAAGCAGCGTCATCGTCGA
TTTTGCCTCCGGCGCGGCACAATACCGGCGCACAAAAGGCGGGGGCGAACTCATCGCCAA
AGCCGTCAACCACACCGCGCACCCCACCGTTTGGGACGCAACCGCAGGATTGGGGCGCGA
CAGCTTCGTCCTCGCCTCGCTCGGGCTGGCCGTTACCGCCTTCGAGCAACATCCCGCCGT
CGCCTGCCTGCTTTCAGACGGCATCCGCCGCGCCCTCCTCAATCCCGAAACGCAAAACAC
CGCCGCGCACATCAACCTCCATTTCGGCAACGCCGCCGAACAAATGCCCGCACTTGTCCA
AACACAAGGCAAACCCGACATCGTCTATCTCGACCCCATGTATCCCGAACGCCGCAAAAG
TGCCGCCGTTAAAAAAGAAATGACCTACTTCCACCGGCTCGTCGGCGAAGCGCAAGATGA
AGCGGCACTCCTGCATACCGCACGCCAAACAGCAAAAAAACGCGTCGTCGTCAAACGCCC
CCGCCTCGGCGAACACCTTGCCGGACAAGACCCTGCCTACCAATACACAGGCAAAAGCAC
CCGCTTCGACGTTTACCTGCCCTACGGGACGGACAAGGGATAACGCCCATAAAACAAGAC
ACCGAAAAATTTGCCGTTCTTATGCAAACGAGAAACCGGTTTTTGCGTTTCGACTGTTTT
GGATAAGTCATCACACCTTAAAGTTTGTCATTCCCACAGAAGTGGGAATCCGATTCATTC
AGTTTTATAGTGGTTTAAATTTAAACCACTATAGTTGTTTTCGAGTTTCAGGCAACTTCC
AAACCGTCATTCCCACGGAAGTGGGAATCTAGAAATGAAAGGCAACAGGAATTTATCGTA
AATGACTGAAACCGAACGGACTAGATTCCCGCCTACGCGGGAATGACGGGGCGGGCAGAT
GCCGTCTGAAATTCCGTCATTCCCGTGAAAACGGGAATCTAGAACTTCTGATTTTTCAGA
CGACTTTTGAACATTGCCGCCACCCAATGATCTGGATTCCCACCTGCGCGGGAATGACGA
GGTTTCAGGTTGCTGTTTTTAAGTTGCTGTTTCGGGTTGCTGTTTTTTATGGAAATGACA
AGGTTTTAGATTGCGAGAATTTATCCGCTCCTCCGTCATTCCCACGGAAGTGGGAATCCA
GAAATGAAAAGCAACAGGAATTTATCATAAATGACCGAAACCGAACGGACTAGATTTCCG
ACTGCGCGGGAATGACGGGGCGGGAGGATGCCGTCTGAAATTCCGTCATTCCCGTGAAAA
CGGGAATCTAGAACTTCTGATTTTTCAGACGACTTTTGAACATTGCCGCTACCCAATGAT
TTGGATTCCCGCCTGCGCGGGAATGACGATGTAAAATTATCCGGGATTCAAAAAGACAGG
CTTTCACATCCGTGGGAATGACTGCGGAAGATGATTTTTATAGTGGATTAACAAAAATC
AGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGCAAGGCGAGGCAACGCCGT
ACTGGTTTTTGTTAATCCACTATATTTTGTCATAAAAATCCGCACCTTAATCAGTTGGCG
GTTAAATCAAACTTTTAGGGTGCAGATTACTTTTTATGATTTCAGACAGCATTTTGACAG
GCGGCAGCCTATTTCGGCAATACCAAAAACTTAATCAGCAGTTCTTTGAATACAAAACCG
AACACGCCCAAGCCCAAAACCAAAAACAAAATGGCGATGCCGAATTTGCCTGCTTTGGAC
TCCTTGCCCAAATTCCAAACGATAAAACCCAAAAAAAATAATCAAGCCGGTCAGGCAGATT
TTCAACGCCCAATCGGCAAAAACCGCTTCATCCATATTTTTTTCCTATTGTTGATGTGTA
TGCCATATAAGATAAGGGTTTCAGACGGCATCTGCTGTCCAATGCCGTCTGAAACACGCA
```

-465-

```
ATCAGCGTGCGAGTGCCTGTTTCAAATCGTCAATCAAATCGCCAACATATTCCAAACCGA
CCGACAGGCGCACCAATCCGGGGCGGATGTTGGCGGCGAGTTTTTCTTCGGGCTGCATCC
TGCCGTGCGTGGTTGTCCACGGGTGGGTAATGGTCGAGCGCACGTCACCGAGGTTGGCGG
TGCGGGAAAGAGTTCCACGCCGTCCACAACTTTCCACGCCGCTTCTTGATCGGCAACTT
CAAAGCCGATGACGATGCCGCCGCCGTTTTGCTGTTTGCGGATAAGCGCCGCCTGAGGAT
GGTCGGACAATCCGGTGTAGTACACGGCTTGAACCTGCGGCTGCGCTTGCAGCCATTGTG
CGATTTTCAGGGCGTTGTCGAACTGTTTTTCCATACGCAGCGACAGGGTTTCCACGCCGC
TCAACAACTGCCACGCATTAAACGGCGACATCGCCAGCCCGCAAGAGTTGCAATACATGG
CGACCTGCGCCAACAACTCTTCCGAACCCGCCAACACGCCGCCCATCACACGCCCGTGTC
CGTCTATGGCTTTGGTCGCGGAGGAAACGGAAATATCCGCACCGTGTTTCAAAGGCTGCG
AGCCGACGGGCGACAGCAGGCTGTTGTCCACCACCAAGAGCGCGCCGATGCCGTGCGCCA
ATTCCGCCAAGGCTTCCAAGTCGGCCACTTCGCCTAAGGGGTTGGACGGCGTTTCCAAAA
ACAGCAGTTTGGTATTGGCTTTGACGGCGGCTTTCCATTCGTTTATATCAGTCGGCGACA
CGTGGCTCACTTCGATGCCGAATTTGGCAACGATGTTATTGATAAAGCCGACGGTCGTGC
CGAACAGGCTGCGGCTGGAAATCACATGGTCGCCCGCCTGCAAAAAGGTGAAAAACGCCG
CCTGAATCGCAGACATACCCGCCGAAGTGGCGACCGCGCGTTCCGCACCTTCCAAAGCGG
CGATGCGTTTTTCAAAGGCGGCTGTGGTCGGGTTGGCGGTACGGGTATAAGTGAACCCTT
TGATTTTTTTTGAAAACAAATCGGCAGCGTGTTGGGCGTTGTCCCACATGAAGCTGCTGG
TCAGAAACAATGCCTGATTGTGTTCGCGGTATTCGGTTTGTTCTTTGCCGCCGCGTATGG
CGAGCGTTTGCGGATGGAGTTTTTTGCTCATCGGTGATTCCTCGGTTTTGTCCGTTCGGC
AACGGAGCGTGCGCCCGTTGTTTAATTTGTTAATATTTTGCGCCTGTTCTATGATGCTTT
CAAGTCGGATGAGAATGCAAATGCCGTCTGAAACGGCTTTCAGACGGCATGGCAATCAGC
GTTTGTATTTTAACTCGTACTTGATGTCGTTGAGGATTTTGCGGACATCGTGTTCCAACA
CGTCTTCGACTACCGCCCCCGCCTGCTCGTGCAGCATCTGCTGGAGCTGATAGGTGAAAA
CCGCCATCTGCTTTTGCACCGCCGTTCGGATGATGCCGTTGACGGTATCGGTCAGATGCG
GGCGCAGGCGTTTGATCAGCCGTTCGGTCAGCTCCTGTTCGGACAGGCAGAACACTTCGC
GCCGGTTGACGGCTTTCGGGTTCAGGATATTGATTTGGACGGGCATCAACGTTTCTTCCG
CATCGTTTTCCCCGTTTTCCGAAACCGCCGGCTCATTCGTGCCGGATTCTGCCTCGTCGG
CGTTTTCCCCGCTTTCAATCTGTCCGGTTTCAAATTCGACACTGTCTTTTTTGGTATCAA
ACCGGATTCTCCGCCGCGATTCGATGTGTTTTTCCGAAACCGACATTTGCAGGGAAGCCT
GCGCGTTGAGCCAGTTTTCCTGAAGGACGATCATCGGGTCGGTTTCGACTTCCTCGCCGC
AATCGGCAACGGCGGCATTGTGTTCCTCCTGCCATTTTTTCAGATACGCCTTCAACACAC
GGGCTCGGCTCTCATCGTCCAGTTTCGGCACAGGCGCGTCCGTTCCGGTTTCAGAGGGGC
GGGACAGCGGCGCGTAAGTCGGCACTGCCTTCATACGGCGCGTCTGACGCAGGTTTTCCA
AACGTTTTTCCCAATTCGGCTCTTTATTCGCATCCATTTTCGGCTTCCGGTTCTTAATCT
TTGCAAGCAGACAAACCCGCGCCCAAAGCGCGGTTTGATATAATGGCGCATTTTAACAGA
TTCGCGAGGATACATCATGGGCAGCATCGAACAGCGTTTGGAATATCTGGAAGAGGCGAA
CGACGTGCTGCGTATGCAGAACCACGTCCTGTCCACCGCATTCAAAGCCTTAATCCGCGC
CCTTCCCGCCGAAACCGCCGAAATCGCGGTCGAGTCGATTCAGCTTGCTTTTGAGGACGC
CTTGGCAGAATTGAGCTATGAGGACAGCCCGCATACGGATTTGTTCCACGACGTTACTTA
TGCGTTTTTCCGTGAAAAAGAACGTTAATTTTATGTTAAACTGATTTTTTAGGCTTTTTG
ATTACCGAAAGGAATTTTGATGAATATGAAAAAATGGATTGCCGCCGCCCTTGCCTGTTC
CGCGCTCGCGCTGTCTGCCTGCGGCGGTCAGGGCAAAGATACCGCCGCGCCTGCCGCCAA
CCCCGACAAAGTGTACCGCGTGGCTTCCAACGCCGAGTTTGCCCCCTTTGAATCTTTAGA
CTCGAAAGGCAATGTCGAAGGTTTCGATGTGGATTTGATGAACGCGATGGCGAAGGCGGG
CAATTTTAAAATCGAATTCAAACACCAGCCGTGGGACAGCCTTTTCCCCGCCTTAAACAA
CGGCGATGCGGACGTTGTGATGTCGGGCGTAACCATTACCGACGACCGCAAACAGTCTAT
GGACTTCAGCGACCCGTATTTTGAAATCACCCAAGTCGTCCTCGTTCCGAAAGGCAAAAA
AGTATCTTCTTCCGAAGATTTGAAAAACATGAACAAAGTCGGCGTGGTAACCGGCTACAC
GGGCGATTTCTCCGTATCCAAACTCTTGGGCAACGACAATCCGAAAATCGCGCGCTTTGA
AAACGTTCCCCTGATTATCAAAGAACTGGAAACGGCGGCTTGGATTCCGTGGTCAGCGA
CAGCGCGGTCATCGCCAATTATGTGAAAAACAATCCGGCCAAAGGGATGGACTTCGTTAC
CCTGCCCGACTTCACCACCGAACACTACGGCATCGCGGTACGCAAAGGCGACGAAGCAAC
CGTCAAAATGCTGAACGATGCGTTGGAAAAAGTACGCGAAAGCGGCGAATACGACAAGAT
TTACGCCAAATATTTTGCAAAAGAAGACGGACAGGCCGCAAAATAAGCCCGCCCGTCCGA
ACACAATGCCGTCTGAAGCCCTTTCAGACGGCATTGTTCATCAATCGGCCTACAATGAAC
TGCCTGCTGATTTCTCCCTACCGCAAAGCAACAGGCAAAGATTACAAATATCAAAATCCG
AGTAAAACAGTATTTTATTAAAACAAATTGATAATCAAGAGATTAGAATTATGTATTGTC
TTTACCGTACAAACGCTGGCACTATTTCAACCTGATAAAAAACAGCCTTCAAAAAGGTTG
```

-466-

TTTAAAACAGCAGCAGACACTTACCGCCACAACCTTGAAAAGGAACACAATCATGACCGT
CATCAAACAGGAAGACTTTATCCAAAGCATTTGCGATGCCTTCCAATTCATCAGCTACTA
TCATCCCAAAGACTACATCGACGCGCTTTATAAGGCGTGGCAGAAGGHAGAAAATCCTGC
CGCCAAAGACGCGATGACGCAGATTTTGGTCAACAGCCGTATGTGTGCGGAAAACAACCG
CCCCATCTGCCAAGACACAGGTATCGCAACCGTCTTCCTCAAAGTCGGTATGAACGTCCA
ATGGGATGCGGACATGAGCGTGGAAGAGATGGTTAACGAAGGCGTACGCCGCGCCTACAC
TTGGGAAGGCAATACGCTGCGCGCTTCCGTCCTCGCCGATCCGGCCGGCAAACGCCAAAA
CACCAAAGACAACACCCCCGCCGTCATCCATATGAGCATCGTGCCGGGCGGTAAAGTCGA
AGTAACCTGCGCGGCAAAAGGCGGCGGCTCTGAAAACAAATCCAAACTCGCCATGCTCAA
TCCTTCCGACAACATCGTCGATTGGGTATTGAAAACCATCCCGACCATGGGCGCGGGCTG
GTGTCCTCCCGGCATCTTGGGTATCGGCATCGGCGGCACGCCCGAAAAAGCCGTGCTGAT
GGCAAAAGAGTCCCTGATGAGCCACATCGACATTCAAGAATTGCAGGAAAGGCCGCGTC
CGGCGCGGAATTGTCCACCACCGAAGCCCTGCGCCTCGAACTCTTTGAAAAAGTCAACGC
GCTGGGCATCGGCGCACAAGGCTTGGGCGGACTGACCACCGTGTTGGACGTGAAAATCCT
CGATTATCCGACCCACGCCGCCTCCAAACCGATTGCCATGATTCCGAACTGCGCCGCCAC
CCGCCACGTCGAATTTGAATTGGACGGCTCAGGCCCTGTCGAACTCACGCCGCCGCGCGT
CGAAGACTGGCCCGATTTGACTTACAGCCCCGACAACGGCAAACGCGTCGATGTCGACAA
GCTGACCAAAGAAGAAGTGGCAAGCTGGAAAACCGGCGACGTATTGCTGTTGAACGGCAA
AATCCTCACCGGCCGCGATGCCGCACACAAACGCCTCGTCGATATGCTCAACAAAGGCGA
AGAATTGCCCGTCGATTTCACCAACCGCCTGATTTACTACGTCGGCCCCGTCGATCCGGT
CGGCGATGAAGTCGTCGGTCCGGCAGGTCCGACCACAGCCACCGCATGGACAAATTCAC
CCGCCAAATGCTCGAACAAACCGACCTCTTGGGCATGATCGGCAAATCCGAGCGCGGCGT
GGCCACCTGCGAAGCCATCGCCGACAACAAAGCCGTGTACCTCATGGCAGTCGGCGGCGC
GGCGTATCTCGTGGCAAAAGCCATCAAATCTTCCAAAGTCTTGGCGTTCCCCGAATTGGG
CATGGAAGCCATTTACGAATTTGAAGTCAAAGACATGCCCGTAACCGTCGCCGTAGATAG
CAAAGGCGAATCCATCCACGCCACCGCCCCGCGCAAATGGCAGGCGAAAATCGGCATCAT
CCCCGTCGAATCTTGAGGCGCCATGCCGTCTGAACACAAAATCTGCCTTCAGACGGCATT
TCCGCCCCCGGTTGCGGTACAATCCACCATTTCATCACTCGGCGACCCACACCGTGAAAA
TCCTCATTTTAGGCAACGGACAGGTAGGTTCTACCGTCGCACAAAACCTTGCCGCCATAC
CCAACAACGACGTAACCGTTATCGACATCGACGAAAAAGCATTGCAGGAAACAGGCAGCC
GCCTCGATGTCCAAACCGTTTTCGGCAACGGCGCATCCCCCTTCACATTAGAACGCGCCG
GCGCGGAAGATGCCGACTTGCTGCTCGCGCTCTCCCGCAGCGACGAAACCAACATCGTCG
CCTGCAAAGTTGCCGCCGACCTGTTCAACATCCCCGGCCGCATCGCGCGCGTCCGTTCCA
GCGAATACCTCGAATACCTCAGCCCCAAGCTCGAAAACAACGAAAACGGCAGCCTTTCCA
TATTCGGCATAACCGAAACCATCAGCCCCGAACAGCTCGTTACCGAACAGCTTGCCGGCC
TGATAGACTGCCCGGGCGCATTGCAGGTTTTACGTTTTGCAGACGACCGCGTGCGGATGG
TCATCATACAGGCGCGGCGCGGCGGACTGCTTGTCGGACGCAGCATTGCCGACATCGCCC
AAGATTTGCCCGACGGGGCCGACTGCCAAATCTGCGCCGTTTACCGCHACAACCGCCTCA
TCGTCCCCGCGCCGCAAACCGTCATCATCGAAGGCGACGAAATCCTATTTGCCGCCGCCG
CCGAAAACATCGGCGCGGTCATACCCGAATTGCGCCCCAAAGAAACCAGCACCCGCCGCA
TCATGATTGCCGGCGGCGGCAACATCGGCTACCGTCTCGCCAAGCAGCTCGAACACGCAT
ACAACGTCAAAATCATCGAATGCCGGCCGCGCCGTGCCGAATGGATAGCCGAAAACCTCG
ACAACACCCTCGTCCTGCAAGGTTCGGCAACCGACGAAACCCTGCTCGACAACGAATACA
TCGACGAAATCGACGTATTCTGCGCCCTGACCAACGACGACGAAAGCAACATTATGTCCG
CCCTTTTGGCGAAAAACCTCGGCGCGAAGCGCGTCATCGGCATCGTCAACCGCTCAAGCT
ACGTCGATTTGCTCGAAGGCAACAAAATCGACATCGTCGTCTCCCCCCACCTCATCACCA
TCGGCTCGATACTCGCCCACATCCGGCGCGGCGACATCGTTGCCGTCCACCCCATCCGGC
GCGGCACGGCGGAAGCCATCGAAGTCGTCGCACACGGCGACAAAAAACTTCCGCCATCA
TCGGCAGGCGCATCAGCGGCATCAAATGGCCCGAAGGCTGCCACATTGCCGCCGTCGTCC
GCGCCGGAACCGGCGAAACCATTATGGGACACCATACCGAAACCGTCATCCAAGACGGCG
ACCACATCATCTTTTTCGTCTCGCGCCGCATCCTGAACGAACTGGAAAAAACTCATCC
AGGTCAAAATGGGCTTTTTCGGATAAACCGCCCCATTCCGGACATATTGCCGCCAAGCGG
TATGGAAGCGGAAATAATGGTAGGTGGGCTTCAGACGGCATCCGCCCTCCCCGTCATTCC
CGCGTAAGCGGGCATCCAGACCTTGGGATAGCGGCAATATTCAAAGGTTATAAAAGACCC
GTCATTCCCGCGCAGGCGGGAATCCAGACCTTGGGATAGCGGCAATATTCAAAGGTTATC
TGAAAATTTAGAGGTTCTAGATTCCCGCTTTCGCGGGAATGACGAAAAGTTGCGGGAATC
CAGAACGTCGGGCAACGGCAATATTCAAAAGCCGTCTGAAAATTTAAAAGTTCTAGATTC
CCGCTTTCGCGGGAATGACGAAGTTTCAGACGGCATCGCCCGCCTGTTTTGATATAGCGG
CACCCCCCCGACAAAAAAACAATCCGGAACGCATCTGACCGTTCCGGCTTGTTTTCAGGC

```
GAATCCGCCGCATCAGAACATACTGCGCACGCCCATATTGACCTGCCAAGTCTAGCGCAT
CGTGTGCATCGAAGACCTTTGCGCCTCAAAATAAAGCTGCCTTCCGTTGTCGGCATTACC
ACGCAAAAAAATGAATTGCTTGATATTCCAATGTTTTTTATATGTTTTTATATTGTGATG
CGATCAGACAAACGCCCCCCTGACATTTGTTTAGACGGCATCGTATTGCTAAATTTCTAT
AAGTATGTATAATGTCCGTTTCCACGCGCCCATCGTCTAGAGGCCTAGGACACTGCCCTT
TCACGGCGGCAACCGGGGTTCGAATCCCCGTGGGCGTGCCAATTCAAAAACCTGCTTGTT
TCAAGCAGGTTTTTTATTATGAGTCGTCATTCCCGCAATTTTTCGTCATTCCCGCAAAAG
CGGGAATCTAGAGCGTAGGGTTGAAGAAACCGTTTTATCCGATAAGTTTCCGTGCCGACA
GGTCTGGATTCCCGCCTGCGCGGAAGGACGGCAGAGGGTGGACGATGCCGTCTGAAGCC
TGACAAAGCATTTGATGCCGTCTGAAACTTCGTCATTCCCGCAAAAGCGGGAATCTAGAG
CGTAGGGTTGAAGAAACCGTTTTATCCGATAAGTTTCCGTGCCGACAGGTCTGGATTCCC
GCTTTCGTAGGAATGACGGAATTTTAGGTTTCTGTTTTTGTGGAAATGACGAATAAAGCG
TGCCGGTTTATGCTCGCCGCAACACGCGGTTCAGACGGCATTGCTCTCTTTTTTCATTAT
CAGTGGGTGTAGCAACTGTATTTTTCACCCCGTCGGGCAAAAATACAGTTGCTACGATGC
ACCCCGCCGCCCTGCCCTGTGCCTTGTCCTGCAATACGGCATATAATGCACCACAAACCC
CCGCGCTGCGGTTTTCAGACGGCATCGCCGTGCTTTTTTACAGGCATTAGCCCTTTTTAT
CGGACGCAATATTAAGGAGGAACAAATGAAAAGCTCTTTTGTGCAAACGCTTACCATCGC
CGGTTCGGATTCGGGCGGCGGTGCGGGCATTCAGGCGGATTTGAAAACATTTCAGATGCG
CGGCGTGTTCGGAACGTGCGTCATCACCGCCGTTACCGCGCAAAATACCTTGGGCGTGTC
GGCGGTTCATCTCGTCCCGACCGAAACCATCACCGCACAAATCCAAGCAATCAGGGAAGA
CTTCGACATCCGCGCCTACAAAATCGGTATGCTCGGCACGGCGGAAATCATCGAATGCGT
TGCCGACAAGCTGAAACACTGCAGCTTTGGCAGGCGCGTACTCGACCCTGTGATGATTGC
CAAAGGCGGTGCGCCGCTGTTGCAGGATTCCGCCGTTGCGGCACTGACGCGCCTGCTGCT
TCCCGATACGGATGTATTGACCCCCAACCTGCCCGAAGCGGAAGCTCTGACCGGCGTGCA
TATTGAAAACCGTAAAGATGCGGAACGTGCGGCAAAAATCCTGCTTGATTACGGTGTCAA
AAATGTCGTTATCAAAGGCGGACATTTGAACGGCAGCACAAGCGGACGCTGCACGGATTG
GCTGTTTACACAAAATGAAACGCTGGAATTCGACAGCCCGCGCTTTCCGACCGCCCACAC
GCACGGCACGGGCTGCACGTTTTCCGCCTGCATCACCGCCGAGTTGGCAAAAGGCTCGGA
CGTTTGCGAAGCCGTACAGACTGCCAAGGCCTACATCACGGCGGCAATCTCAAACCCTTT
GGAAATCGGCGCAGGACACGGCCCGGTCAATCATTGGGCGTATCGGGACTAACCGTAAAA
ATGCCGTCTGAAACAAAATGTTCAGACGGCATTTTTGAGGATTATTCAGGCTTTTTCGCC
AGCATCGTTACAAATTTAAACCGTATCGGATTGCCGTTTTCGTCTTTGGCATGCATAGAA
CCCAATTCTTCTTTATATTCGACCAGTTCCCAATCCCGATAATAATCCTTCAGCTCGCCC
TCTTTAAATTTAAAAGGGAACGGCATCGGACAGGGGAAATCCGCCGTATCCATTGCCGAT
ACAATCAAGTTGTACCCGCCCCGCCGCCGTATGCGCCTGCATATCGGCAATCACGTCGGGT
ACGCGCTGCGGCATCAGGAACATCAGCACCACTGTTGCCACAATATAATCAAACTCGCCC
TGCAAGGCGGCGGCGTTCAAATCATATTCCAGCGTGCGGACGTTCAAACCCTCCGCCTCT
GCCAGCTCCGCCACGTTTGCCAAGGCGGCGGGATTGTGATCGACTGCAGTAACTTCAAAC
CCCTTCAAACCGAGAAACAGCGCGTTGCGCCCCTGTCCGCAGCCCATATCCAACGCCCTG
CCCGCCGGTACGGTATCCCGTGCCGCCGCGACCGCAGAATGCGTGGCACTCATCCCGTAT
TTTTTGTGAAAATAGTCTGCCGCCGCGCAATACAGCGACAAACGGATTTCGGCATCGTCC
GTTTTCGGTTTGACAGAAAACACCTGCTGCGGCGCAAACACACAATCGCCGCCGTCTGCC
GACCAAACTTCTGCCGACCCGTCCGGTGCACGAACTTCGACATCGCCCTGCAACACATTC
AGGCAGACCCACTCCCCTTCCTCAGACGAATAGCCCGACAACAAAACTTCCGGCAGGTTT
TCCACTTTCCATACAGGCATCTGTCCGAAACAAAACAACTCGCCACTTTGACCCACTATC
CGCTCCTTCATATTCAAAAATAAAGTTGCACATTATATGCCTATTTTAATCCGCCGCAAT
CTTTCAGACGGCACGGCGCGCAAACCGCTTATAATCACGCCGGACACCACACAAAGGCAC
AATAATGAACCAAACCGTTTACCTTTACACCGACGGCGCGTGCAAAGGCAATCCCGGCGC
GGGCGGCTGGGGCGTGTTAATGCGCTACGGTAGCCACGAAAAAGAACTTTTCGGCGGCGA
AGCGCAAACCACCAACAACCGCATGGAACTGACTGCCGTCATCGAAGGACTGAAATCGCT
CAAACGCCGCTGCACCGTCATCATCTGCACCGACTCGCAATACGTCAAAAATGGCATGGA
AAACTGGATACACGGTTGGAAGCGCAACGGCTGGAAAACCGCCTCCAAACAGCCCGTCAA
AAACGACGACTTGTGGAAAGAACTCGACGCTCTAGTCGGACGGCATCAAGTCAGTTGGAC
TTGGGTGAAAGGACACGCGGGACACGCCGAAAACGAACGCGCCGACGATTTGGCAAACCG
TGGCGCAGCGCAGTTTTCCTGACTGCCGCTCCGGCAAAAATGCCGTCTGAAACCGCTAAT
GGGCTTCAGACGGCATCGTCCTCCACCGTCATTCCCGCGCAAGCGGGAATCCAAACCGTC
GGGCAACGGCAATATTCAAAGATTATCTGAAAGTTTGAAGTTCTAGATTCCCGTTTTCAC
GGGAATGACGAAAAGTTGCAAGAATGACGGAGTTTCAGGCGGCATCCGACCGCCCCGTCA
TTCCCGCGAAAGCGGGAATCTAAAAACCCAACGCTGCAAGATTTATCAGAAACAACTGAA
```

```
ACCGAACGGACTGGATTCCCGCCTGCGCGGGAATGACGGGATTTTAGTAACCGTAGCAAC
CGCCTGCGCGACGGCTAAGGGGCTTCAGCAACCGTAGCAACTGCCTGTGTGGGAATGACG
GACAATGGGCTTCAGACGGCATCTCTTGCCTGCCGCTAAAACAGTTTGCCGCACAACTGT
TCAAACGCGTCCGATATGTTTCAACACACAGGACGACACATAAAGCACCTCCCTATGTGT
CGTCCTGATTTGGAAGGGGTTACACCCCCTCCCAAATAAAGTCTGATCCTGCCGCCCTAA
AGGGCGGGGTTTCAACCGAAAAGGAAATACGATGAAGTGGTACAATTAGCGGCAATGCGG
ACAGACAAATTAAACTATAGTGATTAAATTTAAACCAGTACGGCGTTGCCTCGCCTTAG
CTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCTGTACTATTT
GTACTGTCTGCGGCTTCGTTGCCTTGTCCTGATTTTTGTTAATCCGCTATATCAGAAATT
ACCCTACCGTTTTTTAAACACTTTCAGGAATAAGGAAAAATGACCGCCCAACCCTGCCCC
ATCTGCACGGCGCAAAATGAAGACGTTTTGCTGCAAACCCCCAACCTCCGCGTCATCGCC
GTCCATAACGACAGCGGTTCGCCTGCATTCTGCCGCGTCATTTGGCGTAAGCATATTGCC
GAAATGACCGACCTTTCGGCAGCGGAACGCGGCGAATTGATGGAAATGGTGTACAAAGTC
GAAGCCGCTATGCGCCAAGTGTTCCGGCCGGCAAAAATCAACCTCGCCAGCTTGGGCAAT
GTCGTGCCGCACCTGCATTGGCATATTATCGCCCGCTTTGAAAACGATGCGTCTTTCCCC
GCGCCGATTTGGGCAAACCCCGTCCGGAAACACGGTATGACCCTGCCGCAAGATTGGACG
GAACAGCTTAAAAAGCTGCTTTAAGCCCGCCGATGCCGTCTGAAACCGTATGAAAGGGAA
ATTATGACCGAACCGACCTCCCGCCGCCGTTTTCTGAAAACCTGCACCGCCGCTGCCGGC
GCGGGGCTGCTTCAGGCTTGCGGCACATCCGCCACATCCGTTCCGCCCCTTCCCTCTTCC
CATTCCGTTGTGAAAGCCCGAACCGTGCCTCTCCAAACGCCACGCCGTCAAAGTTCGGAC
GGCAACCTTCTGCGCGTTGTCGCTTCGTCAGGATTTGCCGAAGACACCAACCGCGTCAAC
ACAGCCTTAACCCGCCTTTACAATGTCGGTTTTACCGTAACCAACCAACAGGCGGGCAGC
CGCCGTTTCCAACGGTTTGCCGGCACGGACACGCAACGTGCCGCCGATTTCCAAGAGGTC
GCTTCCGGCCGCGTCGCCACGCCTAAAGTGCTGATGGGTTTGCGCGGCGGTTACGGTGCG
GCGCGGATTCTGCCGCATATCGATTTTGCTTCGCTCGGCGCAAGGATGCGCGAACACGGC
ACGCTCTTTTTCGGATTCAGCGACGTATGCGCCGTCCAGCTGGCATTGTTGGCAAAAGGC
AATATGATGAGTTTTGCCGGCCCCATGGCTTATAGCGATTTTGGCAAACCCGCCCCCGGT
GCGTTTACGATGGATGCCTTTATCAAGGGTGCAACCCAAAACCGCCTGACCGTTGATGTT
CCTTATATCCAACGCGCCGATGTCGAAACCGAAGGCATATTGTGGGCGGCAACTTAAGC
GTCCTCGCCTCGCTCGCCGGCACGCCTTATATGCCCGACATCGACGGCGGCATTTTGTTC
CTCGAAGATGTCGGCGAACAGCCCTACCGCATCGAACGTATGCTCAATACGCTGTATCTT
TCGGGTATTTTGAAGAAACAGCGCGCCATCGTGTTCGGCAATTTCCGTATGGAAAAAATT
CGAGATGTCTATGATCCGTCTTATGATTTTTCTGCCGTTGCCAACCATGTTTCGCGCACG
GCGAAAATCCCCGTGCTGACGGGCTTCCCGTTCGGACACATTGCCGACAAAATCACTTTC
CCTCTAGGCGCGCACGCCCGAATCCGTATGAACGGAAACAGCGGTTATTCGGTCGCGTTT
GAAGGCTACCCCACACTCGATGCGTCCGCCCTGACTTTGGATACCCTGCTCCCACCGCCG
GATTTGCCCATCTTCCCCGAAAGCGGTGTTGCCGATATTTCGGAATAAACCCGCAAACGG
ACAAATGCCGTCTGAAGCCTTCAGACGGCATTTCCCAAGACGGCGGCAGATTACAGCAAT
GCCCGAATATCGGCTTCGATTTCTTCGGGCGTAACACTAGGCGCAAAACGCTCGACCACT
TCGCCGTCGCGGTTGACGAGGAATTGGTAAAGTTCCATTTGATGTCGCCTTCGTCGCGC
TTCTCTCCCAAAGCTGCGAGCTTCAACACGAAATCTTTAAACAGATGATTGCCTTTATCT
TGCGGTTTGACGGATTTCAGGTAGGCATACAAGGGCGCGGTATTTGCTCCATTGACTTCG
ATTTTGTCGAAAATCTTAAACTTCGTGCCAAACTTCATCATACACACTTGGGCAATTTCT
CCGCTGCTTTCGGGAGCCTGTTCGCGGAACTGGTTGCACGGAAAATCCAAAATCTCCAAG
CCTTCTGCGGTATATTGTGCATACAGCTTCTGCAAAGCCTCGTATTGCGGGGTCAGACCG
CAACGCGTTGCCGTGTTGACAATCAGCAGAACCTTGCCGCGATAGCCTGACAAATCAACC
GCATTGCCTTCTGCATCTTTCATTTGAAAATCGTAAATACCCATTTTTATCCTTATCTGA
TGTAAACCGATGCCATCTGAAACGTGCTTCAGACGGCATGAAAGCAGCAATTGTATAGCC
GATTAAAATAAAAAATCCACATCCTTTTCCATTCCCGTCCCAATCCGCAATAAAAAACTG
CACCCGAAAACGGGTGCAGTTGCTCATTTCATACCGCAAAACTTATTGTCGCGGCCGAA
TACGATTTTAGTGGCTTGGATGCCGACACAGATTGCACCGCCGATAAAGACCAAGTCAGC
TGCCGTACGTACCCAACGCAAGGTATCGAGGATTTCCATTTGCAGGAACTCTTCGCTGCG
GGCATACCACAGACCGTGCGTGATGGAGGCGTATGCCTGAATCGCGCCGACAGGCAGCAG
GCTGATGGCAATCATACCGGCCAGCCGCCGTTGAGCAGCCAGAAGCCCCAAGTCATCAG
TTTGTCGTCAAACTGCGCGTTCGGTTTCAAATAACGGGCAACCAGCAATACGAAGCCCAA
TGCCAAGAAACCGTACACACCAAACAAGGCGGCGTGCGCGTGAACGGCAGAAGTGTTCAA
ACCTTGGATATAGAACAGGGAAATCGGCGGATTGATCAGGAAGCCGAATACGCCGGCACC
GATCATATTCCAAAAGGCGACTGCCACGAAGCACATCAGCGGCCAACGCAGGCGTTTCGC
CCAGTCGGACAGGTGTTGGTAAGACCAGTGTTCGTATGCTTCACGGCCCAGCAACACCAG
```

CGGCACGACTTCCAAAGCGGAGAAGCAGGCACCGATTGCCATAGAGGCGGAGGTAGAGCC
GGAGAAGTACAGGTGGTGCAGCGTGCCCGGAACGCCGCCCAACATAAAGATGGCGGCAGC
GGCCAAAGTGGAGGCAGTGGCGGTACTGCGGCGGACAAAGCCCATATTGTAGAAGACAAA
GGCAAAGGCGGCAGTGGCAAATACTTCGAAGAAGCCTTCTACCCACAGGTGAACCACCCA
CCAACGCCAGTATTCCATAACGGCAATCGGGGATTTTTCGCCATAGAACAGGCCTGGTGC
GTAGAATACGCCCACACCGACCATAGAAGCTACGAAGATAGCCAACAGGTTTTTGTCCAC
GCCTTTTTCTTTAAAGGCGGAAACCGTGCAACGCAACATCAGGAACAGCCATAACAGCAG
ACCGACCATCAAAAGGAGTTGCCAGAAACGTCCCAAATCGAGGTATTCGTAACCTTGGTG
TCCGAACCAGAAGTTAAATTCCGGGGGAAGGATGTGCGTCAACGCGAAGAAGTTGCCCGC
GTAAGAACCGCCGACCACGATGAAGAGGGCGATATAGAGGAAGTTTACGCCGGCACGTTG
GAACTTGGGATCTTTACCGCCGTTGACAATCGGCGCGAGGAACAAACCTGCCGTCAAAAA
GCCGGTTGCAATCCAGAAGATGGCGGATTGGATGTGCCAAGTACGGGTCAGGGCGTAGGG
GAACCAGTCGGACATTTCAAAGCCCAACGCCTCGTCAATGCCGTAGAAACCCTGGCCTTC
GACGGTGTAGTGCGCGGTCAGTCCGCCCAGCAATACTTGTACCACAAACAGGGCGACCGT
CAGGAAGACGTATTTGCCCAATGCTTTTTGCGAAGGGGTCAGTTGGATTTTGGAAATCGG
GTCTTCAGACGGCACTTCCACTTCCTCGTGTTTGGTCAGGAAGGAATAACCCCACATCAG
CAAACCGATGCCCATCAGCAGAAGAACAACGCTGGTGAATGACCACATATAGTTTTCAGT
GGTCGGTACGTTGTTGATCAAAGGTTCGTGCGGCCAGTTGTTGGTGTAAGTAAAATTCTC
GTCAGGACGGTTGGTCGAAGCAGACCAAGAAGTCCAGAAGAAGAAGTTGAACAGTTTTC
ACGCGCTTCTTGGCTTGGCAATGTATTGTTTTTCATTGCAAAGTGTTCGCGAGTGGTTTG
GAACTTAGGATCGTCGCTGTACACACCGTGGTAGTAAGGCAGGATGCTTTCGATGGCTTT
CACGCGCGTATCGCTGATGACGACGCTGCCGTCTTCCTTCACGCGGCTTTGATTGCGGTA
TTCGTCGGCCAGGCGTGTTTTCAAGACGGCTTGTTCCTCGGGGGAAACCTCGTCGAATTT
TTTGCCGTAAGTCTGTTGCGCGGTCAAATCCAACCAGGCAACCAACTCACGATGCAGCCA
GTCCGCCGTCCAGTCCGGAGCCTGATATGCACCGTGACCCAAAATCGAACCGACTTCCAT
ACCGCCGGTAGTCTGCCATGCAGACTGACCTGCCAAAATATCGTCTTTCGTCATCAAGAC
CTTGCCGGATGCGGAAACGACCTGTTCGGGGTAAGGCGGGGCTTTTTTGTAAACCTCGCT
GCCCATATAGCCAAGAATGGTAAAGCATACCGCCAGAACGGCAAACAGCAAGTACCAAAG
CTTCTTGTACTGTCCCATTTTGAGAGCTCCTTTTAATATAGTGGATTAAAATTCACAAAA
TATGAATGTTAAAGATTGTAGCACGGTTTACCGCGCAAATAAACATTTGTTCAAAGAAAC
TCACATATAAAACAAATACATATATGATAATAACTATCATTATTCTTTAGTCGGCAACTA
CCCTGCCTTTGCCTGATTTGCCGAAGCCCTTAAGCAAATCAGCCTATTTATTGTAATTTT
TAGTAGCTATAAAGTATTAGAAGTATCATTTTAAGTTCATATTTTATGAATTATTTGACT
TAAATCAAAATGCCCCCAATGGGGCAAACGCATAATCACACCAAGTTCTTAACCAATCCC
TCTACTTTTCTTACAAAAGGAAAATATTATGAAACGCCAAGCCTTAGCTGCAATGATTGC
TTCCTTATTCGCATTAGCCGCCTGCGGCGGCGAACCTGCCGCGCGCAAGCCCCTGCCGAAAC
CCCTGCCGCTGCCGCCGAAGCCGCAAGCTCCGCCGCACAAACGCCGCCGCGAAACACCGTC
CGGCGAACTGCCCGTTATCGATGCGGTTACCACCCACGCTCCCGAAGTGCCTCCTGCAAT
CGACCGCGACTACCCCGCCAAAGTCCGCGTAAAAATGGAAACCGTCGAAAAAACCATGAC
CATGGAAGACGGTGTGGAATACCGCTACTGGACATTTGACGGCGACGTTCCGGGCCGTAT
GATCCGCGTACGCGAAGGCGATACGGTTGAAGTGGAATTTTCCAACAATCCTTCTTCTAC
CGTTCCGCACAACGTCGACTTCCACGCGGCTACCGGCCAGGGCGGCGGCGCGGCCGCAAC
CTTTACCGCTCCGGGCCGTACTTCCACATTCAGCTTCAAAGCCCTGCAACCGGGTCTGTA
CATCTACCACTGCGCCGTCGCACCGGTCGGTATGCACATCGCCAACGGTATGTACGGTCT
GATTTTGGTCGAGCCTAAAGAAGGCCTGCCGAAAGTGGATAAAGAGTTCTACATCGTCCA
AGGCGACTTCTACACCAAAGGCAAAAAAGGCGCGCAAGGTCTGCAACCGTTCGATATGGA
CAAAGCCGTTGCCGAACAGCCTGAATACGTCGTATTCAACGGTCACGTAGGTGCTATCGC
CGGCGATAACGCGCTGAAAGCCAAAGCAGGCGAAACTGTACGTATGTACGTTGGTAACGG
CGGTCCGAACTTGGTATCTTCCTTCCACGTCATCGGCGAAATCTTCGACAAAGTTTATGT
TGAAGGCGGCAAACTGATTAACGAAACGTACAAAGCACCATCGTTCCTGCCGGCGGCTC
TGCCATCGTCGAATTCAAAGTCGACATCCCGGGCAGCTACACTTTGGTTGACCACTCTAT
CTTCCGCGCATTCAACAAAGGCGCACTGGGTCAATTGAAAGTAGAAGGTGCAGAAAACCC
TGAAATCATGACTCAAAAATTGAGTGATACCGCTTACGCCGGTAACGGTGCAGCTCCTGC
TGCTTCCGCTCCCGCAGCTTCTGCCCCGGCAGCCTCTGCATCCGAAAAAAGCGTTTATTA
AATTGGATACCCGTCATTAGCGGGACGAACCACTGCCGCTGTACTTCATTACGCACGGCG
GTGGTTTTTTAACAACCAATCTTTCCTTTCGGAAGATTGATTTTAACCGCCTGTCAGGAG
GCTTTATGAAGTATGTCCGGTTATTTTTCCTCGGCGCGGCACTCGCCGGCACTCAAGCGG
CGGCTGCCGAAATGGTTCAAATCGAAGGCGGCAGCTACCGCCCGCTTTATCTGAAAAAAG
ATACCGGCCTGATTAAAGTCAAACCGTTCAAACTGGATAAATATCCCGTTACCAATGCCG

```
AGTTTGCCGAATTTGTCAACAGCCACCCCCAATGGCAAAAAGGCAGGATCGGTTCCAAAC
AGGCAGAACCCGCTTACCTGAAGCATTGGATGAAAAACGGCAGCCGCAGCTATGCGCCGA
AGGCGGGCGAATTAAAACAACCGGTAACCAATGTTTCCTGGTTTGCCGCCAACGCCTATT
GCGCCGCACAAGGCAAACGCCTGCCGACCATTGACGAATGGGAATTTGCCGGACTTGCTT
CCGCCACGCAGAAAAACGGCTCAAACGAACCCGGCTACAACCGCACTATTCTCGATTGGT
ATGCCGACGGCGGACGGAAAGGCCTGCACGATGTCGGCAAAGGCCGCCCGAACTACTGGG
GCGTTTATGATATGCACGGGCTGATTTGGGAATGGACGGAAGATTTCAACAGCAGCCTGC
TTTCTTCCGGCAATGCCAACGCGCAAATGTTTTGCAGCGGCGCGTCTATCGGGTCGAGCG
ACTCGTCCAACTATGCCGCCTTCCTCCGCTACGGCATCCGTACCAGCCTGCAATCCAAAT
ATGTCTTGCACAACTTGGGCTTCCGTTGCACAAGCCGATAACCCCTTCAATTATAGTGGA
TTAACAAAAACCAGTACGGCGTTGCCTCGCCTTGCCGTACTGGTTTTTGTTAATCCACTA
TATTCCGCCATCTCTAAGATTTACAGCGATACACGGGTAATTTAAGGAATGCCCGAACCG
TCATTCCCGCCACTTTCCGTCATTCCCGCCACTTTCCGTCATTCCCGCCACTTTCCGTCA
TTCCCGCAACTTTTCGTCATTCCCACGAACCTACATCCCGTCATTCCCACGAAAGCGGGA
ATCCAGTCCGTTCAGTTTCGGTCATTTCCGATAAATTCCTGCTGCTTTTCATTTCTAGAT
TCCCACTTTCGTGGGAATGACGGCGGAAGGGGTTTTGGTTTTTTCCGATAAATTCTTGAGG
CATTGAAATTCTAGATTCCCGCCTGCGCGGGAATGACGATTCATAAGTTTCCCGAAATTC
CAACATAACCGAAACCTGACAATAACCGCAGCAACTGAAACGTCATTCCCACCACTTTTC
GTCATTCCCACCACTTTTCGTCATTCCCACAAGGACAGAAAACCAAAATCAGAAACCTAA
AATCCCGTCATTCCCGCGCAGATGATATGTTGCCCGTCAACACAAATAAAAAACAAAGT
TGCAATATACTGATTTATATTGTTATTTTTATTTACGTTTATTTACGATATGCAAATGCA
CGGTTACACAAATATATTCGCGTAACCGTTTAATTTTGTTGAATTTTATTGATTCAATCG
GTGTCTTTCCGCATCGTAAGGCTGGCCGGTTTTAACAATGTAATAGGCGAGCTTCGCCAG
TTTGCGCATGATGGCAACGATGATTACCATCTTTGGCTTACCCGCTTTTTTCAGATTATT
TATTAATTTCGGAAATGCGTTAAAACGGTAAGCACAAAGGGCGGGCATATACAGCGTACT
TTTTAATCGTCTGTTTCCGTATCGGCTCAATCTGCCCCGACCTCTTACGCTTGTCCCTGA
TTGTATGATGGCGGGATTTAATCCGGCATAGGATACAAACTGGTTTGCGGTTTTAAAATG
TTTTTCTGTCAGTTGCGCATAAAGAACTGATGCGGTGTCTTTGCCTATGCTCGGGATGGT
TTGAAGATTGCGGTAATGGTTATTGTCCGTTGTTTTTTGATTTGTTCGGATATGGCTAT
TTTTACCTGTTCCATCTTGTCCTGTATGGTATCTATCAAGTCTTGATGTATGTTCCTTAT
GAAGTCTTCTTCAGTGCTATGAAGACGGTTTTTAATTTGCTTCTGATGTTGATGTAATTG
ATTTTTAAGGTTAATCAGTTTTTGCAGTGCTTTGTTTGTTTTTGGGTATCTGATACGGTATCAA
TGTATCTTGATGCCTTTTTATGTAGTCTGCTATCAGGTTTGAATCTGCTTTGTCGGTTTT
GGTACGGTTAAACCTGCTTTTTCCGTAGTCCTTGATTTTTAAGGGATTAATAACGTAAAC
AGTATAGTAGGAAGAAAGCATATCTGCTGCCTTTTCGTAATAGATGCCTGTTGCCTCCAT
GCCGATATAGACTTTTCTGATTCTGTTTCCCTTTATCCACAATCTAAACTGTTTTAATCC
ATCATCATTATTCTTAAATTTAATGTAATGGATACTTCCGTTTGTTTTATGCAATGTTGC
GTCTATGGTGTCCTTTGAGATGTCCAGCCCGATTATATTCATTGGTATTTTCCTTATTTA
TACAGCCTTGATACGGCTAGGATGATATTCAATTTCGAGGATGGATAAAGGCAGCCGGCA
TTTCTACGCGTCTGTTTTAATACATTGCGGGATTTGCTGCCTGACTGCCTTAGCCCTTGC
TTTGCGCGAAACAAAGACCCGTAAACCGTCTATATTCAAACGGTTTACGGGTCTTTTTTC
TCTCTTGCCGTTTTCTTCAGTTTGCCGATCCGACCACGCCCCCGCCGATTCCTTCAAACG
GTTTCCCGCGTTCTTCCCAATTATCGTACATTAGGTTCTGCTACGGTTTTCCGCCCAATG
TGGCAACTTGCGCCCTGTCCGAATGTTGCTGCGCGCTTTGCTGAACTTCCTGCCCTTGGC
TTTCTTCTTTGTATGGGTTAAACGGCAAGCCGTTTTTTACATAGTCCTTGCACATCAACT
CCGTCACTTCTTTCAATGCCGTCCCTTGATGCGAATAGCAGGCGCATCCGGTTCTTCCGC
CTTCTATACAGCCTGCTATATATTCAAAGGTTCTTACCTGCCTTACACCGTTATAAATCG
GCTTGCTTTCGGGTTTTTCGGACAATGTCGGAACAAACATATCTGCGGTAAGGTTGCCGT
TATTTACCGGCTCGCCTTCTGTTTTATCCGGAAGTACTGCCTGCTGTTCTGTTGCCGCCG
ATTCTTGTGCTGCGGGTTCTTCCTGTTTTTTTCCGTAACTGCTCAACATTTTATAGGACA
GGCCGACAAACACGGGAATCAGCAATACTATTACTGGCAGAGTGTAAAACCACTTTGACC
GCTTGACCTTATTTACGGTATGAACTTCCGCTGATTCGTACAAGTCATAAACTTTTTTAT
CCAGTGTATAGATACTGGAGAATGCGCTTGATGCCATTTTTACGGGATCGTCCGCGCATA
TTTTCCATTCTAAAAGCGTACGCATACCCATCTTGTTTGAAGCGATGTGGTAATGTTTCC
GTACAAGCGTTCTAAGATTTTGATCTAGAAGCTTAGGACCTTGAGTCAAAACAAATATAT
CAATGCCCTGATGTCTGTGCGTATTCAGCCATTGGACATTTTCAGGGATTTTTGAACCTG
CCGAGCGTGCCGGCCATACGTCTTGAGCTTCATCTACAATGACAATAGACCCGATATTTT
CGGGCTTCTTTATCCATTCGTACATATCATGCGCCGAAAGCTGCTCATCTGTCGATTTCG
GCAGCTTTTTTGCGTCCGTTTCTATGTAGGTGTGCGGTATTTTCAAGCCTTTTATGTTCG
```

TAAATACTTTACGGCGTATGCCGTTTTCATCAGGCTTAAACATTTCATCATTCGCCATCA
TGGAAACCATTTTTAATGTTTTCCCTGAACCGGGCGTGCCGGTTATCAAACAGATCTCTG
CCATTTATTTTTTCTTCCCGATTGAGGTTGCTAGTTTTGTCATTTGTTTGAATGACAGAA
TAAAGGCGATCGCGCCAAACAGGATATTAAGAACGGTTCCACCGCCGCTTATATAAAAAA
GCTGCAACATCGCTTGAGGCGCGCCCGTTATGCTATTGGTTATCGCCTGCTGAAAATGGG
CTACCAATCTATCCACCCCTGAATAGGTTACCGCCATCAAGCCTAATGCAGTCAATATAC
GGCCTGCCACGCTCATCAAAAGCGGAATCAATGCGGCCAACAATTTCATTTGCTATCCCT
TTCTTAAAAGGCACGGTTGCCTCATTAAACAAATGTTTCTTAATCTGAAAGATTTTGCGC
CGCATTCGCGGCGCGGCGGCGCTGTGGGGACACCCCCCTCGCGCTTATCGCCAATCCCCC
CGCGCTTCTCGGCTATTTGCGACATTCGTCGCAAAGTGCGCTGCTTCGCCTGCCTTTCGG
CCAAAGTTTCCGAAGCTGAACGCTTTGCGGGGGACTAGTCCCCCACACCCCCTAGTCTCA
CTTGCGACGCCGCGGGGGCATGGGGACGGCGCAAAAGGCGCGCGCCTTACCACCTGCCCT
TGCGGCAGAATGTGTTCTTTTGGCGGGGCGGCAAGGGGTATCCAAAAAGATTTATAAAGA
CGATAAAGCCGTCTTTACAAATCTTCTGGACGTCCTCCCCCTGCCTTGGTACAAGTTAC
TGAAGCCCGGCGGTGCTGCGCCTGCTAGACTTCACGAGATACTGTGCGGATACAAAAAAA
GGCGGCAACCGCCCAAGCAAGGGCGAGAAGCATGTACCTTAGCCGTTCGGCTATGGTACA
TGCGTTCTCAAAGCTGAACGCGAACTGCCTGCTTGAATCAAGCACAGTCACTGTGAAAGT
GACAGGTGCGGGACACTGTGCGGAATCTTGAAAGATTCCTGATTTCTGAAACTCTACATT
GACGGTTTCAGACGGCAGATTTAAATCTTCTGCCGGATTGGACTCGGGCAGCCTGTCGCA
AGCGAGAATGTCGGGGAAGAATTTGCACAAAAGGCCGCCATCTTTGCCGTCCTTTCCGTC
TTTGCCGTCCCTGCCGTTTGTGCGTCCCGGAACGGCGGGGGAATCGGGTCTTGTGCCGGG
CTGTCCGTCCGTATCGGGATTTGCATCGGGATTCAAATCGGGGTCGGGTTCGGGATTGGG
GCTCGTGCCGGGGTTCTCATTGGGGTTCGGGTTGTTTGCGGGGTTTTCGGCGGGCGATAC
TTCGGGCAGCGGCTGTGCGTTCGGTGCTTCCGCGCTTCCGGGGGTCAAGTCGGGACGCGG
GATTACTTGAACATCCACCGTGGTGTTGCCTTGCGAATCCCTGCCGAATGTTGCGACAAC
CTGAACGGGATTCCCGTTCCTGTCCGTGACGGGACCCATATTCACTTTTGTTCCGGGTGC
GACTTCTACTTTTTCGGAATAACCGGGATAACCGGTTGCCTTTATGTATTTGTCGGGATT
GGCATCGACTTTCAACGATAAAATCTCTTCCAGCTTTTTGGCATCCATTTCTTCTTTGTA
TTTTGAATTGCGAATAAGGGAAAAATCAGCCCCATTTCTGAAATCATCACCTTTATTGAC
CAAACAATCTCCGCCATTCCAATTAAATGTGCAACGATTTAAAACAAAATTATTCCAATC
CAAAGAACTTAATTTATTCAGTTCTTCTTTATGCCAATTCCAAAACGGACGTGCCAGCCT
ATACATTTGGCTTTCCATCAATTCTTTGACTTCGGGGAATCTGCTGTCATCGGACATAAG
GCGCATAATCGAACTGTCAACGCCGTAGCAGCCATAGGTTCTATTAATACGTCTTTTGTC
TTCGTACCAAAGGCAATTACTATATTCGTAGCCTTTTACAAATTTGTCGGTTTCGGGGTC
GTATTGGTAGCCTTGTGCCTGTATGTCTTCTTTGAAAGTTTCGTATACGTCATGGGCTAA
AAGGGCTGTTCCGACATAAGGAACTGCCCTTGTGCTTAATTTCGCGCCTAAGCGGGCAAG
TTTGCCGACTCCTGACAAGACGGCGGCGCGGGAAACTGATGCGGTAAATTTAACGGGGAC
TTTTTCAAGAGAGCGTGCACCTGTTGGCACGTGTTCTATTATTGAAGGTTCGATAATTCG
ACCTGAAAAACGCTGACCATCAACACGAAAATCGGTAACTACAGATTTTTTATGATCAAT
ATCCAATCTAACATCTGAATTTCCAATAGGATACTTAAAACGTTCAGCATAAGAATTAAC
CGAAAACATCCCCAACATTAGGATTAAAATCAAACGTTTTAATTTCAATTCCACGACTAT
AATCATCCTGTAATTCTAAAATTTTTATATACGCAACAGACTCATCAGAAAAATAAATTT
TCCAAATATTATTAGAAATCCTTCTATTTAAAAAACATTGGATTTCTTCATGAATTATAA
ATTTATTAACTTTTGAATAATCCAAAAGCTCACTAGCGAAAGTATATGCCATTGTTTTAC
CATAATACTTGCTTGACGGCTGATATTTATAAAGTGCCAACTGCGCCTGCGTGATAAACG
GTTTGTTCATTGTTCTGCCTTTCAAAGGTTGTTTTGAAAGCCTGATTTTAAAACACGTCA
TTTAAATATCAAAGCGACAGACAAAGCCAAGAAGAAACCGAGAAGAAACCAAAAATCAAT
AACCATCAATCAATCCCAACCTTGCCCATGTCTTTTAAAAAATTAATCAAAAGCCTGAAG
CCGTAAATGACTACGAACAGAATTAAAACCGTCGAACCGACATAAGAACCCTGTTTGATC
TGCTCAAAATTGGAACATTTCGGATAGGACAACATTACCGGCTTTCCGTTCAAGACCCAT
TTTTCGCCCACCCTTTCCGGCCTGATGATTTTTCCGTCCTGGGTAACAGTAGGAGGAAGG
GACGACAATAAATAGTCGTCTGCATGCAATCTTGTATCAAACAATTTATGCCGACACGA
TAGCCCATTTATACGCCCCTTTTTCTTCACTCTGTTATTTGACAGATTTAATCATGCTC
CAAGCCATTTTGAAGCCTTGGATTGCAAGAATCACGGTAATGGCCGCCATACCCACGGCG
GAAACCATTGACACGAAACCCATGATTACATTCGCTACTTGCGTACCAATCGCGGATGGA
TCAAAGGTATCTGCCATAACAATGGCCGGTGTGAAGATACCGGCTGCCAAGGCTGCTTTT
ACAGCGTATTTTTTAACGATGTTCATCGTTTTTTTCCTTTTTTGATATTTAAAATAAGAC
GACTTCTTGACTTGCTTCATCCGGACGAAGTCTTTTCCGAATCTCGTTTTTAGCCGATAA
AATAGAGGATTGCGAAAAGAAAAAGAAACATACAGACCACCCAGCCGATAATTAGTGTTG

-472-

```
CAAGGTTCATTTTCATGATATTTTTCCTTTGTTGCGGGCTTTGTGAAAGGTTGACAGACC
GCCCGCCGAGCCTGTTTTTCTTTTATTCCGATTTTACGAAGAACTGAAATATCTGGAATC
CTCCGCCTATTTCATTTATGCCTGAATTCAACGCATCTTCGTAGCTTTCAAATTGACCTG
CTGATTTAATATTTTGAGTAAACCCCACATCACCGAAAGGATCGGGATAAATAAAGTCAT
GCGTTTCCAAGTCTTGAACTATGAAACGTTCTTCAAATTTCATAAATCAACCTTTCGGCT
TTTCTGCCACCTGAAAATCAATTAATGAAGGAACCATGCCCTTACCTGTCGAAGTCATTT
CAACCGTTACCATAACTTCGCACGGGTATTTGAGATTCTCTAATTTTGAGAAATTCTTAC
TGTCCCCGAACTTCATTTGTGCTGCCGTGAATCCAACAGCATTTCCCGACTGTGCCGGCA
AAGGTGTTGCAACCAATACGGAACAAGTGTCGATATTAGAGCCATCAATTTCGCCTTTGA
ATTTTTTAGCTCCTAAAAAAGTTGCGGGATAAGTTACAGTTTGAGTTTGATTAAACATAT
TAATTTTTCCTTTTTAGGTTAATTTTGATTTGCATGAAGATCATACATTCTGTCGAGATA
AAGCTGATATTGCCTCTCACTTTCCACATCGTGATGTGGATCGAAAAGCCTTTTATCCGG
ATCGAATTTATCTGATTGCTTAAATTTGATAATTCCGAGTTCTTCCAATTCAACCTCTAA
ATCTACATCCGGTTGTTCGTGGATAAAGCCGAATTTCAAAGATTCCTTCAATCCGGCCAA
CGAATATTTTTCAGGTTCTAGCCCTTTGGGATACCCCAAATCTGCCTTCAGATATCTGAC
AATTTCATCACTATCAAAACCCATATCAAACATGAAATTAATCAGTTTGCCGACCGCGTT
TTTTGCGTATCTCAATTTATGCTGAAAAGTTAAATTAGCCACTTTTTTACGGTAATCGAA
CCTTTCCGGATTCGGCATATTTTTAAATTTCTGACAAATCGGGAAAGCGCCTGAAAAGTA
AGAACCTTGATTTATCAGAATATCCAAAGGTATTTCCATATCTCCATGATTAAACTGAAT
TTCGAACCTTACCCACTTGCTTTCTTTATCGCCTAGCTGCCTGCCTTTCTCATAAACACG
CACAAAACGAGAATTTTTCTTGCGACCTACATAAAATGTCTTGCCGCTCCCGTCCTCTCT
CCGCCAAGCCGTTCCAACCATTTCAGATTTCGGCCTCATGTTACTGTTATCGAAAAAACC
GTTATCGTGATCCAAAAGTGCCTGTTCCGGCGTGTACTCCCCATCAAAAAAATCAAGTGC
CAAATCTACCCGCGTTATCCTCGGCCTCAATGAATCTTCCAAAAACTGCTTAAGCCTCAA
TTCCCAACCTGGATTTGCAATGTTGCAACCTACACCTTTCAATTCGATTAAAACCGTATT
TCGCTGACCTCCGTAATGGACTTCGCCGTAGTCAACTTCTTCCGATCCCAACCTAAACAT
CGAATCGTAAAATTTATTGCCCTTCGATTTGCATCTGCTCGTGATGCCAAACCCTAATAT
TTCCTCCAATTTTTTGCTTAAAACAAACATATATTCGGCATCGGAAACTAAGGGGCATCC
GGAAACTTTCAGCAAGGAATCTTCGTGCAGTGTGAATGACAACCAATCTATAAAAACGCC
GTCCTGCCTGCCCCTACGTTGCGGAATTTCTAATAACTTCCCATTGCCGTTAGATATGAA
ATGGGAAAAATATTCTGCTTCACTCATTTTGTTCAGTACCTTTAGGGATTTGTTTTATTT
CGCTCCCCCCTGTTAGTCAGGGGGGGGCTTTCAGCCGTTTCCCGTCTGCCGCGCTAAAG
CGCGTCCAACGGTCAACGACCGAAAGCCCAATCCTGACAAACTGTTAAAGATCAAGAAGA
AAGACCACAACCGTCTGTTGTGATAATTACCGGAAAATTCGAGCCAACCGAATCTATATA
ATCGAACGCCTGATAAAGCTTTGAAAAATTTTCTTGTTCAGCGAGTTTATGCGGTTCACC
ATGCCTGAACTGATAGAAACATAAAACGCAATAATCTGATTTTTTAAATATTCTCCAATA
GGAACAAGAAAATATTACATTTGCTACTGACATAAAAAAGCCCCTTTCACTTGGCTGTCA
AAGGGGAATGTTAAGAAAAGTAATGCGCCCCTTTGATAGAGCGCATCATATAAGGCGGGA
ATCCAGTCCGTTCAGTTTCGGTCGTTTCCGATAAATTCCTGCTGCTTTTCATTTCTAGAT
TCCCACTTTCGTGGGAATGACGGCGGAAGGGTTTTGGTTTTTTCCGATAAATTCTTGAGG
CATTGAAATTCCAGATTCCCGCCTGCGCGGGAATGATGAATTCATCCGCACGGAAACCTG
CACCACGTCATTCCCACGAACCTACATCCCGTCATTCCCACGAAAGTGGGAATCTAGAAT
CTCAAACTTTCAGATAATCTTTGAATATTGCTGTTGTTCTAAAGTCTAGATTCCCGCCTG
CGCGGGAATGACGAATCCATCCGCACGGAAACCTGCACCACGTCATTCCTACGAACCTAC
ATCCCGTCATTCCCACGAAAGCGGGAATCCAGTCCGTTCGGTTTCGGTCGTTTCCGATAA
ATTCCTGCTGCTTTTCATTTCTAGATTCCCACTTTCGTGGGAATGACGGCGGAAGGGTTT
TGGTTTTTTCCGATAAATTCTTGAGACATTGAAATTCTAGATTCCCGCCTGAGCGGGAAT
GACGATTCATAAGTTTCCCGAAATTCCAACATAACCGAAACCTGACAGTAACCGTAGCAA
CTGAACCGTCATTCCCACGAAAGTGGGAATCTAGAATCTCAGACTTTCAGATAATCTTTG
AATATTGCTGTTGTTCTAAGGTCTAGATTCCCGCCTGCGCGGGAATGACGGCTGCAGATG
CCCGACGGTCTTTATAGCGGATTAACAAAAATCAGGACAAGACGACGAAGCCGCAGGCAG
TACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTT
GAGCTAAGGCGAGGCAACGCCGTACTGGTTTTGTTAATCCGCTATAACAGCAACCTTGT
CGCCGTCATTCCCGCAAAAGCGGGAATCCAGTCCGTTCAGTTTCGGTCATTTCCGATAAA
TTCCTGTTGCTTTTCATTTCTAGATTCCCACTTTCGTGGGAATGACGGCGGAAGGGTTTT
GGTTTTTTCCGATAAATTCTTGAGGCATTGAAATTCTAGATTCCCGCCTGAGCGGGAATC
CAGTCCGTTCAGTTCCGGTCATTTCCGATAAATTCCTGCTGCTTTTCATTTCTAGATTCC
CACTTTCGTGGGAATGACGGCGGAAGGGTTTTGGTTTTTTCCGATAAATTCTTGAGGCAT
TGAAATTCCAGATTCCCGCCTGCGCGGGAATGACGGCTGCAGATGCCCGACGGTCCTTAT
```

AGTGGATTAACAAAAATCAGGACAAGGCGGCGAAGCCGCAGACAGTACAGATAGTACGGA
ACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTTTTGTTCATCCGCTA
TATTGTGTTGAAACATCGCCACAAACCTGATATAGTCCGCTCCTGCAACATCATTGAAAA
TCTTTCTTTTTAATCAGTTAAAACCGAATACGGAGTCGAAAATGAATCCAGCCCCCAAAA
AACCTTCTCTTCTCTTCTCTTCTCTTCTCTTCTCTTCTCTTCTCTTCTCTTCTCTTCTCT
TCCGCAGCGCAGGCGGCAAGTGAAGACGGCAGCCGCAGCCCGTATTATGTGCAGGCGGAT
TTAGCTTATGCCGCCGAACGTATTACCCACGATTATCCGAAAGCAACCGGTACAGACAAA
GACAAAATAAGCACAGTAAGCGATTATTTCAGAAACATCCGTGCGCATTCCATCCACCCC
CGAGTGTCAGTCGGCTACGATTTCGGCGGCTGGAGGATAGCGGCAGATTATGCCAGTTAC
AGAAAATGGAGCAACAATAAATATTCCGTCAACACAAAGTGTTGAAAGAAAACCAGGGC
AACAGGATAAAACTGAAGACGGAAAATCAGGGAAACGGTACGTTCCACGCCTCTTCTTCT
CTCGGCTTATCCGCCATTTACGATTTCAAACTCAACGATAAATTCGATAAATTCAAACCC
TATATCGGTGCGCGCGTCGCCTACGGACACGTTAAACATCAGGTTCATTCGGTGGAAACC
AAAACCACGATTTATACCACTGCACCAACGGGAGACGCTACAGTGGGAGGCACTATCCCA
GAGAGACCGAGTAGCAAACCTGCCTATCACGAAAGCAACAGCATCAGCAGCTTGGGGCTT
GGTGTCATCGCTGGTGTCGGTTTCGACATCACGCCCAAGCTGACCTTGGACACCGGATAC
CGCTACCACAACTGGGGACGCTTGGAAAACACCCGCTTCAAAACCCACGAAGTCTCATTG
GGCATGCGCTACCACTTCTGATTCCCCGATACCGATGCCGTCTGAACCTTCAGACGGCAT
GAGACCTTTGCCTGCGTACTTGGTACGCTGGTCGCCTCCGAACATGGCGCGACACCCGAC
ATTTCCGCCGAACGCATCGGGCGTTTCATGAATCCGGTTTAAAACGCATGGAAAAATGCC
GTCTGAAAGCCTTTCAGACGGCATTGTGCTTGAGATTCCGTTTACCAATGGCTGACAAAC
GCTTCCAAATCGGTATTCTTGGGCTTATGCACTTCCTCTGTCGGCGTGCCGACCATCATC
AGCCCGATGATTTTATCCTTATCCGCACAACCGAAAGCCTCCCGCAACAGGGGGCTATTG
ACCCACATCCCCGTAATCCAGACATTGTCGAATCCCTGAGCCGTTGCCGCCAGTTGCAGC
GCATACGCCGCACAACCCGCCGTCAGCATCTGCTCCCATTCCGGTTTCGGCTTAGGCACA
TCGCGGTTCGGCGCAAACGTTACCCCGATAACCATCGGCGCCATATTGCCCACTTTTTCC
GCCTTTTTCATCGCATCGTCGCCGAAATTCAATTCGGCAACCGTTTGCTTCAACACATCG
CGAAAACGTTGCAATCCTACCTCGCCTTGAATCACGGTAAAACGGAAGGGGCGCATATTG
CCGTGATCGGGAACTTGGGTTGCCGCCTGAAATATTTGTTCCAACTCCGCCGCATCGGGG
GCGGGGTGCTTCAGCTTTTTGGAAGATCGGCGGTTCGTCAATAATTTTAAAGCATCCATA
TCGTTATACTCCGGTCATCGGTCGGGTGTTCGGACACATATGCCGTCCGAAGGCTTCAGA
CGGCATATCCGGCATCAGCGCGGACGGCGGCAGGCTGCCAATATATCCATTTCCTTCCGA
TAGGTTTGGCTATTGGAAATGTCCATCAGCCCCAATACCGTGCTGAAATAGTGGTCGTGC
GAATATTCGTTTTCCGCCGCTTTTTGTTTGAGGCATTGGAAATCTATGCCCCCGTGTTGG
CGGAAGGCTTTGGAAAACCACATAACCATCGGGATATGCGTCTGCCCGGAAGGCGCGATG
GCGTAAGGCGCGGCGTGCAGGTACATCCCGTTTTCGCCCAAACTTTCGCCGTGGTCGGAA
ACATAATGCACCACGCTTTCCAAATCGTCGCGGTTTTCAAGTTTGCGGATAACCTTGTCG
ATAAACTGGTCCACATACAAAACCGTATTGTCGTAAGTGTTGACCAGCGTGGCGCGGGTG
CATTTGTTGATTTCGTTGGTGTCGCAGGTCGGCGTGAATTTGCGTTCGGCTTCGGTATAG
CGTTCGTAATACGTCGGCCCGTGGCTGCCGATGGTATGCAGGATTAAAACCGCGTCTTTA
TCGTTTTTGTTGAGGACTTCGTCGAACTTAGTCAGCAGGATATTGTCGAGGCACTCGCCG
TTGCGGCAGTATTCGGGCAGGTTGAGCGAGGTAACGTCGGTATTCGGCACTTTGCCGCAC
ACGCCCTTGCAGCCGGAATCGTTTTCCAACCAAGTAACTTCCACGCCGGCGCGCTGCACG
ATGTCCAGCAGGTTGTCTTGGTGTTCGGCTTTGATTTCGTCATAATCCGTGCGGTCGAAG
GTTGAGAACATACACGGCAGGGAGTGCGCGGTCGATGTGCCGCAGCTTCTGACCTGCGGG
AAATTGACAATTTCATCGCCGCGCGCGGCAAGCAGCGGCGTAGTTTGGCGGCTGTAACCG
TTCAAACCCCAGTTGGCGGCACGCGTGGTCTCGCCCACGACCAGCACCACGAAACGGCGC
AGGCTGCCGGCCGGGCGGTTTTGCACGACCGCCATATCCAATTGCGTATAAGGAATATTG
GAACGCTTCCAATCTTTGTATTTCGACACGCCCGCGCCGATGAAATTAGACGGCACAATC
AGATGGGTTACTGATTTATTGTTGCGGAAAAACGAGGCGTAATCCTGATATTGCAACATT
GCGATGCCCAACGCGCACAAAAAGGAAACGGCGGCAAGCACAAGGCGCGTCAAAAGCTCC
TTATACCAAACGCGGTATTTAACCTTGACGGCGATATACGCCAGCGCGGGCAATACGCCC
AAACATACAATCCACAGCACATAGCCCGGCGTAATCAGGCGCGCGCTTTCGGCAGCCGTA
GTTTGCAAGACATTATTCAACATCGACTTGTTGAAATAGATATTGAAAAATATTTCTTGG
TAAGACACCGCCGCACTGATAACCAATATCAACGGAATCAATACCTTATGCACGAAAGGC
AGGGCAATGACGTGAAAAACGAAATTACTTAAAAAAAACAGCACCACCGGCATCGTATAG
AGGAAGATATCCGCCCCGGTGCCGTTAAAAGGATGAAGCTCGACAACTTTGGCAAAAAAG
GCGTAATTCAATACCAGCGAGGAATACAGGGAAAGGAAGGCAATCAGCGCGGAAGAGCCG
AGCTTCGGCCTCAGGTTCGGTTTTATCATTTGGAATGTGTCGGATAAGGGTTGGAAAAGG

CATCCGGCATTTGGAATCCGGATTATTGAAAAAGATTCTTAATTATAAGGCAACGGAGCA
AAGCAGGGCAAGAAAACGGCGGCTGTGCGGGGGGTTCCGCCCGCCATTCAAACGTCCGGC
AGACATAAAAACATCGTAAGCAAGATTCGAACCGGTCTGCAACCGCCCCTGCCAGAAAAA
CGGGCAAAGCATTTCATATTGGAAAAACCCAGCCGCGCCGCCGACGGGACAGTCCGGCAC
AAACAGCATCACGCTCGGATTGAAAAGGACGGATAGCCGCCGGCAGCACAATCTTACCAC
CTCCAAAACGCCGCCGGAGAACGCCGAAACAGCCGATGCCGTCTGAAGCCGCTTCAGACA
ACATCGGGACATCAACCGTAACGCCGTTGGAAATCGCGCATAAATCTGCCAAAGCCCGC
ACGCCTTCAAGCGGCATCGCATTATAAATGCTGGCACGCATACCGCCGACGGTTTTATAG
CCCTTAAGCAGGCACAAGCCCTGCAATTCGGCTTCCAGCACAAACGGCGGTCAAGCTCC
TCATCCCCCGTTTGGAACACGACATTCATTTTAGAACGCGCATTCGGACGGATACGGTTG
ATATAAAAACCATCGCTGCCGTCTATCGTCTCATACAAGGTTTGCGCCTTCAGCCGATTG
ACCGCTTCAATTTTTTTCACACCGCCCTGCGCCTGTAGCCAGCGGAACACCAGCCCCGAC
ATATAAATCGCGTAAGTTGACGGCGTGTTGTACATACCGTCGCGGTTGATGTGCGAACGG
TAGTTGAACACATCGGGAATATCGTTCGGACAACGCTCGAGCAAATCCTCACGCACAATC
ACCACCGTAACTCCTGCCGGCCCGATGTTTTTCTGTGCGCCTGCGTAAATCAGTCCGTAG
TCGGCAACATCAAACTCGCGCGACAAAATCTCGCTGGACATATCGCACACCAGCGGCGGC
ATGCCTTCTGAAAGGCACGGCACTTCACGGTATTGCAGCCGTTGACCGTTTCATTGACG
GCAAAATGGACAAACGCCGAATCGGGTGCAACATCCCACGTTTCCACAGGCGGCAGGTCG
AGATAGTCGAACTGCTCGCCGCCATGCGCCGCCAAACGGATTTCCGTATCGGTCAAACGG
CTCATCTGTTCATAAGCGATACGGCTCCAGTTGCCCGTTACCACCGCGTCGGCAGTGCGG
AAACCGTGTGCCAGATTCATGGCTGCCATATTAAATTGGGTTGTTGCTCCGCCCTGCAGA
AACAATATCTTATAGTTGTCAGGCACTTTCAAAAGCTGCCTCAAATCCTGTTCCGCATGA
TGCAGGATGCTCAAAAACATTTCCGAACGGTGGCTCATTGCCATCACAGGAAAACCCGTA
CCGTTGTAGTCCAACATTTCCTGCCGCGCCGTTTCCAACACGGCTTCGGGCAATACGGCA
GGGCCGGCGGAAAAATTGTAAATCGGATAAAGAGACATGATGCAGCCTTGATTCTGAACA
ATAACCCGCCCGATTTTAGGCTTGCAGCAGGCTTTGTGCAAGGATGGAAAATACCTGTCC
TCCGCCCGATTCCATGCCGCCCGAACACGGAAAATAATATCAATATATTGATTTACAAAC
ATAAAAATCATGCACGCGACAAATAGATACATTTGTTTGTCAACAATATTCACGATTTC
CCATTACAAACCTCCCTTACACCCGCTTTTTTCCGTCCCAAAAACACAAAATAAATCAAC
ACTTTCATTTCTCCGCAAAAGCGGTTATAATCACGCCGATTTTTCAACTTTGACGAAAAA
TGGCCACGGGGCCATTTTTTTATTATGTACATAGGGAGCAGCATGGATATCCAAACCATC
CTCGAAAAAACCCTGCCCGGCCTGGGCTACGAACTGGTCGATTTCGAACTGACCGCGCAA
GGAACATTGCGCGTGTTCATCGACAAAGAAAGCGGCATTACCGTCGAAGACTGCGCAACC
GTCAGCAACCACTTGAGCCGCGTCTTCATGGTTGAAGACATCGACTACAAAAACCTGGAA
ATTTCCAGCCCCGGACTCGACCGCCCCTTGAAAAAAGCCGCCGACTTCGTGCGCTTTGCC
GGTCAGAATGCCAAAATCAAAAACCCGCCTGCCGATAGACGGTCAGAAAAACTTTATCGGT
AAAATCGAAGGCTGCGAAAACGATACCGTTACCGTATCCTTCGACGGCAAAACCGTACAA
ATCGAATTGGGCAACATCGACAAAGCCCGTCTGCGCCCCGAATTCAAATTCTAAAACACA
ACAATATTGGAGATGTTCAAAATGAGTCGTGAAATGTTACAGCTGGCAGAAGCACTGGCA
AGCGAAAAAAACGTTGATGCGGAAGTCGTCTTCCAAGCACTGGAATTCGCCCTGTCTACC
GCCGCCAAGAAAAAGGCAGACCGCGAACACATGGACGTGCGCGTCCAAATCAACCGCGAC
ACCGGCGAATACCAAACCTTCCGCCGCTGGCTGATTGTCGCCGATGAAGACTATACCTAT
CCCGATGTCGAAAAAACCATCGAGGAAATCCAAGAGGAAATTCCCGGCACTACCATCCAA
ATCGGCGAATACTACGAAGAGCAGCTGCCCAACGAAGGCTTCGGCCGCCAAGCCGCGCAA
ACCGCCAAACAAATCATCCTGCAACGCATCCGCGATGCCGAGCGCGAGCAGAATCTGAAC
GAGTTTCTCGCCGTCAAAGAAGACATCGTGTCCGGCACGGTCAAACGCGTCGAACGCCAC
GGCATCATCGTCGAAGTCGTTGCCGGCAAACTGGACGCGCTGATTCCGCGCGACCAAATG
ATTCCGCGCGAAAACTTCCGCAGCGGCGACCGCATCCGCGCCCTCTTCCTGCGCGTCGAA
GAAATCGGCAACACCGGCCGCAAACAAGTCATTCTGAGCCGTACTTCCGGCGATTTCCTC
GTCAAACTGTACGCCAATGAAGTACCTGAAATTGCAGACGGCATGCTTGAAATCCGCGCT
GTCGCCCGCGACCCGGGACAACGTGCCAAAGTCGCCGTCAAAGCCAACGACCAGCGCATC
GATCCGCAAGGCACCTGTATCGGCGTTCGCGGTTCGCGTGTCAATGCCGTCAGCAACGAA
TTGTCCGGCGAGCGCATCGATGTCGTCCTCTGGTCGCCCGAACCCGCGCAATTCGTGATG
AGCGCGCTCTCACCCGCCGAAGTCAGCCGCATCGTCATCGACGAAGACAAACACGCCGTC
GATGTCATCGTTGCCGAAGACCAGCTCGCGCTCGCCATCGGGCGCGGCGGTCAAAACGTG
CGCCTTGCTTCCGACCTGACCGGCTGGCAGCTCAACATCATGACTTCCGCCGAGGCAGAC
GAACGCAATGCGGCAGAAGATGCCGCCATCCGCCGCCTGTTTATGGATCACTTGAACGTG
GACGAAGAAACCGCCGACGTACTGGTTCAGGAAGGTTTTGCAACCTTGGAAGAAGTCGCC
TATGTTCCTGCCGCCGAACTGCTTGCCATTGAAGGATTTGACGAAGAAATCGTCGATATG

CTCCGCAACCGCGCCCGCGATGCCATCCTGACCATGGCGATTGCCGCCGAAGAAAAACTG
GGCGAAGTGTCCGACGATATGCGCAACCTCGAAGGCATAGATGCCGATATGCTCCGCAGC
CTTGCCGAAGCAGGCATTACCACCCGCGACGACTTGGCAGAGCTTGCTGTGGACGAACTG
ATTGAAATCACCGGTGTAAACGAAGAAACCGCAAAAGCCGTCATCCTGACCGCACGCGAA
CACTGGTTTACCGAAGACAAATAAAGGGGGTACAGATGAGTAACACAACCGTAGAACAAT
TTGCCGCCGAGCTGAAACGCCCCGTCGAAGACCTGTTGAAACAGTTGAAAGAAGCCGGCG
TCAGCAAAAACAGCGGCAGCGATTCCCTGACGCTGGACGACAAACAGCTTCTGAACGCCT
ACCTGACCAAGAAAAACGGCAGCAACAGCAGCACCATCAGCATCCGCCGCACCAAAACCG
AAGTCAGCACCGTTGACGGCGTAAAAGTCGAAACACGCAAACGCGGACGCACTGTCAAGA
TTCCTTCTGCCGAAGAATTGGCAGCACAGGTAAAAGCCGCCCAAACCCAAGCCGCACCTG
TCCGGCCGGAGCAGACGGCAGAAGACGCGGCAAAAGCCCGAGCCGAAGCTGCCGCACGCG
CAGAAGCCCGTGCCAAGGCAGAAGCGGAAGCGGCAAAACTGAAAGCGGCAAAAGCAGGCA
ACAAAGCCAAACCTGCCGCGCAGAAACCCACCGAAGCAAAAGCCGAAACCGCACCCGTTG
CGGCGGAAACCAAACCCGCCGAAGAAAGCAAAGCGGAAAAAGCCCAAGCCGACAAAATGC
CGTCTGAAAAACCCGCCGAGCCCAAAGAAAAAGCCGCCAAGCCGAAACACGAGCGAAACG
GCAAAGGCAAAGATGCCAAAAAACCGGCGAAACCTGCCGCACCTGCCGTGCCGCAACCCG
TGGTCAGCGCGGAAGAACAGGCGCAACGCGACGAAGAAGCACGCCGTGCCGCCGCACTTC
GCGCCCACCAGGAAGCCCTGTTGAAAGAGAAACAGGAACGCCAGGCACGCCGCGAAGCCA
TGAAACAACAGGCAGAACAACAGGCAAAAGCCGCACAGGAAGCCAAAACCGGCAGACAGC
GTCCCGCCAAACCTGCCGAAAAACCGCAGGCAGCCGCGCCAGCCGTCGAAAATAAACCTG
TCAATCCGGCAAAAGCGAAAAAGAAGACCGCCGCAACCGCGATGACGAAGGTCAAGGCC
GAAACGCCAAAGGCAAAGGCGGAAAAGGCGGACGCGACCGCAACAATGCACGCAATGGCG
ACGACGAGCGCGTACGCGGCGGCAAAAAAGGCAAAAAACTCAAACTCGAGCCGAACCAAC
ACGCCTTCCAAGCACCGACCGAACCCGTCGTTCATGAAGTTTTGGTTCCCGAAACCATTA
CCGTTGCCGATTTGGCGCACAAAATGGCGGTCAAAGGCGTGGAAGTGGTCAAAGCCCTGA
TGAAGATGGGCATGATGGTTACCATCAACCAATCCATCGACCAAGACACCGCCCTGATTG
TGGTGGAAGAACTCGGCCACATCGGCAAACCTGCCGCAGCCGACGACCCTGAAGCATTCT
TGGACGAGGGCGCGGAAGCAGTGGAAGCCGAAGCATTGCCGCGTCCGCCCGTCGTTACCG
TGATGGGCCACGTCGACCACGGCAAAACCTCGCTGCTGGACTACATCCGCCGTACCAAAG
TGGTACAGGGCGAAGCGGGCGGCATTACGCAGCACATCGGCGCGTACCACGTTGAAACCC
CTCGCGGCGTGATTACCTTCTTGGACACCCCGGGCCACGAAGCCTTTACCGCTATGCGCG
CACGCGGTGCGAAAGCAACCGACATCGTGATTCTCGTGGTCGCCGCCGACGACGGCGTGA
TGCCGCAAACCATCGAAGCGATTGCCCACGCCAAAGCTGCGGGTGTACCGATGGTGGTTG
CCGTCAACAAAATCGATAAAGAAGCCGCCAACCCAGAGCGTATCCGCCAAGAGCTGACCG
CACACGAAGTTGTGCCTGACGAATGGGGCGGCGATGTACAGTTTATCGACGTTTCCGCTA
AAAAAGGCCTGAACATCGATGCATTGCTCGAAGCCGTCTTGCTCGAAGCTGAAGTTTTGG
AACTGACCGCACCTGTCGATGCGCCCGCCAAAGGCATCATCGTCGAGGCGCGCTTGGACA
AAGGCCGCGGCGCGGTTGCCACATTGCTGGTTCAAAGCGGCACGCTGAAAAAAGGCGATA
TGCTGCTGGCCGGTACGGCATTCGGCAAAATCCGCGCGATGGTCGATGAAAACGGCAAAT
CCATTACCGAAGCCGGTCCGTCCATCCCCGTCGAAATCCTCGGCTTGTCCGACGTACCGA
ATGCGGGTGAAGACGCGATGGTATTGGCGGACGAGAAAAAAGCGCGCGAAATCGCCCTCT
TCCGCCAAGGCAAATACCGCGACGTGCGCCTTGCCAAACAGCAGGCGGCGAAGCTGGAAA
ATATGTTCAACAATATGGGCGAAACCCAGGCCCAATCTTTGTCGGTCATCATCAAGGCAG
ACGTGCAGGGCTCTTACGAGGCTTTGGCGGGCAGCCTGAAAAAACTGTCCACAGACGAAG
TGAAAGTGAACGTGTTGCACAGCGGCGTGGGCGGCATTACCGAATCGGATGTCAACCTTG
CCATCGCTTCGGGCGCATTCATTATCGGCTTTAACGTGCGTGCAGATGCCTCTTCGCGCA
AACTTGCCGAAAATGAAAACGTGGAAATCCGCTACTACAACATCATCTACGATGCCATCA
ACGACGTGAAGGCGGCGATGAGCGGTATGCTTTCCCCGGAAGAGAAAGAACAGGTTACCG
GTACGGTCGAAATCCGTCAGGTCATCTCCGTTTCCAAAGTCGGCAACATTGCAGGCTGTA
TGGTTACCGACGGCGTGGTCAAACGCGATTCCCATGTCCGCCTCATCCGCAACAACGTGG
TTATCCACACGGGCGAACTGGCTTCGTTGAAACGCTATAAAGACGATGTAAAAGAAGTCC
GCATGGGCTTCGAGTGCGGTCTGATGCTCAAAGGCTACAACGAAATCATGGAAGGCGACC
AACTGGAATGCTTCGACATCGTCGAAGTTGCCCGCAGCCTGTAATTCCTTTGCAAATAAA
ATGCCGTCTGAAGCGTTCAGACGGCATACGAAACGGGTTCTGTATCATACAGAACCCGTT
TTTTGTCGCAAATCGGCTTCAGACAGCCCTCTTGCCTTATCCCGATTTGAATCTGACTTG
CCATACAAACAGGCTTCAGACGGCATTATTTGCCCGCTAAACGTATCCCAAGCTTCTCCG
CATATTCCCTGCGTTCGGCGCGGCTGGTTTCCGGGCGGTGCGTATTGAGCGACGACCATT
TCCAATGACTGCGGGCTTTGTTGAGTTCGGGCGGGAGTCTGGCGGCATCCCACGGGACTT
TGCGGCTGTGCAGCTCGATATCCGACTGTGCCGCGTGTCCGCGCGTTTGCAGGACGTGGA

```
GCAAATCGAGGGCGCGGGCGGCGAGCAGGGTCAGGGTTTCAGGGTCGGTGTGCAGGGTTT
GGCGGCCAGCGAGTTTGTCGGAAATGGTGCGGGTATTGGGCAGGATGCCGCCCAAAAAGC
CGCCGATTGCCGTACCCAATCCGAGCGAGCCGCCGAGTGTGGCGATGTCCAGCCCCAAGC
CGATGAGCGCGCCGGTTGCCGCGCCCGTGCCGGTGCGGATGCCGTATTGTTTGAGCAATT
CGCTGTCGAACGGGTCTTGGCGGAAGGCTTGCGGCATCCAGTCGCCGCCGTCGATTTCGC
TGTGGTAGAAACGGTAGAGGGCAAACAGCCGCTGCTGCATCTGCCGTTCGAGTTGGCGTA
TTTCCGCCTGCATGGTTTGCAGCACGGTGGCGGTATCCTCGTTTTCGTCCACTTCCTGCC
TGAAGGCGGCGGCATCAATTAAAAGTCGGCGATTTCGCGGCGCGCTTCGCCGTCCAGCC
GCTGCCATTCGCGCCGGCGCATGGCTGTCAGGCGGTCAAGTGTGCTGCGTTCGGGCAACA
TGGTGGCGAGGTTTTCCCACAGGCGCAGTTCGCCTTCAAAATCAAAGGCGACGGTGTCGA
ACCCTGCGAAAACGTGCAGGTTTCTCCTCGCCAGCATGGTTGTCCACGATTCGGGAAGCT
GTCCGCCGGTAAAGTTGAACACGGGCATAACCGGTTTGGCACACCATGAAAGGATGGTCA
ACTCGTCCCTGTATTTGTCGAGGACGGGTTCGCGCGCGTCGATGACGTACATTGCCATAT
CGCTTTGCAAGACTTGCCGTAAGACTTTGGCTTCCTGATTGAAATCATGGTGCGCACCGT
GGCTGCCGAGAAACTGTTGCAGCCGTTCGATGCCGTCTGAACGATTGTCCGTATGGTTTT
CCAGCCATTCCAGCACGCCGCCCGCGTCTTCGAGTCCGGGCGTGTCGTACAGGAAAACCA
GCGTGTCTGCGCCGTCGCTGATGGCGGCTTCTTCGACATGACGCGTGGTCGATGGGGCGT
TTTTGACTTCGCCGAAACCGCTGTCGCGCAAAAGGGTACGCAGGAGCGAGGTTTTGCCGG
TGTTGGTGTGTCCGACGACGGCGAGGGAAAGGGGTTGTTTGTTCATGATGTTTTTGAAGA
ATGGATTTTCAGACGGTCTTTTTTCAGAATGGCGGCTTAACAGAACATTTCAAGTGAGTT
TATTGGTCTTTCAAACGCCCTTCCTGCGCCGCCCTGTCAGGCTCAAGCCACGCCGCGCCG
CATTCGGCCAGCGCGTTACGCCAATGTTCCAGCTTTTCCGAAAGGTCGTCTGAAAGCCCC
TGTTCCGCCAAAAGCTGCACCACCGCGCCGCCCTGCGCCGCTTCCGAGAGTCGGACAATC
TGCCGCAACACGCCGCGGTCCGGCACAGTTTGGGCGCGCACGCCGATAAGCAGTTGCGCC
GGTTTCTGCTTCAGCTCTGTCTCCAGCGCGGCAACCTGTTCCCGATTGGTGGCAACGCCC
TTATCCAGCCATTCCTGCGCCAGCCTGCCCTCGAACCATTCGCCGTCCTGCCACTCGGTC
TCCAGCATGACCGCCCATTTCGGCGCATCGTTCAAGATGATTTTCGGTGAAACGGCGGAC
ACGGTTTCCCGACGCGTATCCGCATCGGTGATTTTGTTCTGCCAGCGGCGGATGACCGCC
TGATAATAGGGCTTTTCCAAATCCAATCCGTTTTCGCTTGTTTTCAAAAGGATTTTACAC
ACTACCCAAGCCAGCAGGCGCGGCAGGATGCCGTAGCAGGCGATACTGCCGACCAGCAGC
CCCGACCAAGCCCGCGCATCGGCAATATTGCCGTTCAGACGGCCTTCGATGACCGCCCGC
GCATCGGGGACAGGGAAACCGAGTTTCGACGGCAGCCATGCCAACATTTCCACCGCGCGT
ACCGAAGCGGCATTGCTCAACAGCGTGCTTTCCCAGTTGAACGTATATTGCCGCACCAAA
AGCAGCAACAATACCGACACCAGCATTCCGAGCAGCGTGCAGAGCCACAGGCTGTGCGAC
GTTGCGCCTATTTTCCAACGTACCGAAGGTTGCCGCCACTCGTCCGCATACAGCCGCAAC
ACCGCCTGATTTACAGGGTCTTTGCCCCGAAACCACGTCGCCGGACTGCTGAAAAAACGC
CCCACTTTCACACGCAGGAACAACATTGCCAACCATACTGCCAGCATCAGCGTATTCATG
CCCAACACGCCCGCCAAAACCAAAAAGAAATTCAGACCCTGATTGTCCATTAGAAGATAA
GTGACTGAAAAACCGGTAAAAAATGCAAACGTCGCCGCCACCACCCACAACCAGAACGAC
CCCGCACGCACACGTTCCAACGTCTCCCGCAGCATACGGTTCCTGTCAATCATCTCCGCC
CGACGGATGATTTTTTCCTCCGTACTGCCGTCCACGCGGCGCAAAGCCTCCGTCGCCTGT
ACGGGATCGCCGCTGAAAATAAAACCGCCTTCGTCCAAAATACGGACCAGCTCAACCAGT
TTTCGGGATGGATTCAACATAAAATGCCGTCTGAAAATAAAAAACAGATTTTAACACACG
CATTTTCAAGAATATTCACAGTGTAGGCAAAGAGTAAATCTCACACAGAAGCAAAAGTAT
CGGCGTAAACTGACTGCCTCTACTTTCCCGAAAGATTGTGCGATGTATACAGGCGAACGC
TTCAATACTTACAGCCATTTGAGCGGTTTGATTCTGGCGGCGGCAGGTTTGGCGCTGATG
CTGCTGAAAACCATAGGACACGGGGACGGCTACCGTATCTTCAGCGTATCGGTTTACGGC
ATCAGCCTTCTTCTGCTCTATTTGAGTTCCTCGCTGTACCACGGAATTGCAGCCGGAAAA
CTGAAAAGCATTTTGAAAAAAACCGACCACTGCATGATTTATGTGCTGATTGCCGGAAGC
TACACACCGTTTGCACTGGTTTCTTTGAGAAACGGGCCGGGCTGGACGGTATTTTCACTG
TCCTGGCTGCTGGCGGCTGCAGGAATCGCACAAGAACTCACCATCGGACGGAAAAGCGAA
AAACGTCTGCTGTCTATTGTGATTTATGTCGTCATGGGTTGGATGGTCTTGGCGGTAATG
AAATCCCTGACAGCCTCACTCCCGTCGGCAGGACTGGCTTGGCTGGCGGCAGCGGTATG
CTGTACAGTGTCGGCATTTACTGGTTTGTAAACGATGAAAAAATCCGACACGGGCACGGA
ATCTGGCATCTGTTCGTATTGGGCGGCAGCATCACCCAATTTGTCAGCGTGTACGGTTAC
GTAATCTGAATGCCGTCTGAAAAGCAAAACCTCCCGTTCCTGAAGATTGGGAGGTTTTCT
GTTTGCCGGACATCAGCCCTTGTCGTGGAACTCGTGGAATTCATACTGATAGGACAAATC
CCGACCCGCTTTTTTCTGTGCCAAATAATCATCATAAATGGCGCGGATTTCCTTACGCAA
CAAAAACAGGGCTATCAGGTTGGGGATAACCATAAAACCGTTGAACATATCCGACAGACT
```

-477-

```
CCAAACCAAATCGACTTTGCCGAGCGTACCCAAAACAATGGCAAGCAGAACCAATGCGCG
ATAGATGCCCAAGTGTCTTCCCCTGAAAAGAAAACGGATATTGGACTCGCCGAAATAATA
CCAACCGATGATGGTGGTGAAGGCAAAGAAGGTCAGACACACGGCAAGCAATTGCGAACC
GAAGCCCGGAAATGCCTTGTTAAAGGCAAATTGAGTAACCGCCGCGCCCTGTTCGCCCGA
AAGGTTGGCATCGGTCAGCAGGATAATCAATGCCGTAGCCGTACATACCAAAATCGTATC
GATAAACACACCGACAAATGCCGCCATACCTTGCTGCACAGGGTGCTTCACATCCGCAGT
CGCGTGGGCGTGCGGAGTCGAACCCATACCTGCTTCGTTGGAAAACAGACCGCGCGCCAC
GCCGAAACGTATCGCTTCGCGCATACCGATACCCGCAGCACCGCCCAAAACGGCTTCGGG
ATTGAAGGCGGCGGTAAAGATGTGGTTGAACATCGGCACAATATGGTCGGAAAATTCAAA
CAGGATAACGACGGCGCACAAAATATAAACAACCGCCATAAACGGCACGACAAATTGGGC
GATATTGGCAATACGGTTCACGCCGCCAATCACAACCATGCCCGCAAGGACGGCAAGCAC
AATACCGACTGCCAAAGAAGGCACATCAAATGCAATGGTAACGGCAGAAGCAATGGAGTT
TGCCTGTGTCGCATTACCGATAAAGCCCAATGCGATAATCAACGCAATGGAAAAGAAACC
GGACAAAAAACGCGCCGCGCCCCTGCCGATTTTCGGAGTCAGACCGTGGGTGATGTAGAA
CGCCGGCCCGCCGATGTATTTGCCGTGGCTGACGACGCGGTATTTCTGCGCCAGCAGTGC
CTCCGCAAAAATCGTGGACATCCCCAAAACGGCAGAAACCCACATCCAAAAAATCGCGCC
CGGCCCGCCTGCGGTGATGGCGGTCGCCACGCCGGCAACGTTGCCCGTACCGATTTGCGC
AGATATGGCAACCGCCAACGCCTGAAACTGCGATAAAGACTTGTCGTCTTTATCGCCTTT
GGCAAACAAGCCGCCGAATACGGATTTGAATCCCGCGCCCAGCTTGGTAATCTGCGGCGC
ACCAAGATACAGCGTAAAAAACAGGCCGATACCCAAAGCGCGTAAATCAGCAGGTAGTC
CCAAAGGAACCGATTGACTGTACCCACCAGAACAGACAATATATTTTCCATAAAATAAAC
CTTATCTTACAATTAAAATGACTGCCTTCCAAAAGACATTCCAATAAGGAAACACGGCGA
GCAGACCGTATTTGCCGCAACAGATGCCTTAAATTGTCAACAATCGGGGAGAAGCTGCGC
CATCATACCGTAAAAATATCGTTAATTAAAACATTTCTTTATTTTTAAGCGGAAAGCGGAG
GAAATCGCTTTCAGACAGCATAGACAACGGCACGGCATAAAACAGGATATTTTGGGTACT
TGCAACTTATGTTAAAATGCCGACCGTAAAAAATCTGACAAAAACAGATTAATTATTTGA
AATAAGAAAGGAAATTTATGGCAGGCCATAGCAAGTGGGCAAATATCCAGCATAAAAAAG
CCCGTCAGGATGCCAAACGCGGCAAAATCTTTACCCGTTTAATCAAAGAAATCACCGTTG
CGGCGCGTATGGGCGGCGGCGACCCCGGTTCAAATCCGCGCCTGCGCCTGGCTTTGGAAA
AAGCAGCCGAAAACAATATGCCCAAAGACAATGTGCAACGCGCCATCGACAAAGGCACGG
GCAACTTGGAAGGCGTGGAATACATCGAGTTGCGCTACGAAGGCTACGGCATCGGCGGCG
CGGCTTTGATGGTGGACTGCCTGACCGACAACAAAACCCGCACCGTTGCGGACGTACGCC
ACGCGTTTACCAAAAACGGCGGCAACTTGGGTACCGACGGCTGCGTGGCGTTCAACTTCG
TGCATCAGGGCTATTTGGTATTCGAACCCGGCGTTGACGAAGACGCGCTGATGGAAGCGG
CTTTGGAAGCCGGTGCGGAAGACGTGGTTACCAACGACGACGGTTCCATCGAAGTCATTA
CCGCGCCAAACGATTGGGCGGGCGTAAAATCCGCTTTGGAGGCGGCAGGTTACAAATCCG
TTGACGGCGACGTTACGATGCGCGCCCAAAACGAAACCGAACTCTCCGGCGACGATGCCG
TCAAAATGCAAAAACTGATTGACGCGCTGGAAGACTTGGACGACGTGCAAGACGTTTACA
CTTCCGCCGTATTGAATCTGGACTGATACGCAGCACAGCAGACATACAATAAAATGCCGT
CTGAACCTTTCAGACGGCATTGATTTATTTAGCCCTTGCCCACGCCCACCAAACCGTCAG
GACAACCGCCAGAAAATACGCCACGCTCCAAACAGGCAAAGCAATTCCCAGCAGATAATC
CGGTTCAGCACAATTTCCGAACCCGCGCACGACAGGCTCGAACCAATCAAACAAAGGCCA
GCCTTTCAAGCGGAACGTCCACGGCGCGCCGCACGAAGGAGCGGTTCCCGGCGGCAGCGA
CTGCAACCACAACTGATATGCCGCAACAGAAATACCCGTAACGGCCGGAATGCTGATAAA
GACAGCACCGAACAAACCGCCTGCCCTTCTTCTTGGTCTGCACATCAGGACAATTGCCGT
ACACAATGCGGTTGCCAAAACGCATAACCGCTGACTGATACACAAAACGCAAGGCTCCAT
ACCCAAAACATACTGTGCCGCCAAAGAACCGGCAAATGCACAGACCGAAACGGCAAACAG
CAGCCAAACGGCTTTTCTAAATAACGGGGTCATTTTCTCAACACACCAATCAAAATACCG
ATATGCCGATTTTGCTGGATATATCCCGAGATGGCAAGGGACAAAACGGCGATTTGCCCG
CACAATGCCCACAAAAAAATACATCCGGAGGATTTGAATTTCAGCAAATTTAGCGAATCA
AAAGTTTATTTCAATGAAATCATATGATTTTTTTGAATAAGCGGATTGATGGGTTTTTGA
AGGAATTTGTTACCGGATAGCCATCGGGCAAGTTTTTTGCAAAATTTGAATCGGTCGGGT
AAATTTTCAAAAAATAATTGACAGCGGATAAGAAACGGCGGATAATTCCCGCCGTCGAGT
TGCTTGATGCAGCTTGATTTTTCTCCTCTATTTCTCCTTTGTAGACTTGGCACACATTCA
ACTGGATGTGTGCATTTTTTTATCTCCGCTTTTTTTGAAATTTAATTACTTTTATTGTTT
GAAATTCCATTCTTTAAGAAATTTAACAAGAAAAACGCTTGCTTTTTGACCGGAAAAGCT
GCATAATTCATTCCGTTAGCTGGTTCGAGTAGTCAGTTAATAGTTTCTCCTCTATTTCTC
CTTTGTAGACTTGGCACACATTCAACTGGATGTGTGCATTTTTTTATCTGAAGCAACAAG
CCTCTGTGCGTGATGTTGTTATGTTTCATTTAGGTGTCAAACCGCATATCCGGTCTGAAA
```

```
TATTCAATCCAAATCCAAAACCGGATTTTCTTTGACCTCCTCCATCACAACATAACTCCT
ACTCTCCGAAGCGGCAGGCAGTTGCAATAGGATATTGCCTAGCATATCCCGATAGGCAGA
CATATCGGGCAAACGTACTTTAATCAGATAGTCGTATTCGCCCGACACCAAGTGGCATTC
CATAATTTGCGGAATTTTCAGCACTTCTTTTTTGAAATCTTCGAAAATATTGCCCGATTT
GGATTGCAGCTTCAGCTCGACAAAAACCAATAAAGGTTTGCCCAACAGATGGGGATTGAG
ATGGGCGTGATAACCGGAAATATAATGTTCCCGCTCCAAACGGCGCACCCTCTCTGTAAC
GGGCGTGGTGGACAAGCCTACCTTCTCGGCAAGCTCCGTCATCGGGATGCGGGCATTCTG
TTGAAGGATCTTAAGGATGCGGAAATCGATTTTATCTAGTTCTTTCATTTAGATTGCCTT
GTATTTATTATTGATTTTAACAAATAGAGTATATAGTGGATTAACAAAACCAGTACGGC
GTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTT
TTGTTAATCCACTATATATTTGAGAAAGCGATTATATCAGGAAAAGCAAACCGCCTTCCT
ACCTGAAAACTGCTGCTTCGGCTTGAAGACACAAGGTTCTTTAATATTTTAAAAGCCTTG
CCGTTGGATTATAATCCCCCAACCGATTTCTTAATTTTGCTAATAAACACTTGCTTGGTA
AGGAATGAATTTATGCGCCCTTTGAACGTGCAGATCAGGTTGGGCAACCTTAGGCACAAT
TATCGGATTTTGAAGGAAATGCACGGAGGCAAACTGTTGGCGGTAGTGAAGGCCGACGCA
TACGGACACGGTGCGGTCAGATGTGCTTTCGCGCTGGCAGACTTGGCAGACGGCTTTGCC
GTGGCGACAATCGATGAAGGAATCAGGCTGCGGGAGAGCGGCATTACCCATCCGATTGTC
CTTTTGGAAGGCGTATTTGAAGCATCGGAATACGAAGCGGTCGAACAATACTCGCTTTGG
CCGGCAGTCGGAAACCAATGGCAGCTTGAGGCTTTGCTGATCCGCCATTGGAAAAAAACC
GTCAAAGTCTGGTTGAAAATGGATTCGGGGATGCACCGTACCGGTTTTTTCCCTCATGAT
TACGCTTCGGCATATGCGGCATTGAAGCAGTCGGAATATGTGGACAGTATTGTCAAATTC
TCGCATTTCTCCTGTGCGGACGAACCCGAAAGCGGTATGACGGAAATACAGATGGAAGCA
TTCGATTTGGGTACGGAAGGGCTGGAAGGCGAAGAAAGCCTTGCCAACTCCGCCGCTATT
TTGAATGTTCCCGAAGCACGCAGGGACTGGGGGCGCGCCGGTCTGGCGTTATACGGCATT
TCCCCGTTCGGAGGAGGCGATGACAGGCTGAAGCCCGTGATGAGGCTTTCAACCCGTATT
TTCGGCGAACGCGTTTTACAGCCGCACTCCCCTATCGGTTATGGCGCAACATTTTATACC
AGCAAATCTACGCGCGTCGGCCTGATTGCCTGCGGTTATGCGGACGGTTATCCGCGCCGC
GCCCCAAGCAATTCCCCCGTCGCTGTCGACGGCAAATTGACCCGGGTCATCGGCAGGGTC
TCTATGGATATGATGACCATCGAGCTGGATGCTTCGCAAGAAGGTTTGGGACACGAGGTC
GAACTGTGGGGCGATACGGTCAACATCAATACCGTTGCCGAAGCGGCCGGAACCATCCCT
TACGAATTGATGTGCAATATCAAACGTGCAAAATTCACTTATATCGAGTAATCAAGTCCA
AACGAAAATGCCGTCTGAAGCCTTTCAGACGGCATTTCCCCATCAAAACCGCAATCAGTT
TTTCATCGATTGAACCGGAGCCGGAATTCTGCCGCCTCGGTTGACGAATACTTCGCACGA
ACCTTCTTTGACCGGCATCACAGGCGCGTAGCCCAACAAGCCGCCGAACTCGACGCTGTC
GCCGACGGTTTTACCGGTTACCGGAATAATGCGCACGGCAGTGGTTTTGCTGTTGATCAT
GCCGATGGCGGCTTCGTCGGCAATGATGCCGGAAATGGTGTGCGCGGGCGTGTCGCCGGG
AACGGCAATCATATCCAAGCCGACCGAACAAACGGCGGTCATGGCTTCGAGTTTGTCCAG
CGTCAGCACGCCTGCTTCGGCGGCGGCAATCATACCTTCGTCTTCGGAAACGGGGATAAA
CGCGCCACTCAAACCCCCGACCGCGCTGGAAGCCATCATGCCGCCTTTTTTCACGGCATC
GTTCAGCAATGCCAAAGCTGCTGTTGTGCCGTGCGTACCGCAGACGCTCAAGCCCATTTC
TTCAAGAATGCGTGCCACTGAGTCGCCGACGGCGGGGGTCGGCGCCAGCGACAAGTCGAG
AATACCAAACGGGATATTCAGCATTTTTGAGGCTTCGCGGCCGATGAGTTCGCCCACGCG
GGTAATTTTGAAAGCAGTTTTCTTCACTACTTCCGCAACTTCGGTCAATGTCGTTGCATC
TGAATTTTCCAACGCGGCTTTTACGACACCTGGGCCGGATACGCCGACATTGATAACGGC
ATCCGCTTCGCCCGAACCATGAAACGCGCCCGCCATAAACGGGTTGTCTTCCACCGCGTT
GCAGAACACGACAATTTTAGCGCAGCCGAAACCTTCGGGCGTGATTTCCGCCGTGCGTTT
GACGGTTTCGCCCGCCAGCTTGACCGCATCCATATTGATACCGGCACGCGTACTGCCGAT
ATTGATGGAGCTGCACACAATATCGGTAGTCTTCATCGCTTCGGGAATGGAGCGGATTAA
CACCTCATCCGAAGGCGACATCCCTTTTTGCACCAACGCGGAAAAACCGCCGATAAAAGA
CACACCGATGGCTTTGGCAGCTTTATCCAAAGTTTGCGCCACGCTGACGTAAGAATCAGC
ATGGGTGGCCGCCGCGATTTGGGCAATCGGCGTAACGGAAATGCGCTGATTCACAATCGG
TACGCCGTATTTGGCAGACAGATATTTTGCCGTAGTGACCAAGTCTTTGCCGACTGTGGT
AATTTTATTGTAAATATTTTGGTTCAACACATTGATATCGCTGCTGATGCAGTCGTGCAA
ATCAATGCCGATGGTAATGGTGCGGACATCAAAATTCTGGTCGGCAACCATTTTGACGGT
TTCTAAAATTTCGCCGGATTGGATACTCATCACATTCCTCCAACTCAAATGCGGTGCATC
GCTTGGAAGATTTCTTCGTTTTGCATACGGATATCAAGCGCGAGTTTTTTGCTCTCTTCC
GCAAACAAATCCAAAACCTCTTGACGCGATTTGCTGCATTTTGAAGTGTCCACCAAGATA
ATCATAGTAAAAAAATCGTCCATCAGCTGTTGGCTGATGTTGAGAATATTGATTTGGTTT
TCCGCCAAAATTTTGGAAACATCGTACACGATGCCGACGCGGTCTTTACCGATGACGGTG
```

```
ATGACTGAATTGTTCACAGGCTTACTCCTTGCAGATATCCGTTAAAGTCCGAAATTATAC
CACCGTTGGATTTTGAAGAAATATTGTCAACAATATATACATACAAAATGCCGTCTGAAA
CTATTTCAGACAGCATCAAGATTCAGGGTTCGATTAAATAACCATCCTTATCCCACTGGG
TTTTCCTGACCAACTTGTCATCCTGATAAACAGCTTCGCTCTTTTTAGAACCATCTTCAT
ACCACTCCAAAACCACCCGTTGCGTTGATGGTGGCGGATAGACAGTTCCGAGAGTAATC
GGCCGCTTTCATCCCAAGTCAGAATTTTGGCAGGCTCATCGTTGACCATAACCATTTCCG
TCTTGATACTGCCGTCGGCATACCATTGCTTCCATACGCCGTTTGCCTTATTTTGCTTAA.
ACTGGATTTCGCTTTCCTTGCCGCCGTTACGGTAATAGCGGTATCCCGTACCCTCACTCA
AGCCATTTTTATAAGGCATAACGGCAGATTTTTTACCGTTCGGATACCAGTTGACCCACT
CCCCGTCCGGCTTACCCTTGCTGAAGCCCCCCGCCATTTTTTTCTGACCATTAAAATGCC
ACAAAATCAACATACCGTTTTGCAGGGTAGGCACAAAAGATTTGATTTGCGTTGAAGCAA
CGATATAAGGTTCAGAATATTTCTTCATCGACGGATAATAAAAATCCTGCGCGTGCGCAA
TACCCGCCACCACACTATATTGCCTGATATAAGCGGCAGAAGACATCGTCGCCGTCAGCT
TTCCGTTCTGATTAAAATAAACAGAATAGGTCTGCGCCGGCAAAGCGGCCGAAAAACCCA
ACAGGACAGTTGAAAATACAATCCGAGATAATTTTTTCATTGCAATAGCGATATAAAAAC
AAGGCTGTGTTTTAGTAATCTGTTGATTTCAATTATTTGCAAGGGAAAAGACAATTATTT
TCCGGTTAGGAATAAACCTATTCTATTGAATATATTGAAGCCAAGTACGCCTATCAACAC
TATATTAAAACACTGCCAAAAACAATTAACTTATAAACAATATGGTAAGGATTTCTCTGC
CAAGCATCAAACCCGAGACAACGTATCGTAAAAATGCCGTCTGAAAACAAATCGTCTTCA
GACGGCATTTCCCCTTCAACTCACTCTTCACCCAATAACTGCTCGCGCGTCAAGAGGAAA
ACAAAACCGTCGCCCCCGCTGGTTTCCAACCAAGTAAAAGGCAACTCCGGATACGCTGCT
TCCAATACATCCCTGTTATGCCCGATTTCCACCAGCAATACACCTTTGGGATTCAGAAAC
TTTGCCGCATTCAGAAGAATCTGCCTGGTGGCATCCAACCCGTCCGCCCCGCTGCCCAAT
GCCAATTCCGGTTCGTGCAAATACTCTTCAGGCAATAACTCAACCGATTCCGCATCCACA
TAAGGAGGATTGGAAACAATCAAATCATAAGTGCCTTCCAATCCTTCAAACAAATCCGTA
TGAATAAGCCGGATGCGTTCTTCCAAACCATAATCTTCGACATTAATCCCTGCCACTTCC
AAAGCATCCAAGCTCACATCAACCGCATCAATTTGGGCATCAGGATAATGATGCGCCATC
TGAATGGCAAGGCAACCGCTTCCGGTGCAAAGATCCAAAGCATTATGCACCAACTCATCG
TATTCTATCCAAGGACGAAGTCCGTCACCCAACAATTCATAAATAAAAGAACGAGGTATG
ATTACGCGCTCATCCACATAGAAATCAAACTCTCCCTGCCATGCCTGGTGTGTCAAATAA
GCGGCTGGAATGTGTTCGACAGCACGACGCTCAATAACCGCCAGCACTTCCTCTTTTTCA
GCTTCCAAGAGTTTTGCATCAAGATATGGGGCAAGCATATCCAAAGGCAAATTCAAAGTA
TGCAGAATCAAATAAGCTGCTTCATCATGCGCATTATCTGTTCCATGACCAAAAAAGAGC
CCTGCCTCATTAAAACGGCTGACTGCAAAACGTAAAATATCGCGGATAGTCGTCAATTCT
TGTGCTGCCTGATTAAACATAATATGAACCATTCTGCGTATAGATACTTTTAATTATAAC
AGAAACAACAAGCAAACCTTTTCATATCGCCAAATAACCACCCAATCTACCCATACAACT
ACATAAATGCCCGCGCGAAAACCATCGCCCGAACGGAAACGACAATGGCCGACGGTATGG
GCAATCTGATTGGCTGGGAAAAAACGGGGCTTGTTGTCGGTAAGCAGTGGATAACCGCAA
AAGACGACAAGGTGTCCGATGTCTGCAATGCCAACGGCGAGATGGGCGTAATCGGGCTTT
ACGAGCCTTTCTCACACGGCGCATTGACGATACCCGGTCATCCGAACTGCCGATGCGAGG
TTGTTTCCGTATCGGGTGGCGAATTGGGGGGAATTTGCCGAAAAAAAGGAGCTTCGTAAAG
CGGCTATGCAGTATGCGCGGGATAACTTTATCGGCAAAAGCTATGTCAATAAAAACAGCG
GGCATGAACTGAAGGTAACTTGGCAAGGTGTGAAACACGCTGCGTCAAAGGCAAATCAGG
CGGAATTATCCATCATGACAAAACTTGATGACTTATTGCGCTACGCAAAATATGAGGGTT
CTTATTCGGATAGGAAAGGTCATCCTAATATTATTGCAGCACATAAGTATCGTGCCGTTG
CCAAGGTTGGGAATGAGTCTTTAAATATCGGTGTGATTGTAAGGGAATTTCCAGACGACC
ATAAACATTACGACCATTTCATCTTGAAGGATGAATAAAGCCCTTTTGCAGTGTCGTTCT
GGAGCGGATAGCGTTAAGGCAAGTACACTTCCAGCCTTGAAAAAGGGCTTTAAATTCAGC
ATGCCATTTATACAGGCAGGAGTAAACCCATGACAAAGTTATACGCAGAAATCGCCAAGA
TGGAGACGCAGGACGACGACACGGTCAAGGTTTGGGGTTACGCTTCAAGCGAGGAAATCG
ATTCGGACGGCGAAGTCATCGCGGCGGCAGCTATGAAGGCGGCGATTCCCGATTATATGA
AGTTTGGCGCGGGGCGCGAGATGCACGGCTCAAACGCTGCGGGAACGGCAATTGAAATCA
ACGTGGAAGATGACGGCAGAACCTTTTTCGTGGCGCATATCGTCGATCCCGTTGCCGTGA
CGAAGGTCAAAACAGGCGTTTACAAGGGCTTTTCCATCGGCGGCAGCGTTACCGCCCACG
ATGAGTTGAACAAGTCGCAAATCACGGGTTTGAAGCTGACGGAAATCAGCTTGGTTGACC
GACCCGCCAATCCCGATGCGGTGTCTACCTGCTTTAAGGCGGACAAAGGTGCGGAAGCGG
TAAACAACGATACAGAACATAATGCTACATATTTAGCCATTTCCCTTCCAAACAAAAAA
GCACCGACGGCGGCCGATGCCCTTTCCTTTACAGGTTCCCTATTTTTTATCCGCGGGCA
GCACCGGTTTGGCTGGGGCTTTTGGTGCGGGCGCGCCGACCGAAGCCTGGTCCTTCAGCT
```

TCGCCAGCACCGCAGGGCCGATGCCCTTTACCTTGGTCAAATCGTCTACAGACTTGAACG
CACCGTTTTGCGCACGGTATTCCGCAATGGCCTTCGCCTTCGCCGGGCCTATGCCCGGCA
GCGCCTCCAACTCCTGCTGCGAAGCCGCATTGATGTTTACCGCCGCAAGGGAGAAGGCGC
AGGAGAACAGCATACAGAACAGCACGAACATTTTCTTCATGGTTTTTCCTTTAAGGGGTTG
CAAACAATAAACCGCATCTTGCCACGATAAAACGAGTCATTCTAAAATGAATATCCCAAA
GTTTCAAGCCGTTCCTCCGCAAACCCGACCGGACACCGTACGGATGCCGTCCCGCCATCA
CCGACATTTTTTCCGGGCAAAGCAAACATTTTTTCCGGGCAAAGCAAAAACCCCCGAATA
ATCGGGGGTTTTCTGAATGGGTGTTTGGCAGTGACCTACTTTCGCATGGAAGAACCACAC
TATCATCGGCGCTGAGTCGTTTCACGGTCCTGTTCGGGATGGGAAGGCGTGGGACCAACT
CGCTATGGCCGCCAAACTTAAACTGTTACAAATCGGTAAAGCCTTAATCAATATATTCGG
TAATGACTGAATCAGTCAGTAAGCTTTTATCTCTTGAAGTTCTTCAAATGATAGAGTCAA
GCCTCACGAGCAATTAGTATGGGTTAGCTTCACGCGTTACCGCGCTTCCACACCCCACCT
ATCAACGTCCTGGTCTCGAACGACTCTTTAGTGCGGTTAAACCGCAAGGGAAGTCTCATC
TTCAGGCGAGTTTCGCGCTTAGATGCTTTCAGCGCTTATCTCTTCCGAACTTAGCTACCC
GGCTATGCAACTGGCGTTACAACCGGTACACCAGAGGTTCGTCCACTCCGGTCCTCTCGT
ACTAGGAGCAGCCCCCGTCAAACTTCCAACGCCCACTGCAGATAGGGACCAAACTGTCTC
ACGACGTTTTAAACCCAGCTCACGTACCACTTTAAATGGCGAACAGCCATACCCTTGGGA
CCGACTACAGCCCCAGGATGTGATGAGCCGACATCGAGGTGCCAAACTCCGCCGTCGATA
TGAACTCTTGGGCGGAATCAGCCTGTTATCCCCGGAGTACCTTTTATCCGTTGAGCGATG
GCCCTTCCATACAGAACCACCGGATCACTATGTCCTGCTTTCGCACCTGCTCGACTTGTC
GGTCTCGCAGTTAAGCTACCTTTTGCCATTGCACTATCAGTCCGATTTCCGACCGGACCT
AGGTAACCTTCGAACTCCTCCGTTACGCTTTGGGAGGAGACCGCCCCAGTCAAACTGCCT
ACCATGCACGGTCCCCGACCCGGATGACGGGTCTGGGTTAGAACCTCAAAGACACCAGGG
TGGTATTTCAAGGACGGCTCCACAGAGACTGGCGTCTCTGCTTCTAAGCCTCCCACCTAT
CCTACACAAGTGACTTCAAAGTCCAATGCAAAGCTACAGTAAAGGTTCACGGGGTCTTTC
CGTCTAGCAGCGGGTAGATTGCATCTTCACAACCACTTCAACTTCGCTGAGTCTCAGGAG
GAGACAGTGTGGCCATCGTTACGCCATTCGTGCGGGTCGGAACTTACCCGACAAGGAATT
TCGCTACCTTAGGACCGTTATAGTTACGGCCGCCGTTTACTGGGGCTTCGATCCGATGCT
CTCACATCTTCAATTAACCTTCCAGCACCGGGCAGGCGTCACACCCTATACGTCCACTTT
CGTGTTAGCAGAGTGCTGTGTTTTTAATAAACAGTCGCAGCCACCTATTCTCTGCGACCC
TCCGGGGCTTACGGAGCAAGTCCTTAACCTTAGAGGGCATACCTTCTCCCGAAGTTACGG
TATCAATTTGCCGAGTTCCTTCTCCTGAGTTCTCTCAAGCGCCTTAGAATTCTCATCCTG
CCCACCTGTGTCGGTTTGCGGTACGGTTCGATTCAAACTGAAGCTTAGTGGCTTTTCCTG
GAAGCGTGGTATCGGTTGCTTCGTGTCCGTAGACACTCGTCGTCACTTCTCGGTGTTAAG
AAGACCCGGATTTGCCTAAGTCTTCCACCTACCGGCTTAAACAAGCTATTCCAACAGCTT
GCCAACCTAACCTTCTCCGTCCCCACATCGCATTTGAATCAAGTACAGGAATATTAACCT
GTTTCCCATCGACTACGCATTTCTGCCTCGCCTTAGGGGCCGACTCACCCTACGCCGATG
AACGTTGCGCAGGAAACCTTGGGCTTTCGGCGAGCGGGCTTTTCACCCGCTTTATCGCTA
CTCATGTCAACATTCGCACTTCTGATACCTCCAGCACACTTTACAATGCACCTTCATCAG
CCTACAGAACGCTCCCCTACCATGCCGGTAAACCGGCATCCGCAGCTTCGGTTATAGATT
TGAGCCCCGTTACATCTTCCGCGCAGGACGACTCGACCAGTGAGCTATTACGCTTTCTTT
AAATGATGGCTGCTTCTAAGCCAACATCCTGGCTGTCTGGGCCTTCCCACTTCGTTTACC
ACTTAATCTATCATTTGGGACCTTAGCTGGCGGTCTGGGTTGTTTCCCTCTTGACAACGG
ACGTTAGCACCCGCTGTCTGTCTCCCGAGGAACCACTTGATGGTATTCTTAGTTTGCCAT
GGGTTGGTAAGTTGCAATAACCCCCTAGCCATAACAGTGCTTTACCCCCATCAGTGTCTT
GCTCGAGGCACTACCTAAATAGTTTTCGGGGAGAACCAGCTATCTCCGAGTTTGTTTAGC
CTTTCACCCCTATCCACAGCTCATCCCCGCATTTTGCAACATGCGTGGGTTCGGTCCTCC
AGTACCTGTTACGGCACCTTCAACCTGGCCATGGATAGATCACTCGGTTTCGGGTCTACA
CCCAGCAACTCATCGCCCTATTAAGACTCGGTTTCCCTACGCCTCCCCTATTCGGTTAAG
CTCGCTACTGAATGTAAGTCGTTGACCCATTATACAAAAGGTACGCAGTCACACCACTAG
GGCGCTCCCACTGTTTGTATGCATCAGGTTTCAGGTTCTGTTTCACTCCCCTCCCGGGGT
TCTTTTCGCCTTTCCCTCACGGTACTGGTTCACTATCGGTCGATGATGAGTATTTAGCCT
TGGAGGATGGTCCCCCCATATTCAGACAGGATTTCACGTGCCCCGCCCTACTTTTCGTAC
GCTTAGTACCGCTGTTGAGATTTCGAATACGGGACTGTCACCCACTATGGTCAAGCTTCC
CAGCTTGTTCTTCTATCTCGACAGTTATTACGTACAGGCTCCTCCGCGTTCGCTCGCCAC
TACTTGCGGAATCTCGGTTGATTTCTTTTCCTCCGGGTACTTAGATGGTTCAGTTCTCCG
GGTTCGCTTCTCTAAGTCTATGTATTCAACTTAGGATACTGCACAGAATGCAGTGGGTTT
CCCCATTCGGACATCGCGGGATCATTGCTTTATTGCCAGCTCCCCCGCGCTTTTCGCAGG
CTTACACGTCCTTCGTCGCCTATCATCGCCAAGGCATCCACCTGATGCACTTATTCACTT

```
GACTCTATCATTTCAAGAACTTCTTTGACTTTGCCTAACATTCCGTTGACTAGAACATCA
GACTTGAATTTCCTACTTTGATAAAGCTTACTGCTTTGTTGTGTCTTAATCCTGCCTTTT
GTGTTTCAGGATTAAGTCGATACAATCATCACCCAAATACTGTGTTTGTTTTCTTTTCTC
TTGCGAGAGATTTTTATCCTTTGCAAAGAATAAAAAATCAAAACAAACGCTTTGTCTTTG
TTTGTTGATTTCGGCTTTCCAATTTGTTAAAGATCGATGCGTTCGATATTGCTATCTACT
GTGCAAATCAAAACGAGCTGATTATTATATCAGCATTTTGTTCTTGGTCAAGTGTGACGT
CGCCCTGAATGGATTCTGTTCCATTCTTCCGTTTTGATTTGTACAGTATTGGTGGAGGCA
AACGGGATCGAACCGATGACCCCCTGCTTGCAAAGCAGGTGCTCTACCAACTGAGCTATG
CCCCCGTTCTTGGTGGGTCTGGGAGGACTTGAACCTCCGACCCCACGCTTATCAAGCGTG
TGCTCTAACCAGCTGAGCTACAAACCCGGATTCTCTTCTTAAGCGAATCTTGCCTTCACT
CAAGCTTCTTCCGCATCTTTTTCAGTTTACCGATAAGTGTGAATGCCTAAAGCCTCTTCT
TTCTCTAGAAAGGAGGTGATCCAGCCGCAGGTTCCCCTACGGCTACCTTGTTACGACTTC
ACCCCAGTCATGAAGCATACCGTGGTAAGCGGACTCCTTGTGGTTATCCTACCTACTTCT
GGTATCCCCCACTCCCATGGTGTGACGGGCGGTGTGTACAAGACCCGGGAACGTATTCAC
CGCAGTATGCTGACCTGCGATTACTAGCGATTCCGACTTCATGCACTCGAGTTGCAGAGT
GCAATCCGGACTACGATCGGTTTTGTGAGATTGGCTCCGCCTCGCGGCTTGGCTACCCTC
TGTACCGACCATTGTATGACGTGTGAAGCCCTGGTCATAAGGGCCATGAGGACTTGACGT
CATCCCCACCTTCCTCCGGCTTGTCACCGGCAGTCTCATTAGAGTGCCCAACTGAATGAT
GGCAACTAATGACAAGGGTTGCGCTCGTTGCGGGACTTAACCCAACATCTCACGACACGA
GCTGACGACAGCCATGCAGCACCTGTGTTACGGCTCCCGAAGGCACTCCTCCGTCTCCGG
AGGATTCCGTACATGTCAAGACCAGGTAAGGTTCTTCGCGTTGCATCGAATTAATCCACA
TCATCCACCGCTTGTGCGGGTCCCCGTCAATTCCTTTGAGTTTTAATCTTGCGACCGTAC
TCCCCAGGCGGTCAATTTCACGCGTTAGCTACGCTACCAAGCAATCAGGTTGCCCAACAG
CTAATTGACATCGTTTAGGGCGTGGACTACCAGGGTATCTAATCCTGTTTGCTACCCACG
CTTTCGGGCATGAACGTCAGTGTTGTCCCAGGAGGCTGCCTTCGCCATCGGTATTCCTCC
ACATCTCTACGCATTTCACTGCTACACGTGGAATTCTACCTCCCTCTGACACACTCGAGT
CACCCAGTTCAGAACGCAGTTCCCGGGTTGAGCCCGGGGATTTCACATCCTGCTTAAGTA
ACCGTCTGCGCCCGCTTTACGCCCAGTAATTCCGATTAACGCTCGCACCCTACGTATTAC
CGCGGCTGCTGGCACGTAGTTAGCCGGTGCTTATTCTTCAGGTACCGTCATCAGCCGCTG
ATATTAGCAACAGCCTTTTCTTCCCTGACAAAAGTCCTTTACAACCCGAAGGCCTTCTTC
AGACACGCGGCATGGCTGGATCAGGCTTGCGCCCATTGTCCAAAATTCCCCACTGCTGCC
TCCCGTAGGAGTCTGGGCCGTGTCTCAGTCCCAGTGTGGCGGATCATCCTCTCAGACCCG
CTACTGATCGTCGCCTTGGTAGGCCTTTACCCCACCAACTAGCTAATCAGATATCGGCCG
CTCGAATAGCGCAAGGCCCGAAGGTCCCCTGCTTTCTCTCAAGACGTATGCGGTATTA
GCTGATCTTTCGATCAGTTATCCCCCACTACTCGGTACGTTCCGATATGTTACTCACCCG
TTCGCCACTCGCCACCCGAGAAGCAAGCTTCTCTGTGCTGCCGTCCGACTTGCATGTGTA
AAGCATGCCGCCAGCGTTCAATCTGAGCCAGGATCAAACTCTTATGTTCAATCTCTAACT
TTTTAACTTCTGGTCTGCTTCAAAGAAACCAACAGGACAATGTTCAAAACATTATCTTGT
CTGTCTTTCAAACAGTGTGAGACTCAAGGCACTCACACTTATCGGTAATCTGTTTGTTA
AAGAGCGTTGCGAATTATAAAGTATTCCTTCCGCCTGTCAAGATATCTCTCGATATCCCC
AACATTCTGTGCTATACTTTTCAGTTCGTCCGCCACTTCTGCAGCAGCGAAGAACCGAAC
TATACGCCCACAGGGAAAAACGGTCAATGCTTTCAGCGGGATTTTTTTGGGGAAATTCGT
CATGTCGCTGTCGGATAAGGTTTTTTATTTCTGCTAAATACTGCGCCGCCTCCAACAATC
CTTTCCTCTCCCTCCTCCGGCTGGTGCGCCTTTGTGAATATGCTGTCTGAAACTCGGGGA
CTCAGACGGCATTTTGTATCCAAACGGTATCTAATGTATCCGTACTTTGTTATAGAATGG
CTGCTGTTTTTTCTTCGTAATTAGAAATTGTCAAAATGGGCAAACATATTCTTTTAGGTG
TAACGGGCAGTATTGCGGCGTATAAGTCTTGCGAGTTGGTGCGACTGCTGAAAAAACAGG
GGCATTCGGTTACGGTGGTTATGAGCCGCTCGGCAACTGAATTTGTTTCTCCGCTGACTT
TTCAGGCTTTAAGCGGCAATCCTGTCCTGACCGACACGCACGGCGGCAACGGTTCAAACG
GTATGGAACATATCAACCTGACCCGGAATGCGGATGTTTTTCTGATTGCGCCGGCAAGTA
TGAATACCGTGGCAAAAATCTGTAACGGCGTGGCAGATAACCTACTGACCAGTCTGGCAG
CCGCACGGAAATGTCCGCTTGCCATCGCGCCCGCGATGAATGTGGAAATGTGGCTCAACC
CTGCCAACCAACGGAATATCGCACAACTGGTTTCAGACGGCATTACTGTCTATATGCCGG
GCTTGGGCGAACAGGCTTGCGGAGAAAATGGTATGGGAAGGATGCCGGAACCTGCCGAAT
TGCTGGATCTGCTTCCGGATTTATGGACACCGAAAATTTTAAAGGGCAAAAAAGTCTTGA
TTACCGCAGGTGCGACATTTGAAGCCATTGACCCTGTCCGAGGCATCACAAATATCTCCA
GCGGGAAAATGGGCGTGGCTTTGGCGCGGGCGTGCCGTGCCGCCGGTGCAGAAGTCAGCC
TGATTCACGGACAGCTTCAAACCGCGCTGCCTTTCGGCATATCCGATACGGTTCAAGCCG
TCAGTGCCGAAAATATGCATCGCGCAGTGCATCGTTTAATCGACAAACAAGATGCTTTTA
```

-482-

TTTCTGTTGCCGCCGTCTCAGACTATAGGGTTAAGAATAGGAGTACTCAAAAATTCAAAA
AAGATAAAAATGCCAAACCGTTATCCATCGAATTGGATGAGAACCCCGATATTTTGGCTT
CTATTGCCTCATTACCGAACCCGCCGTTCTGCATCGGTTTTGCCGCTGAAACGGAGAATG
TAATGACATATGCGCGGGAAAAACGTATTAAGAAAAAGCTACCGATGATCGTTGCCAATG
ATGTTTCAATCGCAATGGGCAAACCGACCAACCGGATTACCATTATCGGGGACGACGGGG
AACTGTCTTTCCCGAAACAAGTAAAGATGAAGCGGCAATGCGGATTGTTGAAAGGCTTG
CCGTATATTTGAGCAAATAAGCAATTGAACGGATAAACCATAAAACGGGTTGCCTGTTAA
TCAAAAGGCAACCCGTTTTACCTGCTTCAACTTCTGATGACTTTGCGGATATATGGAATA
CTATGCAGATTTTGAATAATCTGATTCAATTGATTCAGATTCTTGACTTTCAATAAGAAT
TTGAATTCGACAAAACCTTCCGTTCCCGACTGGGATTTAGACGGTGTTTCGACCGACTCA
ATGTCTGCACCGGAATCGGAAATCGCTTGCGCCATTAATGCCAACAGGCCGTGGCTGTCT
TCCGATTGGACTTGAAGCCCGACACGGTAGTTCTGCCCGTTCATATTTTCCCAGTCTGCA
TCCAGCTGCTGTTCGGGATCGGACTTCAACAACGTCGGGCAGGTATCCCTATGGATAATC
ATGCCTTTTCCCTTAACCAACAGCAAACGGATGGAATCGCCGGGAACAGGGTGGCAGCAC
TCTGCAAAATGAATATGCCCGCTTTCCTGCCCATCGACTTTAATGGAACTGAGCCTGACC
TCGCTGCCGAAATGCTCCCCTGCCAACTCGGCAATGTGCATGGCGACATAAACAGGCAGG
GTATGCCCCATCCCTACGTTGTACAGCACTTCTTCAAACGATGTCTGCTTGTCGTTGAGA
TCGGCAAGATATTTTTCCTTGATGCCGTCTGAAAGCAGGACATCTTTGGGCAGCAAACTG
GACAGGGCTTTTTGTAAGAGGCTCTCTCCCAAAACGACCGCATCGTGCCGGTTAAGGTTT
TTAATATATTGGCGTATGGCGCTGCGCGCCCTGCCTGACACGGCGAAATTCAACCACGCG
GGATTGGGTTTGGCGTGTTCGGATGTGATAATTTCAACAGAATCACCGGTTTTGAGCTTC
GTACGCAACGGCATCATGATATTGTTGATACGTGCGGCAACGGTTTTGTGCCCGATATCG
GTATGCACCGCATAAGCAAAATCGACAGGCGTTGCCCCTTTGGGCAAAGTTAGGATTTTT
CCTTTTGGCGTAAGGATGTAGATTTCGTTCGGAAACAAATCGACTTTGACGTGTTCGAGA
AACTCAATGGCATTGGCACTGCTTGCCTGCAAATCTAAGATATTTTTCAGCCACCGGTTT
GTGTGAAGCACCGCCTGATCGACCGTCTTAGAATATGATTTATAGCTCCAATGTCCGGCG
ATTCCACCTTCGGCAACAGCATCCATTTCCTTGGTACGTATCTGAACTTCAATCGGCAAG
CCGTAAGGGCCGACCAAAGTCGTATGCAGACTTTGATACCCGTTGCTTTTCGGAATGGCG
ATATAGTCTTTGAACCGCCCGGGCTTGGGCTGATAGAGGGTGTGCAATGCGCCGAGTGCG
GCATAACAGGCTGGAATGCTGTTGACAATGACGCGGAAACCGTAAATATCCATAACCTCG
GCAAAGCGCAGCTTTTTCGCCATCATTTTCTGATGGATGCCGTACAGGTTTTTTTCCCTG
CCTTTGATTTTGGCCTCTATATTCGCGCCTACCAGCCGCTGGCCGAATGCGCGCAAGACT
TTGCCGACAACGTCCTGCCGGTTCTTCCGGCTCTTGTCCATCGCTTTTTTTAAAGTCTCG
TAGCGGTTGGGATGCAGGTTTTGGAACGATAAATCCTGAAGCTCTTGATATGCGTTATTC
AAACCTATACGGTTGGCAATCTGTGCATAGATTTCAAGGGTTTCCCTTGCAATCCGGCGG
CGTTTGTCCGGGCGCATCGAACCGAGCGTCCGCATATTGTGCAGGCGGTCGGCAAGTTTG
ACGACAATCACGCGCACATCTTTGGTCATTGCCAAAATCAGTTTGCGGAAACTCTCCGCC
TGATGCTCCGCATGATCTTCAAATTTGAGTTTTTCAAGCTTGGACAGACCGTCCACCATC
TCGGCAATCGTATTGCCGAACACCGCCGCCATTTCCCCTTTTGTCACGCCCGTATCTTCC
AATACGTCGTGCATCACGCCTGCACAAAGACCCTGTATGTCCATATGCCAAAGGGCGAGC
TGCGTCGCAACGGCAATCGGATGCGTGATGTAGGGCTCCCCGCTTTTGCGGGTTTGCCCG
TCGTGGGCGCGAAACGCATAGGCGACAGCTTTTTCAAGCTCCGCCTGTTCCTCGGGCTTG
AGGTAGGAGGCGGTATGGAAAAGCAGGGCACGCGCTTCGGCGGTCAGGGGGTCGTAAGGG
GCGGAAGGTTGGGGGGCGGGCATTTCAGACGGCTTTCGGTATGTATGTGTTTTTCATTTC
AAACCGTCGGACTGCACGGCGGCAAAGTGTTCCGGCGTGCGTTTCCGGCAGAATTTATTT
ATTGCGCGTCAACAGTTCTGTACCGATATGTCCGGCGGCGATTTCCCTTAAGGCGGTAAC
GGTCGGTTTGTTATTGCGGACATCGTCCACAAGCGGCGTGTTGCCGTTCTCAAGCTGGCG
GGCGCGGCGAGCCGCTACCAATGTCAGGTCAAAATGGTTGGAAATTTTTCCGGTACAGTC
TTCGGTGGTAATACGTGCCATATTATTTGCTTTCTTTCAAAAATATTTAAATTGGGAAAC
CGGGTATTTTCGCCGTTTTCTAGGAATTTTCCAACAAATCTGCAATAAACCCCAGTTGCC
GCGACCTTTTCAGACGGCAGGCATTCACAATATGGCGCAAATCCTCCTCCGCTCGCGCCA
AGTCGTCATTGACCACGACAAAGTCAAACAATACGGACTGCTCGATTTCATGCCTTGCCT
TCGACAGCCTCCTTTGGATAACTTCCCGACTGTCCGTCCCGCGTCCGTTGAGGCGCGCGG
CAAGTACGTCGAAAGAAGGCGGCAGGATAAAGATGCCGACGGCTTCGGGCAGCGCGTCGC
GAACCTGCGCCGCGCCCTGAACGTCGATTTCCAAAATCACGTCATAGCCTGCCGCCGCCA
ACGCATTCACACCCTCCGCGCCTGTGCCGTAATAGTTGCCAAATACGTCGGCGTATTCCA
AAAAAGCTTCCTGCGCGATAAGCGACTCAAACTCTTCTTTGGAAACAAAGTGATAATGTA
CGCCGTTTGCTTCGCCTTCACGCGGCGGGCGCGTCGTGTGCGACACGGAAACGCGCAAAC
CGTTATGGTTTGCCAACAGCCGCGACACCAGCGTGGTTTTGCCCGTGCCGGAAGCGGCCG

-483-

```
AAATGATAAAGATGTTGCCTTTTCGATAAGCGGACATATTTTTTACCTGTATATTTTCCA
GCCGATTGTATCACAATGGACACCCAGTTTCCTATTTGCCGATGCCCATATTTTGCCGCT
ATTGTTTTGATTGATTTGGCAAGCGACAGGCTGACGGCTACAATATGGCGTTAAAAACAT
CAAACTTGGAACACGCAATGCTGGTTCATCCCGAAGCTATGAGTGTCGGCGCGCTTGCCG
ACAAAATCCGCAAAATCGAAAACTGGCCGCAAAAAGGCATCTTATTCCACGACATCACGC
CCGTCCTTCAAAGCGCGGAATACTTCCGCCTTTTGGTTGATTTATTGGTTTACCGCTATA
TGGATCAGAAAATCGACATCGTTGCCGGTTTGGACGCGCGCGGCTTCATTATCGGCGCGG
CACTCGCCTACCAGCTCAACGTCGGTTTCGTCCCCATCCGCAAAAAAGGCAAGCTGCCTT
TTGAAACCGTATCGCAAAGCTACGCGCTCGAATACGGGGAAGCTGCGGTGGAAATCCACA
CCGATGCCGTCAAACTCGGTTCGCGCGTGCTGCTGGTCGATGATTTGATTGCCACGGGCG
GCACGATGCTTGCCGGACTGGAACTGATCCGCAAACTCGGCGGAGAAATTGTCGAAGCCG
CCGCCATTTTGGAATTTACCGACCTTCAAGGCGGCAAGAATATCCGTGCAAGCGGCGCGC
CCTTATTTACCCTGCTTCAAAACGAAGGCTGTATGAAGGGCTGAAAACCGACCCTGCCGT
CTGAAACCGGCAGGGTTGTTATGATGCGTTCAAATCACGCCCAAATCTTGCAAGCCCCTC
AACACGCCGTCTTCATCAACGCTGGGGCAAACATATTTCGCCGCTTCTTTCGCCGCCTGT
TCCCCGTTGCCCATTGCCACGCCGAACCCGACTTCTGACAGCATTTCCACATCGTTCAAA
CCGTCGCCGAACGCCATCACGTCTGCCATTTCCCATCCCAATGCTTCAACCACGCTTCTG
ATGCCGTCCGTTTTCGACGCACCCGCAGGCAGCAGATCGACCGCTTCCTCGTGCCAGCGC
ACCGTTTTCAAGCCTTCCCGTTCCACAATATCCGACCAAAGCGGCATTTCGTTTTCCTCC
GCAAACACCAGCATCTGATACACCGGTTTGCTTGAAAAATAATCCTTATCGGCAAAAAAA
TCGCTGGCGATATGCTTCAAGGCGCGGCACACGCATTCCGACAGCGCGGACACAGCGATC
CCCTCTCCGCCGACAAACGCATAATCCATGCCCAAGCCATCCAAATGCGCGCAAACCCTG
CCCATCAAACCGGCATCCATCGGTACTTCGCGCACGGTTTTTCCGTGCAGCAGCGCAAAC
TGTCCGTTTATCGTTACCACGGCATCCATTCCCGCTTCCGCCATCATATCCCTGACCTTT
TCGGGAATCGTCGCCAAAGACCGCCCCGTTGCCAACGCCGTCAATATACCTTTGCCGCGC
AAAGCCGCCACCGCCGTTTTCACGGAAGGGCGCAAAGTATCCGTATATTTTCGGTACAGC
GTATCGTCAATGTCGAAAAACACGATTTTAGGATTCATCACATTCTCTCTCGCATTCAAA
CTACCGCATTATATCCCAAGCAGGCAAATACTTGATAAATCCTTATAAATTTCCCGTCAA
AATTGACCGAAAATACAAAAAGGCGGATAATCCGCCCATCCTCAAACCCTTTTCAGACGG
CATTTGCAGCAATGCCGTCTGAAACATTTTTACAAAGCATACAAATCATGTTTCAACACA
CAGGACGACACATAAAGCGTCGCCCTATATGTTGCCCTGATTCGGAAGGGGTTACGCCCC
TCCCAAATAAAGTCTGATTCTACTGCCCTAAAGGGCGGGGTTTCAACCGAAAAGGAAACA
CGATGAAAGCACCCGAACTCTTATTGCCCGCCGGCGGATTGGAAAGAATGCGCGCCGCCT
ACGACTACGGCGCAGACGCCGTTTACGCCGGCAGCCCGCGTTACTCACTGCGCGCCCGCA
ACAACGAATTTGCCCAAACTTGATGTTTTAGAACAAGGCATTAAAGAAGCGCACGAGCGCA
ACAAAAAATTCTTTTTAACCGTCAACACCCTGCCGCCACAATTCCAAACTCAAAACCTTCG
TTGCCGACATGGAGCCGCTGATTGCCATGAAACCCGACGCGCTGATTATGGCGGATCCGG
GTTTGATTATGACCGTGCGCGAAAAATGGCCGGAAATGCCGATCCATCTGTCCGTACAGG
CGAACACCACCAACTATTGGGGCGTGAAATTCTGGCAAAACATCGGCGTCGAACGCATTA
TTCTGTCGCGCGAATTGAGTATGGAAGAAATCGCCGAAATCCGCCAAGAATGCCCCGACA
TCGAACTCGAAGTCTTCATCCACGGCGCATTGTGCATCGCTTATTCAGGCCGTTGCCTAT
TGTCGGGCTATTTCAACCACCGCGACCCCAACCAAGGCACCTGCACCAACTCCTGCCGTT
GGGATTACAAGGTTCACAATGCCACGGAAAGCGATGCAGGCGATGCCCAGCTTCTGCAAG
GTTTCAACTTTGAAAAAGCCCAAGAAGAAGCCAACCAAAACTTTGAAGGCATCAACGGTC
AAAAACGCCATCCCTACGCCGACAAAGTTTTCCTGATTGAAGAATCCAACCGCCCGGGCG
AAATGATGCCGATTATGGAAGACGAACACGGCACCTACATCATGAATTCCAAAGACCTTC
GCGGTATCGAAGTCGTCGAAAAACTCGCCAAAATCGGCGTGGACAGCCTCAAAGTCGAAG
GCCGTACCAAATCGCTCTATTATGTTGCACGCGTCGCCCAGTCCTACCGCAAAGCGATTG
ATGATGCCGTCGCAGGCCGTCCGTTTGATTACAGCCTGTTGAGCGAACTCGAAGGCCTCG
CCAACCGCGGCTACACCAGCGGCTTCCTCGAACGCCACCAAACTCAGGATTATCAAAACT
ACCTGACCGGCCATTCCACCGCCAAACAAAGCCAATACGTCGGACACGTTACCGAAATCG
ATGAAACGGCTGGGCAACAGTGGAAGTCAAAAACCGCTTTGCCGTCAGCGATTCACTCG
AAATCATCCACCCGAGCGGCAACCAAACCATCAAATTGGAACAAATGACCCGCAAAGGCC
AGCCTGTCGATGTTGCCCCGGGCAACGGCATTCAGGTCAAAATCCCCAATATGCAGGGTA
AAGAAAAAGCCCTCATCGCACGCGTGTTGAACCCCTAAGCCATTATGCCGTCTGAAACAT
TTTTCAGACGGCATTTTTAATCCCCTTGCCTTATTGTGCGGCAGATTCAGATCGGGACAC
ACCTATAGTCCACGACAGAAGTCTGGCTTTTAAGCGAAGACAATAACCGAAAAGACCGCC
TCGGCGGTCTTTCTTGTGTACACAGTTTTTGTATTTGTCAGCTTGATGCGTTGACAACTC
TAATTCCATATTGCGGAATATATTCATCGACAGTCATCAGTTCAAAGCCTTCCGCTTGGG
```

```
TTTGTGCAATCAACATCCTATCGAAAGGGTCTTTGTGTATCTCCGGAAGGCTTCCAGCCT
GTTTTGCATGAAACAGACCTATAGGCAACATTTCAAAATCCTCTTCTTGAAGCACATCAA
AAAACTCTTCCGGTAATTTCAACAACCCCTTGTTCTGCTTGATGGAAATTTCCCAAATAC
TTGCTGCACTGACAAAGATCGCATTTCTCGGATTTTCTATCAGTTTGCGTGCAGATATCC
CCAGTTTCTTGTCATCCAACAACCACCACAGCAACGCATGGGTATCAAGCAGAATCTTTC
TCACAGAGCCGACTCCTCAAAAAATAAAGCTGCCGTTTCATTGTCATCCTCAAGAATACG
TGAAATATCCGTATTTTCCATATGACTGAATTTTTTCAACCTTCCTGCATTTCGTGCCGG
TTTTTCAATACCGATTAGTTGGACGCAAGGCTTACCTGCCTTCGCAATAATAACGATTTC
CCCTGCTTCTGCTCTTTGAATCAATTGACTCAAATTGGTTTTTGCCTGATGAATATTTGC
TTGAAACATAACACTTCTCATGATTAGCTAACTTGACTAATATACATCATTACCAAGATT
TTGGGAATCTCATTACATATATTTGATTATATCCGCCGTTTTATTCACACCTTGCTATTT
ATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTC
TCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATCTGTACTGTCTGCGGCTTC
GTCGCCTTGTCCTGATTTTTGTTAATCCACTATAAAACGGCTTTGCGGTATCCCAGTTTG
ACACCGGTTACTTCCTGATTGGTAAGCATCATTATTTTCCCATAAATCAAACGTCTGACA
CGGCATTATAAACACAATGCGGCATCTGCCGCCACCCTTGCGGACGCGGCGTTACCGGCT
TCCACAGCTACTTCGACAAGCAGCCGCTGCAAGGCGGACAATACGACTGTCAGGCAGGCT
CGTTCCACGTCCGCGTGGTCATGCGCGCCAACGTCGTCCGTTAACATATCGGCAACCAAA
AAATGCCGTCTGAAACATTTTTCAGACGGCATTTTTAATCCTGCAACATTACCCCCTGCC
TGAGTTCGGATACTGTATCAATATAAAACCCCATCACACAGATTTACGGTAAAAAGCCGT
CCGAATGAATTCTTGAACACAATTCGGACGGCTTTAATTTTCAACAAGGCGATTAATTCA
ATAATACCAGATTAAAACTTCCATTCCAGCGATACGGCGTAATTGCGGCCTGGGGCGCGG
TAGCGGTCTAAGCCTTTGCCATCGCGGTCGACCGCATTGGTGGTGCTGTAGCTATATAAA
CCGCGCAGGGAATCCCAAGTGGTGTATTTGCGGTTGAACAGGTTGTACACGCCTGCACGC
AAAGTCAGGTTTTTAGCCGGTTTGTAGAAGCCGTACATATCAAACACATAAGCCGACTTG
TTCAGCCACGGGTAATCTTTTACCTTTTTCTGCAAAGGCGTACCCCAGCCCTTGTTTTCA
TAAACGGTGTATTGCGCGTCTTTGACCTTTTTCGCGCCTAGATAGGTCAGGCGGGAGAAT
ACGCCCCATTTTTCGCTCGGACTTTCATAGTCGATACCGGCAATCACTTTCAGCGGCTGT
GTGGACAGCAGGCTGTTGTCGCCCGACAGTTGCTTTTCGCATAACCCAGCGAGCCGAAC
AGTTTCCAACCCTCAGGAACAAAAGACGCTACTTTGTCACATTCAGACGGCCTGTCAGC
TCGATACCGCGGATTCTGGCCTTGTCGATATTTTTCATCTGCCAATCCAGTTTTTCTTTG
TAGGGGTCGCTGCATATACCGTAGTAAGCATTTTCCTCAGTACAGCCGGGAGTGCCGCTG
GTGGTCAGCTTCTGCTCTTCAGACAGGAAATTGCGGTAATTGCTTTGATACAGGTTGGCA
TCCAGCATGCCTTTTTCGCTGCGGCCTTGCAGAGACAGGGTGTGGGTGGTGCTGCGCTCG
GCTTTCAGGTTGGGATTGGGCAGCCAATTACCCGAACCGTGGTTGTAAGTGAAATACACT
TCGGACGCATTGGGGACACGGTAGCCGGAAGTAATGTCGTAACCGACACGCCAAGCCTGA
TTCAGTTGCGCCGCCAAGCCGACAAAACCGCTCCAGCCTTTATAAGTGTTGGCTGCAGGT
GGTGTTTTGTCACAAGCATGACACTCGGCATTCAATTCCTGAGGCGTCATTTTGGTGTGG
TCGTAACGGATACCTGCGCGGCTACTGAACACGTCGTTCCATTGAATTTGGTCAGACAGT
GAGAAACCGTAGTTGGTGGTTTTTCACCGGATGCTGGATACTGCTGGTGGTTCGAACAACA
CGGCCGCTGAAGTAATAATCGTCGCGGTTTAGGTTTTCAAAATCACGGCGGCTGACGAAA
GTTTTAAACGACAGGCGGTGTCGCCCCCCCCCGAGTTGCAACGGATGGCTGTCCAAACGC
AAAGTAAAACGTTTGAATCGGGTGTCCATGCTGCGGTTGTATATTTCGTCCAAATCCTTC
TGATTATAGTTGCGCGTCCAGGTGGAATAATCCATCGGGAACGAGCCTTTGTTGTTAACC
GCCGCCACTTTGGTTTTCTGATAATCGAAGTCCGCCTTCAAAGACGACAACCAATTTGAA
TCAGGCATCCATTCGTAAAAGAGGTTGGCATTGCGCCGTCTGTTTACGTCATCGGCTTCG
CGCCAGGAAGAAGCGGTCAGGTTATAAGACTCTTCAACCGTGTAATTATGTCCCTGCTGG
CCGTTAAGCGATGCGCCGATGCGGTGGTTATCGTTAATTTGGTAAGCAATCTTACCCAAA
AAGCTGTGGTATTTGTGTTTGGACGAATCAGGGATACCGCGTGCCGAACCACGGATATTC
GCGCCACTGCCTTCCCCTTCCACAGCATAGCCTCGGTTTCCCGCACTTTCGGTTTCATGA
CCGCGACGTTGCGAATACAGCAAAGCAGCATCCACGCGGTCGTTACTCACACCGAAACCG
AGAGTATTTGTCCATTCACGGTTACGCGTGCTGTAACCGTTTTTCATCATCACGCCGAAT
TGCCTGTCGTCCAACAGCAAATCACGGCCTTGCAGCGTTTGGTAATTCACACCGCCGCCC
AATGCACCACTGCCGGTATTGAAAGAGTCTGCGCCCTTCACGATTTCGATGTTGCGCACG
AGTTCGGGGTCGATAGACAAACGCGAGCTGTTGAAGTTGCCATAACGGGCGTACAGCGAG
TTTTCTTCAGAATCAGGCAGGTTTACACCGTCTATGCTCACGCCGACACGGTTGCCTTCC
ACGCCGCGAACAGCAAAGCCTTTTTGATGGCGGCCGCTGTCGCTCAAGCCGACATCGGTG
GAATAGCGCACCAAGTCTTTATTGTCGCGTATCATTTCTTGTTTGATACGGTTAAGGTTG
ACGCGTTCCACAGCCGCCAGGCGCATTGCGCTGACCTTTAACGCGCACTGCTTTTATCTCT
```

```
GCCTTAACGGGTGTGGTTTCAGTTGCAGCTTCATCTGCTGCCAAGACCGGATTGCCGAAA
ATACTGCCGACCAGCGCGGCGATAGGGAGCATTTGTAATGGTTTCATATTATCAACTCAA
GATGTATGGATTGTTCATCCATCGGTTAGCGAATAATAGATTTTATGATAATCATTAATA
TTTAATAAGACAGTAATCCATGTAAACAAAGCCGCGCCGTGTAATTAAAGGTCCCTGCAA
ACAGCTATGCCGAGACCTTGTTTATTTGGTTCGATTCTTGTTTATTTGGTTCGATTATTT
TTTAGTGCCTGTGCGGCATCATTCCTTCCGGTGCTTCGGCATCGGCTGCCAAGCCGAAGG
TTTCGCGCAACACGACTTTGTAGAATGCAAAGGCTTCGCGCGCGCCTTGGATGGCTTCCG
CTTCGGCTTCGGGAGTCAGGTTCAAAGCGTTCAGATGCTCGACGAAAGCGCGCCAGTGTT
TGCCGCGCCCGTCGGGATGGGGTGCGAGGTGGCGCGCGCCGTGTTCGCCGTTGTAATCGA
GTTTTTGGGCGTGTTTGAACAAAAATGCCGCGCCCAAATTGGATCCTTCGGCGCAATAAA
GCCAGCCGATTGCTTTGTTGCCGGTTTCATGCGGCAGCGGTTTGCCGTATTCGTAAGGTT
TGTCACCCAAATCTGCAAGGTCTTGCGTTACGGCATCGTATCGCGCCATGTATTCCAGCT
CGGGAATGGCTTTGTTTAATTCGGCATCTTTATAGATGTGGTCGACAGCCTTGTGGAAAA
CGGATTGGAGTTTCAAAAATTTGATGTAGTTTTCTTTGCTGACAAACGGTTGGACAGACA
TAACGAGGTTATCCACGCTGTCGTGAACCGCCGTGGTATCCGCCTTCAAGCGTTTGGCAA
ATGTCAATGCTTGATTTTCGGTTTCACTCATATTTTTTCCTTTGTCGGTAAGGGATAAGG
ATGCGGTGCGGGCAAAATCCGCACTTGCCCGCATATATAGTGGATTAACAAAAACCAGTA
CGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTG
AGTCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGCCGCCTTGTCCTGATTTTTGTTA
ATCCACTATAAAAATAATAAAGAATCATAAACGAAATTTATTATCACATATTTTTGGAAA
AAATATCATTTGCGTGATGTTTTTAAGCAGGTATTTTACTATTCTTTACAGAATCGGGAT
TTTATCAAATGGGTTCGGCAGTCGGCGGACAACCGCTCAAAAAATATTTTTGCCGGACAC
CAAGGGTTTGTTCATACTGCCGAACCTGCCGGTTTTGCATCCTGATTGGGTGTATCGCCT
TTTTTCCTTTATAATGCCGCCACTTATATTTGCCACTTTCCCGATGAAGCCGTTTGCCGA
AAATATCCCCCACAGCCTTCGCGGCAACTGCTGCGACGAAGCCCTGCCGCCGCATACGGT
AGATTGTCCGGAATGCGGCTGCCGCGCGGATGTACCCCGGTTGGACAGTGGAGAAGCGGC
GTTCTGTCCCCGTTGCGGACACAAACTCTTCAGGGTGGGCAGGCATCCTTTTTCCGCCCC
GCCCGCCTATGCGGCGGCTTCGCTGATTTTAATGGCGTTTGCTTACGGTATGACGTATAT
CGAGGTCGGGATACCGGGTGCGGCATCCGTCCTTTCGCTGCCCGAGATGATGCGCCTGAT
GGTGTTTCAGGATTATGGTTTTTTGGCCGAAGTGATGTTTGTGCTGACTTTCGGCGCGCC
GGTTCTGTTTCTGCTGCTGTGCCTGTATGTCTATGCCGCGCTGATACGGAAACAGGCGTA
TCCTGCGCTGCGTTTGGCAACGCGTGTGATGGTGCGCTTGAGACAGGCGATGATGGTGGA
TGTGTTTTTTGTTTCCACTTTGGTGGCGTATATCAAGCTCTCGTCTGTGGCAGAGGTTCG
CTTCGGGCCGGCGTTTTATCTGATGTTCGCGCTGTCAGTTATGCTGATTCGGACTTCGGT
ATCGGTTCCCCAGCATTGGGTGTATTTTCAAATCGGGCGGCTGACGGGGGATAATGCGGT
TCAGACGGCATCGGAAGGTAAAACCTGTTGCAGCCGCTGCCTGTATTTCCGCGACAGTGC
CGAATCCCCCTGCGGCGTGTGCGGTGCGGAACTGTACCGCCGACGGCCGAAAAGTCTGAG
TATTTCGTCGGCGTTTCTGACGGCGGCGGTTATTTTGTATTTCCCTGCCAATATCCTGCC
GATTATGATTTCGTCCAATCCTGCCGCCACGGAGGTCAATACCATCCTTAACGGCATCGC
TTATATGTGGGACGAGGGCGACAGGCTGATTGCGGCGGTTATTTTCAGCGCGAGTATTTT
GGTGCCGGTACTGAAGATTGCGGCAATGTCGGTTTTGATTGCGTCCGCCCGCTTCGCTTT
GCCAACGGGTGCAAAGAAATTGTCGCACCTCTACCGCATCACCGAAGCGGTCGGCCGCTG
GTCGATGATTGATATTTTTGTGATTATTATTTTGATGTGTTCGTTCCACACTTATGCCGC
GCGCGTCATTCCGGGCAGTGCGGCAGTCTATTTCTGCCTGGTCGTGATTCTGACGATGCT
GTCCGCCTATTATTTCGACCCGCGCCTGCTTTGGGACAAACGCGCTTCAGACGGCATTGC
TTTCAATGAAACGGAAAAACATGACTGACAACAGCCCTCCTCCAAACGGACACGCCCAAG
CACGCGTCCGCAAAAACAACACCTTCCTCTCTGCCGTCTGGCTGGTTCCGCTGATCGCGC
TGATTGCCGGCGGCTGGCTTTGGGTTAAGGAAATCCGCAACAGGGGGCCTGTGGTTACGC
TCTTGATGGACAGCGCGGAAGGCATTGAGGTCAACAATACGGTCATCAAAGTATTGAGCA
TCGATGTCGGACGCGTTACCCGAATCAAACTGCGCGACGACCAAAAAGGCGTGGAAGTAA
CCGCCCAACTCAATGCGGACGTATCCGGCCTCATCCGCAGCGATACCCAGTTTTGGGTGG
TCAAGCCGCGTATCGACCAAAGCGGCGTAACCGGTTTGGGTACGCTGCTTTCGGGTTCGT
ACATCGCCTTTACACCCGGCAAAAGCGACGAGGCAAAAGACGTGTTCCAAGTGCAGGACA
TTCCGCCCGTTACCGCCATCGGGCAAAGCGGGCTGCGCTTGAATTTGATTGGTAAAAACG
ACCGCATCCTCAACGTCAACAGCCCTGTTTTGTATGAAAATTTTATGGTCGGGCAAGTCG
AAAGCGCGCATTTCGACCCGTCCGACCAAAGCGTGCATTACACCATCTTCATCCAAAGCC
CCAACGACAAACTGATTCATTCCGCCAGCCGTTTTTGGCTGGAAAGCGGCATCAATATCG
AAACCACAGGCAGCGGCATCAAACTCAATTCCGCCCCTCTGCCTGCCCTGCTGTCGGGCG
CGATTTCATTTGATTCGCCGAAAACCAAAAACAGTAAAAACGTCAAAAGCGAAGACAGCT
```

```
TCACGCTTTACGACAGCCGCAGCGAAGTCGCCAACCTGCCTGACGACCGCTCGCTGTACT
ACACCGCGTTTTTCAAACAATCCGTGCGCGGCCTGACCGTCGGTTCGCCCGTCGAGTACA
AAGGGCTGAATGTCGGCGTGGTTTCCGACGTTCCTTATTTCGACCGCAACGACAGCCTGC
ACCTGTTTGAAAACGGCTGGATACCCGTACGCATCCGCATTGAACCTTCCCGTTTGGAAA
TCAATGCCGACGAACAAAGCAAAGAACATTGGAAACAACAATTTCAGACGGCCTTAAACA
AAGGCCTGACCGCCACCATCTCCAGCAACAACCTGCTGACCGGAAGCAAAATGATTGAGT
TGAACGATCAGCCTTCCGCATCACCTAAGCTGCGACCGCATACCGTTTATGCAGGCGATA
CCGTTATCGCGACCCAGGGCGGCGGTTTGGACGATTTGCAGGTCAAATTGGCGGATTTGC
TGGACAAGTTCGACAAACTGCCTTTAGATAAGACGGTTGCCGAATTGAACGGTTCGCTTG
CCGAGCTCAAATCCACACTCAAATCTGCCAATGCCGCCCTAAGCTCCATCGACAAACTGG
TCGGCAAACCGCAGACACAAAACATTCCGAACGAACTGAACCAAACCCTGAAAGAGTTGC
GCACAACCCTGCAAGGCGTATCGCCGCAATCGCCTATCTACGGCGACGTACAAAATACGC
TGCAAAGTTTGGACAAAACTTTAAAAGACGTTCAACCCGTGATTAATACTTTGAAAGAAA
AACCCAACGCGCTGATTTTCAACAGCAGCAGCAAAGACCCTATCCCGAAAGGAAGCCGAT
AATGCGCCTTTTCCCGATTGCCGCCGCCCTGTCGCTTGCCGCCTGCGGTACTGTGCAAAG
CACACAATATTTCGTGTTGCCCGACAGCCGCTACATCCGTCCTGCAACGCAAGGCGGCGA
AACTGCCGTCGAAGTCCGTCTTGCCGAACCGCTCAAACGCGGCGGACTGGTCTATCAAAC
CGACCCCTACCGCCTCAACACCGCACAAAACCACGTCTGGGCAGACACCTTGGACGATAT
GCTCGAAGCGGCGTTGAGCAATGCATTCAACCGTTTGGACAGCACACGCATCTTTGTTCC
TGCCTCACGCAGCGGCAGTACCGAAAAATGGACGGTCTATATCGACGCATTCCAAGGCAG
CTACACGGGCAAAACCCTCATCAGCGGCTACGCCGTCCTACCCGACGGTACGAACAGACC
CTTCCATATCGAAACCGAACAGCAGGGTGACGGCTACGCCGCGATGACCGCCGCACTCGA
ACAGGGACTGAAACAGGCGGCGCAACAGATGGTCGAGTAAACCGTGAACTATTGCGAATT
TGCCGCCTCACTTCCCGAAAAACACCGATAACCCGAACAAACATTACCACGACACGCAATA
CGGTTTTCCGATTGAGGACGACAATGAATTGTTTGAGCGGCTGGTGTTGGAAATCAATCA
GGCAGGATTAAACTGGACGCTGATGCTGAAGAAGCGGCAGGCGTTTCAGACGGCATTTGA
AGGTTTCGACATCGATACGGTTGCCGCCTTCGACGACACCGACCGCGAACGCCTGCTTGC
CGACGCGGGCATTGTCCGCAACCGCCTGAAAATCGATGCCGCCATTTTCAATGCACGGCA
AATCCAAGCGTTGCAACAAGAATACGGCTCGTTCAAGAACTGGCTCGACACGCACCATCC
GCGAAGCAAAGACGAATGGGTTAAACTCTTTAAAAAACATTTCAAATTCGTCGGCGGCGA
AATCGTCGGCGAATTTCTGATGAGTACCGGCTACCTCAAAGGCGCGCACGCCGAAAGCTG
TCCGGTTTACCGTGAAACCCTGAAATACCACCCGAAATGGCTCGATGCCATCTGAAAAAC
CAATGAACAGAAGAACCTTCCTCCTCGGCGCAGGCGCGTTGCTGCTTACCGCCTGCGGCA
GAAAATCCGCCCGAACCCACGCCAAAATTCCCGAAGGAAGCACCGTACTTGCCTTGGGCG
ATTCGCTTACCTTCGGCTACGGCGCAAACCCTGGCGAATCCTACCCCGCGCAACTGCAAA
AACTGACGGGTTGGAATATTGTCAACGGCGGCGTATCGGGCGATACATCTGCCCAAGCCC
TGTCGCGCCTGCCCGCGCTGTTGGCACGCAAACCCAAGCTTGTGATTGTCGGCATAGGCG
GCAACGACTTTCTGCGCAAAGTTCCCAAGGAGCAGACCCGCGCCAATATCGCGAAAATCA
TCGAAACCGTGCAGAAGGAAAACATCCCCGCCGTCCTCGTCGGCGTGCCGCACATCACAC
TGGGTGCGTTGTTCGGGCATTTGAGCGATCATCCGCTGTATGAGGATTTGTCCGAGGAAT
ACGGCATTCCGCTGTTCGGCGGCGCGTGGGCGGAAATTTTGGGCGATAATAATCTGAAAT
CCGACCAAATCCACGCCAACGGCAAAGGCTATCGGAAATTTGCCGAAGATTTGAATCAAT
TTTTGAGAAAACAGGGGTTTAGATAAACAAAGGTTTATCCGCACCCAAGTTGTTTATATA
ATCATGAACCGACTGGGACACCAAACTGCTTCGGGACGCATATGCCGTCTGAAGTGCAAA
GCCTACGCCATACAGCCGCATGAAGTTGCAGCGGTATGGCGTTTTTTGAAAAAGACGGCC
TGCCGGTTCAGACGGCATGACCGACCGTCCGAGCCTGCTGTGGATAAAGCCCGGACAGGC
TGAAATCATGGAATATTGCGAACCTGAAGAAGCATCCGACCCGTACGCAACATACAGGCG
TGCCAACCTGATGGCGGGTCTGCCGCTGTTTGTCGTGATTTTGGTTCTGCTCAATATTGT
TTTTCCGCTTCCGGCGCATCCCTTAGCTTGGCTGGTGCCTGCAGGTTTCATGGTTTTGGG
CGGCGGCTTTCCCTTATCGCTGCCGCTTGTGGCGCTGCTTGTCCTGACCTGCTGCATTCT
GGCGCATTGTCCGCCATTATCCCGTCTTTTGTGCTACCCTTGCCCGAATCATCCGATGTC
TAAAAATTCTGCCTGATGGCAGCCCTACAAACCCGAAGGAGTAGAAATGAAACTGTCCGA
ACTGTTCAACCCCGACGAATTTGCCGCGCGGCATTTGAGTTTTGGCGACGAAGCGGCGTT
GCTTGCCGCTGTCGGCGAGAAAGTATGGACGATTTTGTCGGCAACACCGTGCCGCAAAG
CATCCGTATGCCGTCTGAACTCGATTTGCCCGATGCCCTGACCGAAGCGGACGCGTTGGC
AAAATTGAAAGGCATTGCGTCGAAAAACATGATCAACAAATCCTATATCGGTTTAGGCTA
TTACCCGACCCGCGTGCCGAACGTGATTTTGCGTAACGTATTGGAAAATCCGGGTTGGTA
CACCGCCTACACGCCGTATCAGGCGGAAATCGCGCAGGTCGTTTGGAAGCTTTGTTGAAC
TTCCAACAAGTGTGTATCGATTTGACCGGTTTCCCTGTGGCGGGCGCGTCTTTGCTGGAC
```

```
GAAGCGACCGCCGCCGCCGAAGCGATGGCGATGGCGCACCGCGTGGGCAAGGTAAAATCC
GAGCGTTTCTTTGTGGACGAGCGCGTGTATCCGCAAACTTTGGACGTGATGAAAACCCGT
GCCAAGTATTTCGGCTTCGAGCTGGTGGTCGGCGATTTTGCCCAAGCCGACGAAGGCGAA
TACTTCGGCGCGCTGTTCCAATACGTCGGCAAAGACGGCGACGTGCAAGACTTGCAGGAC
GTTATCGGCCGTCTGAAAGCCAAAGGCACGATTGTCGCCGTTTCCGCCGACATCATGAGC
TTGGTTTTGCTGAAACCGCCTGCCGAATTGGGTGCGGATATTGCGTTGGGCAACACACAA
CGCTTCGGCGTGCCGATGGGCTTCGGCGGGCCGCACGCCGCTTATTTCGCGTTTAAAGAC
GAGTTCAAACGTTCCGCCCCGGGCCGCATCATCGGCGTATCCAAAGACGCATCGGGCAAA
CCTGCCTTGCGCATGGCTTTGTCCACCCGTGAGCAACACATCCGCCGCGAAAAAGCTACA
TCCAATATTTGTACCGCGCAGGCATTGCTGGCGAATTTGGCGGGTATGTATGCCGTTTAC
CACGGCCCTGAAGGCGTGAAACGCATTGCCAACCGCATTCACGCGCTGGCTTCTGCCTTT
GCCGATGCGCTGGTTTCAGACGGCCTGAATGTGGTTCACAAAGTCTTTTTCGATACTGTT
ACCATCGATTTTGGCAGTAAAGAGAAAGCAGACCAAGTGTTTGCCGCTGCTTTGGCGTCG
GGTTACAACCTGCGCCGCGTCAACGATACTCAAGTTGCGGCTGCATTCCATGAAACATCG
GCATACGAAGATTTGGTCGATTTGTACCGCGCGTTTACCGGCAAGGATACGTTTACATTT
GCCGATGATGTCAAAGGCCGTCTGAACGCCGAATTGCTGCGTCAGGACGACATTCTGCAA
CATCCTGTGTTCAACAGTTACCACACCGAACACGAAATGTTGCGTTATCTGAAAAAAACTC
GAAGACCGCGACTTGGCGATGAACCGCAGTATGATTTCATTGGGCAGCTGTACTATGAAA
CTCAACGCGACTGCGGAAATGTTGCCGATTACTTGGGCCGAGTTCACCGACATCCATCCT
TACGCTCCCGAAGCGCAAACCGCCGGCTACCGCGAATTGCTCGCCGATATGGAAAACAGC
CTGAAAGCCATCACCGGCTTTGACGCGATTTCCCTGCAACCAAATTCCGGCGCACAAGGC
GAATACACCGGTATGCTCGCCATCCGCCGCTATCAGGAATCCCAAGGCGAAGCGCACCGC
AACATCTGTCTGATTCCAAAATCAGCCCACGGTACCAACCCCGCCACCGCCGCCATGCTC
GGTTTGAAAGTCGTCGTCGTCGACACCGACGAACACGGCAACGTCAACATTGACGATTTG
AAAGCCAAAGCCGAGCAACACCGCGACGCTTTGTCTGCCATCATGATTACCTATCCGTCC
ACCCACGGCGTGTACGAAGAAGGCATCCGCGACATCTGCCGCATTATTCACGAAAACGGC
GGACAGGTTTACATGGACGGTGCGAACCTCAACGCCCAAATCGGCATCATGCAGCCTGCC
GAAGTCGGTGCGGATGTGTTGCACATGAACCTGCACAAAACCTTCTGTATCCCTCACGGC
GGCGGCGGCCCGGGCATGGGTCCGATTGGCTTGAAAGCCCATTTGGCTCCGTTTGCCCCG
GGCCATACCTTGACCGACACCCACAACGCGGCTGCCGATCAAACCGCCGTGGCTGCCGCA
GCATATGGTTCTGCATCCATCCTGCCGATTACTTGGATGTACCTGACCATGATGGGCAAA
CAAGGCATGGAACAGGCAACGCGCTGGGCATTGCTCAACGCCAACTACGTCGCCAAAGCC
TTGGGCGAGGATTATCCGATTCTCTACACCGGCAAAAACGGCCGCGTCGCGCACGAATGT
ATCGTCGACTTGCGTCCGCTCAAAGCCGAAAGCGGCATTACCGAAACCGACATCGCCAAA
CGCCTGATGGACTACGGCTTCCACGCCCCGACCGTCTCCTTCCCCGTTGCCGGCACGCTG
ATGATCGAACCGACCGAAAGCGAGAGCAAAGCCGAACTCGACCGCTTCATCGCCGCCCTG
AAACAAATCAAACAGGAAGTGCTGAAAGTCGGGCGCGGCGAATGGCCGAAAGACGACAAC
CCACTGGTCAACGCGCCGCACACCGCCGCAGATATAACCGGCAACTGGGCGCATCCGTAT
TCCCGCGAAGAAGCCGTCTTCCCGTTGCCGTTCGTCCGCGAACACAAGTTTTGGCCCTTC
GTCAACCGCGTGGACGACGTGTACGGCGACCGCAATCTCGTGTGCAGCTGCCCACCGATG
GAAAATTATGAAGACTGACTGTTGATATCTTAAAAAATGCCGTCTGAAACATTTTCAGAC
GGCATTTTCATCAACGGCAAACCAGTTGCACCAATACACGTATCTCGACTATAACTTTAA
AACAAATGAGTTAAACCAGTATCCATACATCAGCTTTTTTATCATCCTACTTTTTATTCA
TCCGATCGTGCAAACAGATTTCAAAGATGAAAAGCCTATTCACACCCTTTGATGTCATTT
CCACACGGACAAACAAATATAGTGGATTAACAAAAACCAGTACAGCGTTGCCTCGCCTTA
GCTCAAAGAGAACGATTCTCTAAGGTGCTCAAGCACCAAGTGAATCGGTTCCGTACTATT
TGTACTGTCTACGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATTCACTATAAATTCCCA
TAAAAAAACGGAGCAGATACCTGCCCCGTTTTTATTTAATCCGAAATTTTAATCTAAATT
TAGAATTTTGCACCGGATTGGTTTGCCATATAGTCAACAGCCGCTTTGACTTCGTCATCG
CTCAAACCTGCATTGCCGCCTTTGGCAGGCATCGCGTTAAAGCCTTCAAGGGCGTGTTTG
TGCAAGGTTTCTTTGCCTTTTTTGATACGCGGTGCCCAATCGTCTTTTTTGCCTATGCCG
GGAATACCGGGAATCGAACCGCCGTGGCACACCTGACAGGTTGCTTCGAAGACTTTTTTA
CCGTCAACGCCGACCGCAGGGGCTGCCGCACCCTTGTCTTCTGCCTTCGCTTCTGCCGGA
GCTGCACTATCGGCAGGAGCAGAAGCTGTTCCTGAAGCGGCATTGTCGGCAGGCGCAGCC
TCATCAGGATTCGGGAAAGAACCGCCGCTTTTGTTCGCCATGTAAGTAATCGCCCGTTTA
AGTTCCTGATCGGTCAGGTCTGCCGCACCGCCTTTTGCAGGCATGGCGTTAAAGCCGTTC
AGCGCGTGTTGGAACAAGGTATCGAAGCCTTGCGCGATACGCGGTGCCCAATCGCCGTTG
TGTTCCAGTTTCGGAGCGTTCGGCACATTGCTGTCCGCCGCGTGGCATTGGATACAGATT
TTGCCGAAAATCTGTTCGCCTTGGCGTTCGCCGACGGGGATGCCGTCGCCCATCGTCAAT
```

-488-

TGTCCGACAGGCTGGATACGGGTCTGCGTTGCTGCTTCCGTAGTGGCATCGACATCGCCG
AACGAGCCGCTGCCCGCCAGCTTAATCAGGAAATAAAGGACTGCAATAACAATAACGATA
CCGCTCACAAGGGTAAACAGTGCAGAGCCTTGGGCTTTGTTGTCGCGGAGTTGTTTCATT
TGGTAGGCCTCGCCGTCAGGTTAGGTTGTGCTGTAAATTATAGTTTGGTGTGTTAAACGC
AGTTAACAATATTTTGCTGGATTATACTGAATTCACAGGGTCTTTCCAATCGCTATCATT
GAAAATATGAAAAAATTTGCCAACGGTATCTGTATAAAACAAATAATCCTTTGAAAATAA
TTGTTTATCCTCAAGAAACTCTCCTTATGCCGCCATACGCCGCCTGCCGGCGCAAGATA
ACCTTTGCCAATTTGCAGAATTTACGTTAACCTTGCGTTTTCCGCACCCATAGCTCAGTT
GGAAGAGTGTCAGTTTCCGAAGCTGGAGGTCACAGGTTCGATCCCTGTTGGGTGCGCCAA
TTATAAAGAGACCGTCTGAAAGATAAATATTTTTCAGACGGTCTTTTGACTTACTTCAAA
CTCTTATTTCAAGACTTCCGCAAATGCGCGGGCAACATAGTCGGTATTCGACGTATTCAG
TCCGGCGACGCACATCCTGCCGGAATCCAGCAGGTAAACGGCAAATTCGTCGCGCAGCCT
GCGGACTTGTTCCACGCTCAATCCTGTGTAGCCGAACATGCCGCGCTGTTTGATGAAATA
AGTGAAATCGCGATTGGGGATTTGCGCAGTTAAGACATCATAAAGTTTCTGCCGCATCGC
ACGGATGCGGTCGCGCATCATATAAACCTCGTTTTGCCACAAGGCGTAAAGTTCGGGGCT
GTTCATCACGTCGGCGGCGATATACGCGCCGTGCGCGGGCGGGCTGGAGTAGATGCGGCG
GACGGTGAATTTGAGCTGTCCGAACACCAAATCCGCTTCTTCCTTATTCGGGCAAACCAC
GCTTAAGCCGCCGACGCGCTCGCCGTAGAGCGACAGGTTTTTTGAGAAGGAATTGCTGAC
GAACAAGGGCAATTCCATTTCCACCGCTTTGCGGACGGCGTAGGCATCGCTGTCCAAATC
GCCGCCGAATCCTTGGTAGGCAATGTCCATAAACGGAATCAGTTTGCGCGTTTTGATGAT
GTGCAACACTTCGTCCCATTGCCGTTCCGACATATCCACGCCGGTCGGGTTGTGGCAGCA
GGGATGGAGGATCAGGACGCTGTTTTCGGGCAGGGTGTTGAAAAACGCGGTCATTTCGTC
GAATTTCACGCCGACAGTGGCAGGGTCGTAATATGGGTAAGTGCCGACCTCGAAACCTGC
GCCTTCAAAAATGCCGCGATGGTTGTCCCAAGTCGGGTCGCTGACGTAGGCGCGCGCTTC
GGGAAACCAGCGGTGCAGGAAGTCCGCCCCGACTTTGAGCGCGCCCGAGCCGCCCAAGGT
TTGTACGGTAACGATGCGCCCTTGCGCAAGCGCGGGATTGTCTTTGCCGAACAATAAATG
CTGCACCGCGCTGCGGTAAGTGTCCAAGCCTTCCATCGGCAGGTAGGGCGACGGCGCAGG
CGCGGCGGCACGGGCGGTTTCGGCTCGGCTCACGGATTCCAACACGGGCATTTTGCCTTC
GTCGTCGAAATAAATGCCTATGCTCAAATTGACTTTTTCGGGGCGCGGGTCGTTTTTGAA
GGTTTCGACCAAACTCAAAATCGGGTCGCCAGGATAGTATTCGATGTGTCGGTACATAGT
CCTTACCTCTTGCTTTTTCAAAGGATTTTCTTTTTCAACAATACACCACTTTCGATATGG
TGCGTAAACGGGAATTGGTCGAACAGGGCGGCACGTTCGACCGCATGGGTTTCCGCCAAG
GTGTCCAAATTGGCGCGCAACGTTTCGGGATTGCAGGAAATGTAGATGATGTTGTCAAAC
TGCGACACCAGCTTCAAAGTTTCCTCATCGATACCGGCACGCGGCGGATCGACGAAAATA
GTGGAAAATGCGTAATCCGTCAAAGCAATACCGCCATCCTTAAGGCGTTTAAACTCACGT
TTTCCGGTATAGGCTTCGGTAAATTCTTCAGCAGACAGACGGGCGATTTTGATGTTGCCG
ATGCGGTTGGCTTCGATATTCCATTGCGCCCGCGCTGACGGAGGTTTTGGAGATTTCGGTT
GCCAAAACCTGTCGGAAATATCGGGACAGCGGCAGGGTGAAATTGCCGTTTCCGCAATAC
AGTTCGAGCAGGTCGCTGCCCAAGCCTTCCGCCGTGCGGCACGCCCATTCAAGCATTTTC
TGACACACGGCGGCATTCGGTTGGGTAAAACTGCCTTCAATTTGCCGATAACGGAAATCC
CGGTTGCCGACCTTCAAAGTTTCCGTTACATAGTCCTGTTTTAAGACTATTTTCTGTCCC
CTGCTCCGCCCAATAACGGAAATATCCAACTGTTGCTGTAACGCTTGCGCCGCCTGCATC
CACTCAGCATCAAGCCTTTTGTGGTAAATCATGGTAACCAGCATTTCCCCGCTGAGCGTG
GACAGAAATTCGACGGCATACCAGCGTTTTTTGAGTTCGGGGGATTGCGCGGCGGCGGCG
ATCAGCTCGGGCATGAGGCGGTTGACAGCCTCGGAAGCTGCTTCAAAACGGTCGCAGCGT
ATCATGCTTGCGCCGCTGGCTTTCTGCCCTTTTTCAAACATGGCATAAAACATTTCCCCG
CCTTCGTGCCAAATACGGAACTCGGCACGCATACGGTAATGTTTGTCCGGAGATTCGTAC
ACTTCCCACTCAGGAACATCCAAACCTGCAAAAAGGGTTTTAAGGTAGTCTTTTTTACCT
TGAAGCTGCTGCGTGTAGTCATTCATATCGCTATCCTGAAAAATCAGACCGGATTATAAG
CCGATTTGCCTCGCCGCACGCAAACTCTTTGACTGCCGCCCCTTCAATGACGGACGGGCT
TTTGTGCTAAAATCCGCCATCTTTCCACACTATACCGATAAAGGGAAAAATCATGGCAGG
CAACACTTTCGGACAACTCTTCACCGTTACCACCTTCGGCGAAAGCCACGGCGCGGGTTT
GGGCTGTATCATCGACGGCTGCCCGCCCGGCTTGGAATTAAGCGAAGCGGATATCCAATT
TGACCTCGACCGACGCAAACCCGGCACCAGCCGCCACGTTACCCAACGCCGCGAAGCCGA
CCAAGTCGAAATCCTCTCCGGCGTATTCGAAGGCAAAACCACCGGCACGCCCATCGCCCT
CTTAATCCGCAATACCGACCAGCGCAGCAAAGACTACGGCAACATCGCCACCAGCTTCCG
CCCCGGCCACGCCGACTATACCTATTGGCACAAATACGGCACGCGCGACTACCGCGGCGG
CGGCAGGAGCTCCGCCCGTGAAACCGCCGCCCGCGTTGCTGCCGGAGCCGTTGCCAAAAA
ATGGTTGAAAGAAAAATTCGGCACGGAAATCACCGCCTACGTTACCCAAGTCGGCGAAAA

-489-

```
AGAAATCCGGTTTGAAGGCTGCGAACACATTTCCCAAAATCCTTTTTTTGCCGCCAACCA
TAGCCAAATTGCCGAGCTGGAAAACTATATGGACAGCGTGCGCAAATCCTTGGATTCCGT
CGGCGCGAAGCTGCATATCGAAGCAGCCAATGTCCCTGTCGGCTTGGGCGAACCTGTTTT
TGACCGCCTCGATGCCGAAATCGCCTACGCGATGATGGGCATCAACGCCGTCAAAGGCGT
GGAAATCGGCGCAGGTTTTGACAGCGTAACGCAACGCGGCAGCGAACACGGCGACGAACT
GACCCCGCAAGGCTTCCTGTCCAACCACTCAGGCGGCATCCTCGGCGGCATCAGCACCGG
GCAAGACATCCGCGTCAATATCGCCATCAAACCCACCAGCTCCATCGCCACCCCGCGCCG
CAGTATCGACATCAACGGCAACCCCATCGAACTCGCCACGCACGGCAGGCACGACCCCTG
CGTCGGACTGCGCTCCGCGCCGATCGCCGAAGCCATGCTCGCGTTAGTCCTCATCGACCA
CGCCCTGCGCCATCGCGCGCAAAATGCCGACGTTCAGGTTAATACGCCCGACATTACCCT
TTCAAACAAATAAAAATTTAGCCAAAACACAGACTTTATAATAGAATATCGAGCATTGCC
GTGCAGCCTTGACGCACGGGTTTGTTTAGAGGAATACAACCGAAATGACACAAGAAACCG
CTTTGGGCGCGGCACTAAAATCCGCCGTCCAAACTATGAGCAAAAAGAAACAGACCGAAA
TGATCGCCGACCACATCTACGGCAAATACGATGTATTCAAACGCTTCAAACCGTTGGCGC
TCGGCATCGATCAGGATTTGATTGCCGCTTTGCCGCAATACGATGCCGCACTGATTGCAC
GCGTCCTCGCCAACCACTGCCGCCGTCCGCGCTATCTGAAAGCCTTGGCGCGCGGAGGCA
AACGTTTCGATTTGAACAACCGTTTCAAAGGCGAAGTTACCCCCGAAGAACAGGCGATCG
CGCAAAACCATCCTTTTGTGCAGCAGGCTTTGCAACAGCAGTCCGCCCAAGCTGCCGCCG
AAACGCTGTCTGTTGAAGCCGAAGCAGCCGAATCTTCCGCAGCAGAATAAATCCCCAAAC
GAAATGCCGTCTGAAAACCGATTTGGTTTCAGACGGCATTTTTTCGTATGCGGCAATCAC
GGTTCAAATATCCAATTCCGCCGTATCGCCTTCGCGTTCCATCCAAGCGCGGCGGGCGGC
GGCTTCGCCTTTGCCCATCAGTTTGACGAAGATGTCGCGCGTCTCGTCATCTGCACCTTC
TGGGATTTGTACCTGCAACAGGCGGCGGGTGTCGGGGTGCATGGTAGTATCTTTGAGCTG
GTCGGGGTTCATCTCGCCCAAGCCTTTGAAACGGCTGATGGAATAGGCGGTTTCTTTAAC
GCCTTCTTTTTGCAGCCGCTCCAAAATGCTGTCGAGTTCGTTTTGGTCGAGGGCGTAGAA
TTTGCGGGCAGGTTTGCTCTTACCTTGTGCGTTGACATCGACGCGGAACAGTGGCGGCTG
GGCGACGTAGATGTGTCCGTCGGCAACCAGTTTCGGGAAGTGGCGGTAGAACAGGGTCAG
CAGCAAAACTTGAATATGCGAGCCGTCCACGTCGGCATCGGACAGGATGGCGATTTTGCC
GTAGCGCAGGCCGCTTAAATCGGGATGGTCGTTAATACCGTGCGGATCGACGCCGATGGC
GACGGAAATGTCGTGGATTTCGGCGTTGCCGAAGAGTTGGTCGGGGTGGACTTCAAAGCT
GTTGAGCACTTTGCCGCGCAGGGGCAGGATGGCTTGGGTGGCTTTGTCGCGGGCGAGTTT
GGCTGAGCCGCCGGCGGAATCGCCTTCGACGAGGAAGAGTTCGTTTTCGCGGATGTCTTC
GCTTTCGCAGTCGGTCAGCTTACCGGGCAGGACGGCGACGCCGCTGCCTTTTTTCTTTTC
AATCTTTTTAACCGAACGCATCCGCGCCTGTGCTTGGCGGATGGCGAGTTCGGCGATTTT
TTTGCCGAAGTCCACGTTTTGGTTCAGCCACAATTCCAAAGGGTCGCCCGATACGGTGGC
GACGAGTTTCAGCGCGTCGCGGTTGGTCAGCTTGTCTTTGGTTTGACCTTGGAACTGCGG
GTCGAGGACGCGGGCAGAGAGAACGAAGGCGGTTTTTCCGAACACGTCGTCGCTTTGCAC
TTTAACGCCGCGCGGCAAGAGGTTGTGCAGATTGATGAAGTTGTTGACTGCGTTGAACAC
GGCTTGTTTCAAGCCTGCTTCGTGCGTGCCGCCCAGCGGGGTGGGGATGAGGTTGACGTA
GCTTTCGTTGGCGCACGAGCCTTCTTCCAGCCAAGTCAGGGCAAACGCCGCTCCTTCGCC
GATGCTGAAATCGCCGTTGTGTTCGTCTGAAATGTAGTTTTCGCAAGAGAACAGCGGTAC
GGCTTCCTGCGCGTCGGCAATCAGGTCGGTCAGATAGCTTTTCAGGCCGTCGGGGTAATG
CCAGGTTTGGGTGTGCGCTTCGTCTTCGCCTTTGACCGGACGGGTCAGGGAAACGCGCAC
ACCCGGCAGCAGCACGGCTTTGGCACGCAGCAGGCGTTCGAGTTCGGGAATGCTGTAATT
CGGGCTTTCAAAATATTTGCCGTCCGGCCAGACGCGCACTTCTGTACCGCTGTCTTTGAC
GGCGCATTTGCCCACTTGTGCCAACGGTTCGACCACGTCGCCGCCGGCAAACACGATGCG
GTGGATTTTGCCTTCGCGTTTGACCGTTACTTCAAGGCGGGTGGAAAGGGCGTTGGTGAC
GGATACGCCCACGCCGTGCAGGCCGCCTGAAAAGGCATACGCGCTGCCTCCGTCTTTTTT
GTTGAACTTGCCGCCTGCGTGCAGACGGGTGAATACGAGTTCGACTACGGATACGCCTTC
TTCGGGATGCAGGCCGACGGGAATGCCGCGCCCATTGTCGTGCACGGAAAGCGAACCGTC
TTCATGAATTTGCACGTCGATTGCAGTCGCGAAACCGCCCAACGCTTCATCCGACGCGTT
GTCGATGACTTCTTGGCAGATATGGGTCGGGCTGTCGGTGCGGGTGTACATACCGGGACG
TTCTTTGACCGGCTCCAAGCCTTTGAGGACGGTGATGCTGGATTCGCTGTATTGGTTGTT
TTTAGCCATGGGAATAATCTGAAAGTAAGAAAAACAACGCTTTCAGACGGCCTGAAAGCG
TTGCGTTCCGTTGTTTTAGCGGTTGTCGGAAGATTGGCGGGCGGCAAAGTCTTCATAACT
TTCCATACCGCGCAGGAAGCGGGAAGAGAGTTCTTTCAACGCCCCCAAATAAACGTCGCG
TTTGAAATCAATCACTTCGTCAACGGGTGCCCAATATTGATGCCAACGCCAGCCGTCAAA
TTCGGGGTGGCGGGTGGCGCGCAGGTTGACATCGCAATCTCGGCCGGTCAGGCGCAGGAG
ATACCAAATCTGCTTCTGTCCGCGATAAGAGCCGCGCCATTCGCGGCGTACCCAGTTGTT
```

```
CGGCACGTCATAACGCAGCCAGTCGCGCGTGCGGCCGATAATTTTGACGTGTTGCGGCAA
AAGCCCGACTTCTTCGTACAACTCGCGGTACATGGCGGTTTCGGGGCTTTCGCCCGGCTT
GATGCCGCCTTGCGGAAACTGCCAAGAATGTTCGCGCACGCGCTTACCCCAAAAGACTTC
GTTGCGGTTGTTGATTAAGATGATACCGACATTGGGGCGATAGCCTTCCCTGTCCAACAC
GGTGTCGCCCTCCGTTAAATTCAATCTTGGGATTTTCCCACAAATCAGGCGGTTTTGACA
AATCAGACGGCATGGCGGTACGCGTGCCGAAACACGGGGGGGATTTGGGAAAATATCTTAA
ATTTGGTTTACAATAATGTATTTCAAATTATTCGGGAATCAGACCATGTTAGATATCCAA
TTGCTCCGCAGCAACACCGCCGCCGTTGCCGAACGGCTTGCACGGCGCGGTTATGACTTT
GATACCGCACGTTTTGACACACTGGAAGAACGACGCAAGTCCGTTCAGGTGAAAACCGAA
GAATTACAGGCCTCGCGCAACAGCATTTCCAAACAAATCGGCGCACTGAAAGGTCAGGGC
AAACACGAAGAAGCGCAGGCGGCCATGAATCAGGTTGCCCAAATCAAAACCGATTTGGAA
CAGGCTGCCGCCGATTTGGATGCCGTTCAAAAAGAATTGGACGCATGGTTGTTGAGCATA
CCTAACCTGCCGCACGAAAGCGTACCTGCCGGTAAAGACGAAACCGAAAACGTCGAAGTC
CGCAAAGTCGGCACCCCGCGCGAATTTGACTTTGAAATCAAAGACCATGTCGATTTGGGC
GAACCTTTGGGTTTGGATTTTGAAGGCGGTGCAAAACTCTCCGGCGCACGATTTACCGTG
ATGCGCGGACAAATCGCCCGTCTGCACCGCGCCTTGGCACAGTTCATGCTGGATACGCAC
ACGCTGCAACACGGCTACACCGAGCATTACACGCCTTATATCGTTGACGATACGACGCTG
CAAGGTACGGGCCAACTACCAAAATTTGCGGAAGATCTGTTCCACGTTACCCGTGGCGGC
GACGAAACCAAAACCACCCAATACCTGATTCCGACAGCCGAAGTTACCCTGACCAATACC
GTTGCCGACAGCATTATCCCGTCCGAACAACTGCCGCTGAAGCTGACCGCGCATTCGCCC
TGTTTCCGCAGCGAGGCGGGTTCGTACGGCAAAGACACGCGCGGTCTGATTCGCCAGCAC
CAGTTCGACAAAGTGGAAATGGTTCAAATCGTTCATCCCGAAAAATCATACGAAACGCTG
GAAGAAATGGTCGGCCATGCCGAAAACATCCTGAAGGCTTTGGAACTGCCCTACCGCGTG
ATTACCCTGTGTACCGGCGACATGGGCTTCGGCGCGGCAAAAACGTATGACTTGGAAGTT
TGGGTGCCGGCGCAAAATACCTACCGCGAAATCTCAAGCTGCTCCAACTGCGAAGATTTC
CAAGCCCGCCGCCTGAAGGCGCGTTTCAAAGACGAAAACGGCAAAAACCGCTTGGTACAT
ACTTTGAACGGCTCCGGCTTGGCTGTCGGCAGAACGCTGGTCGCCGTATTGGAAAACCAT
CAAAACGCCGACGGCAGCATCAACATCCCTGCCGCACTGCAACCGTATATGGGCGGTGTT
GCCAAGTTGGAAGTCAAATAAGTTTGCAGGCTGCCTGAACGTCAAATGCCGTCTGAAACC
TGTTTCAGACGGCATTTCCTTTAAACTTTTAAAACACGTCAGCCGTCGGCACGAACCGCA
TTGCCGCAATCGCCGGTCTGTCCGACCTCGCGGATATTGGACAGCGTAACTTCCGAAATA
TTACCCAACGCCTCTTCCGTCAAAAATGCCTGATGGCCGGTAAACAGCACATTATGACAA
GACGACAGGCGGCGGAACACGTCGTCGGTAATCACATCGTTGGATTTGTCTTCAAAAAAC
AGCTCGCGCTCGTTCTCGTACACATCCATGCCCAATGCGCCGATTTTCCGGCGTTTCAAC
GCCTCAATCGCGGCGGCACTGTCAATCAGCCCGCCCCGGCTGGTGTTGATAATCATCACG
CCGTCTTTCATTTTGTCGAACGCCGCTTCGTTCAGCATATAGTGGTTTTCCGGCGTGGCG
GGGCAATGCAGCGTGATGATGTCCGACCGGGCATACAGCTCGTCTAAATCCACATATTTG
CCGCCGATTTTTTCCGCTTCGGGGTTGCAAAACGGATCGTAAGCCAGCAGGTTCATGCCG
AAACCCTTTAAAATCCGCATGGTTGCAATACCGATTTTCCCCGTGCCGATAACGCCCGCC
GTTTTGCCGTACATATTGAAACCGGTCAGACCTTCCAGCGAAAAATTCGCATCGCGGGTA
CGCTGATAGGCTTTGTGGATACGGCGGTTCAACGTCAGCATCAGACCGACCGTATGTTCC
GCAACCGATTCGGGCGAATAGGCAGGCACGCGCACGACTTTCAAGCCCAACTCTTCAGCC
GCCTTTAAATCCACATTATTGAAGCCGGCACAACGCAACGCCACAGTTTTCACGCCAATT
TGCGCCAATTTTTCCAACACGGGCCGGCTGCCGTCGTCGTTTACAAAAATACAGACCGCT
TCCGCGCCTTCCGCCATTTTCGCCGTTTTCGCATCCAGCATAAAATCAAAAAACTCCAGC
TCGAAGCCGAAATGCCGGTTGGCGCGGGTAAAATGTTCGCGGTCATAGCTTTTCGTACCG
TAAATCGCAATCTTCATCAATATGTCCAGTTGTCGTCTATGGTTGAGAAACGGCATAATA
CACTGAATTCAAACAAATCAGTAGAATATGGTGGATTAAAATTGATTGCATGCACGGCAT
TTCCATTTCAAAACACAAAACTCAATCGCCCATTGCCGCCAGAAGCTCGGCCTGATGCTC
GGCAATCAGGGCATTGGTGATTTCTTCCAAGTCGCCGTCCATCACAAAATCCAGCTTGTG
CAGGGTAAGGTTGATGCGGTGGTCGGTTACGCGGCCTTGGGGATAGTTGTAGGTGCGGAT
GCGTTCGCTGCGGTCGCCGCTGCCGATGAGGGATTTGCGCTCGGCGGCTTCTTTGGCTTG
GGCTTCGCGTTTTTGCGCGTCGTTCAGGCGGGCGGCGAGGACTTTCATTGCCTGCGCTTT
GTTGGCATGTTGGCTGCGGCCGTCTTGGCATTCGACCACCATGCCGGTGGGCAGGTGGGT
GATGCGGACGGCGGAGTCGGTTTTGTTGATGTGCTGACCGCCCGCGCCGGATGCGCGGAA
GGTGTCGATGCGCAGGTCGGCTGGGTTCAGTTCGATGTCTTCCAGTTCGTCCGCTTCGGG
CATGACGGCAACGGTGCAGGCGGAGGTGTGGATGCGGCCTTGGCTTTCGGTGGCGGGGAC
GCGCTGCACGCGGTGTCCGCCCGATTCAAATTTCAAACGGCTGTACGCCCCGAGTCCGAC
AATACGGGCGATGACTTCTTTATAGCCGCCCAATTCGCTTTCGTTGGCGGACACGATTTC
```

```
AACCTGCCAACGGTTGCGCTCGGCGTAGCGGCTGTACATACGCAGCAAATCGCCGGCAAA
CAGCGCGGCTTCGTCGCCGCCCGTTCCGGCGCGTATTTCGATGAAGATGTTTTTGTCGTC
GTCGGCATCTTTGGGCAGCAGCAGTTTTTGCAGTTCGGTATCGAGTTCGCCGATTTTGGC
TTTGGCCGCTTCGATTTCTTCGGCGGCAAAGTCTTTCATTTCGGGGTCGGACAACATTTC
TTCGGCATCCGCCAAGTCGCTTTGGGCAAGCCGATAGTTTTGGAACACTTCGACGACGGG
GGTCAGTTCGGCGTGTTCGCGCGTGAGCTTGCGGTAGTTGTCCATGTCGGACGTGGCTTC
GGGCTGTCCGAGAAGGTGGGTAACTTCTTCCAGTCGGTCGCTGAGTTGTTGTAGTTTTTC
TAAGATAGACGGCTTCATAATTCTTCCATAACAAACGCCGCCTGAATGTTCAGACGGCAT
CAACACTGGATTATTATAATAGGTTTTCCGGATATTCAAAAAGATAATCTTAGATGGATA
ACCTACCGTCCCAACAGGGCATCGGCATTGCGCTCCGTTACCTTTGCAATCTCTTCTACA
CAGGTTCCGCGGATTTCCGCAGCAATCTTTGCAATACCCGGAATATTGGCAGGCGTATTA
ATCTCTTTTTTCAGCATAAACGGCTATCCGTTTCCAATACGAAATCCCCGTCGTTCAAG
GCTTTAAGCGTATCGCGCACTTTACGCGCGTTCGGATTGAGCAGCAGCGAACCGATGCCG
ATTTTGAAACCCAGTTTCGTCAACACACGCGCTTCTTCCGCGCTGCCGGAGAAGGCGTGA
ACGATGCCGCCTTGGGCAAAGCCTGTCTGTTTGACGGCGGCGGCGATGTCGGCGGTGGCT
TTGAGATTATGGATAATCACGCGGCGGCGCAGGGTTTGCGCAATTTCAAGCTGGCGGACG
AAAACTTGAATTTGCCGTTCGCGCTGCTGCGACGTTTGGGTTTTATCGTAAAAATCCAAG
CCGATTTCGCCGACCCATGCCTGCGGATAATGTGCCAACATCGTTTCCAGGCGGACGAAA
TCCCGCTCGGCAATGCCGTCTGAAAACCAAGGATGAATGCCCAGTGCAATACGGATTTGA
CCGTGTTCGGACGGCATTTCCGCCAAATCCGCCACGTCCTGCCAATCCTGCGGGCGCGTC
GCGGGAACGATAAACCGCTTCACCCCAACTTTCCGCGCTGCGGTCAGGATGTGCGGCAGG
TTTTCGCGCAGGGCGGGATCAGCGAGATGGCAGTGGGTGTCGGTGAAGTTCATTTCGATT
TCACACTAACTTTAGTCTTACCAATTCTTTGTAAACATCTTCCTTACCCCAGCCTTGCGA
TACGGCGAGGGTCATCAGCGCGGTGGCGGTTTCGAGGTTGCATTTGCCGCCGTTGATGAT
GCCCGAGTTGCGGAACGCGTTGCCTTGCGCGTAAACGGCGGCGGTTTTGCCTTGTCGGAC
TTGGCTGATGTTGAGCAGCAGTTTGCCCTGCCGCGCGAAGTCTCGGACGGCGCGGATAAA
ACCTTCGTCTGCGGGCGTGTTGCCGTGTCCGTAGCTTTGCAGGATAAGAGCTTGGGCGGG
AAGCTGTCCGAGTCCGTCCGCAAGTTCTTGGACGGCAAAGCCGGGGATAAGCGTGCGGAC
AGCGATTTTTGCCTGCGGGTCGGGATAACGGATTTTGAGGCCGTCTGAAACGGCTGCTGC
GTCTTGGGACGGGAGGCGAAGATTGTGCCAACCCCGGGTTTCGTCCCATTCGGCAAGCGT
GCCGAAATGCGGATTGTCGAAGCCTGCAGCAGTTTCGGTGCTGACTTTGCTGCTGCCGAC
GGCGGGATACAGTTTGCCGTCAAACGCGATGACGGTTTGTTTGAGCTTGAGGCTGAAGGC
GGCAACGGCGGTGGAGAGGTTGCGCGGGGCATCGCTGTTTTCGGCGGCGTAAGGCCATTG
GGAACCAGTCAGGACAATCGGTTTGCCCAAACCTTGCAGAGCGAGCGCGAGGAGATTGGC
GGTGTACGCCATGCTGTCCGTGCCGTGCAGTATCAGGATGCCGTCGCATGAAGGGAGTTT
GTCGGCAATGATGTCCAGCCAATCGCGCCAGTGTTGCAGCGTAACGGAGGAGGAATCAAT
CAAGGGATTGCAGACGTGCCACTCGAAATCGAGGCCGTCTGAAAAGGGGGAAAGGGCTTG
GCTAACCAGTGCGGTATCGGGGCGCAGGCCTTCGCTGCTTTGGGTCATGCCTATGGTGCC
GCCTGTGTAGAGGACGAAGATTTTTTGTTTCATGGACATCATCGGGTCGTCTGAAAATAA
TAATACGGCTTATTTAACTATATTTCGGACAGACTGGCAATTTGGCGGCGCGGACGGTTT
TCAGACGGCCTTCAAATGAAAAAGCACCCGAGGGCTGTCGATATTTGATTTTCCAAGTAG
ATTTTTATTCACGAAATAGGAGAGCCGCAACAAGCTTAAATCCCTTGTGAGGTTCCCAAC
ACGGAAGATACCGCTTTGTGGATTAAAAAAATACGGAAACTATTGAATATCGACAACCTAT
TTAGGTGCTTGATTTATTGTTTGCTTTGCGCGGCTTTTTTGGCTGCCTTGGCGGCTTTG
CGTTGCGCCCGCTTTTCTTTCAATTTGCTGCGGTAAAACTGGATACGTTGGCGTTTTTC
CACCAAATCCAAGCGACAACGGTCGCACCTATACCCAAGATAACAAAAATACCCGATTGC
AGGCTGTGCATTTTCGCCATCAGCCAATCGATGTTGTGCGCACCGTATTCGCCCAGATAA
ATCCAAATAGGGACGGAAATCAGTGCGGCCAGTCCATCCATAATGATAAAAACGCAAGTAT
GAAACCTTGCGGCTGATACCGGCTGTAACAAATACGGCCGTTCTCAAACCGGGCAGGAAA
CGGGCGACAAATAAGACCCAGTTACCGTATTTGTCGAATTTTTCCTGAACCTGCTCATAA
CGTTTCGGCGTCATGATGCGCGCAATAGGTTTGAACCTTAGGATTTTCTGCCCCCAAATT
CGTCCGGCGGCGAACATGATGCCGTCCCCGACCAATACGCCGAGCATACCGACTGCAAAC
ATAATATGCGGATTGGTATAAACCCATACCCGAAATCACGCCGCCTGTTACCAAGGTCAAA
TCCTCGGGAATCGGCACGCCGAAACCGCAGATGACCAATACAAAAAAAAACAGCCGCATAA
CCGTATTCGACAAAAAAGGCTTCTAAAAAAGCAAACATGGCGGATATTCCATTGTCGGAG
ATAAAAAGTCAGAACAAACCGAAACATTTTCTACATGAAGCAGGCATTCTATCAAAGATT
ATGCCGTCTGAAAGCGGAAAAAAGGCAGATTCGCGCATCCTCCGCATGTTCAGACGGCAT
TTAAACAGAAAACCGGCCGGTTCTAAAAACGGTTTTGCCTGATTTTGCCTAAATGCCGCC
GATGGCGGCGGCAATGCGTTCCGCCCCTTCGCGCGCGCCCAATCCGCCTGCCGCGCCTCCAC
```

```
CATCACGCGCACGACGGGTTCGGTTCCCGAAGCGCGCAACACGACACGCCCTTTGCCTTC
GAGTTCTTTTTCCACTTCCGCCAACACGTCTTTCGAAGCTTCCTGCCATTGCTGACCTTT
TTGGATGCGCACGTTAATCATCGTTTGCGGATACGGCTGCCAATCGGCGCAAACGGTGGC
GAGGTCTTGGTTCAGCGTTTGCAGTGCCGCCAAAACTTGCAGCGCGGAAATAATGCCGTC
GCCGGTGTTGTGTTTGTCCATACACAAAATATGGCCGCTGGCTTCGCCGCCGATGAGCCA
GCCGCGTTGGTTCAGCTGTTCCAACACATAGCGGTCGCCGACTTTGGCGCGGCAGAAATC
CACGCCCTGCTCTTTCAGGGCGATTTCCATCGCCATATTGGTCATGACCGTGCCGACCAC
GCCGCCGATGTTGATACCTTCTCGGGCGCGGGCTTTGGCAATGACGTAAATCAGGCTGTC
GCCGTCGTAAACCTGCCCGTTTTTATCGACCATCATCAGGCGGTCGCCGTCGCCGTCTAA
GGCGATGCCGTAGTCGGCTTCATGCTGTAAAACGGCGGCCTGGAGTGTCTTGGTATAAGT
CGCACCGCATTTTTCGTTGATGTTGTAGCCGTTGGGTTCGTTGCCGATGCTGACGACCTG
TGCGCCCAGTTCGTGAAACACCTTGGGGGCGACACCGTACCCCGCGCCGTTGGCGGTATC
GACAACCAACTTCAAACCCCGAAGGTCGGAATGGCTGGGAAAGGTGGATTTGCAAAATTC
GATATAGCGGTCGTCCGCACCGCTGATGCGGCGTGCGCGACCGAGACGGGCGGACGGTTG
GGTTTTCATTTCGCCGTCGATTTTGGCTTCGATTTCCAACTCGACTTCATCGGAAAGTTT
CACGCCGCCTTCGGCGAAGAATTTGATGCCGTTGTCGGAATAGGCGTTGTGCGACGCGGA
AATCATCACGCCGGCGGACAGGCGCAACGCGCGGGTCAGATAAGCCACGCCGGGCGTGGG
CAGCGGTCCGGTCTGTACCACATTCACACCCGCCGCCGTAAAACCGGCCACCAAAGCGGC
TTCCAGCATATAGCCGGAAATGCGCGTGTCTTTGCCGATGAGGACGGTCGGTTTCTGGTC
GGTGTCGTGCTGCACCAAAACCTGCCCCGCCGCATAGCCGAGTTTCAATACGAAATCGGG
CGTAATCGGAAATTGCCCCACTTCGCCGCGCACGCCGTCCGTGCCGAAATATTTTTTTGC
CATGTGTTGCTCCGAGAATGTGAACCGTTGTCCGAGATTATACAGTCAGTTTGTGCCTTG
CTGTCTGCACCGTTGATGCCGTCTGAAACCGCCCGTCCTTTTCAGACGGCATGAAGTAT
GTGAACCGCTGTTTACAGATTGATGCCCAACGCTTCCCACACCTTCAACGCATCCGCTGT
CGCCTTCACATCATGCACCCGCACGATTTGCGCGCCGCGCGCTACGGAAGCCAACGCTGC
CGCCACGCTGCCGTGTACGCGTTCCGCCGCATTTGCCTCGCCGGTCAGCTCGCCTATCGT
GCTTTTGCGCGATACGCCGATGAGCAGCGGAAAACCTGTTTCCGCCATCAATTCGGGCAA
ATGCCGCATCAGCGCGATATTGTGTTGCAAGGGTTTGCCGAAGCCGGAGCCGAAGCCGGG
GTCGAGTATGATGCGTTGCGGTGCGATGCCTGCCGCGATACATTCCGCTGAGCGCGCTTT
CAAATACCGCGCTACTTCACCGACAACATCTTGATATTTCGGATTAATCTGCATGGTTTT
GGGCAAACCCTGCATGTGCATCAGGCAAATGCCCGTGTCCGCCTGACGCGCCAGCAATTC
GACCGCGCCCTCGTCATTCAACGCCGCCACATCATTAATAATATCGATGCCGCCGAGTGC
CAACGCTTTTTCCATAATCACCGTGCGGCGCGTGTCCAAACTGATGGGAACGCCCCACCC
CGCCACTTCCGCCAAAACAGGCTCAACCCGCGCCCATTCTTCTTCAGGCGAAACATAATC
CGCACCCGACCGCGTCGATTCGCCGCCGATGTCGAGAATGTCTGCGCCTTCTTTTAGAAG
CTGTTCGGCATGTGCCAAGGCTGTTTGGGCGTTTTGCGAATACACGCCGCCGTCGGAAAA
AGAATCGGGTGTGAGATTCACGATGCCCATGATTTTCGGTTTGTCCAAACCGATTTCAAA
CCGTCCTGCCTGCCAAACGTGTCGTGCCATCTGAACTCCTCCCAAAATAAAAAACAGATT
ATATGCCGTCTGAAACCGTCTTGTGCGCTTCAGACGGCACCGCTATTCGGGCGGCAGACG
GCATGTTGTCCGAATGTCTGCTCCGCCTTTGAATCTGCCGGTATGCCTGCTATCCGCCCG
ACTTTTCAAAACAGGTTCCGACGATTCCGCACGCGCCTGCCGCCTTTGCCAAGCCGTACA
GGATTTCCTGCGGCATATCGCGGTTCCATAATCCCGTAATATTCGCAATCACGGGCAGAT
GGCTGATTTGGCGGACTTTCACGATGGATTCGACATCCAAACGGTAGGGATGGCCTTTGG
TATGGTTCAATACGCCCGACTCGCCCAGAATCAGGTGGCGGTTGCCGCGCGAGACGACAT
ATTCTGCGGCATTCAACCAATCTTCGGCAGAATGGTGCTTGTCTTTACACAGCACCAAGG
GAATGTTCAGGTTTCCGGCTTCATTCAATACGGCAAGATCGGACATCAGCCCGCCGCCCA
AATACAGGATGTCCGCCCCCGCATTCAAAGCCGCTTCGACATGGCGGACGTTGCGGACGC
GCACCAATACGGGTTTCCCTGCATCATGCGCCGATGCGGTCTGTTCCGCCAACCGTCTGC
ACCGTCCCCGCCCTTCATCCGCACTTGAAGTGTCGTATAAGTTTGCCGAAGTGAAAAACG
GATCCAGAAACACTGCATCCGCATTGCGCCATACTGACGGTTCTGCGGCGATACGGACGG
TTTCCCCGCCGCCGAAAGCCACGCCTTTGGCGGCAACGCGGCTGTCTTCCGCCCGATTTT
CCCGACTGACGGTTTTCCATGTATCCAAAATGCGGACGGCTTTCTCGACCTCCGGCAGCG
TCTGCACCTCCCTGACGCTCAAAACCCTATCGTCGCCGATTGCGCCGATGACAGTACGCT
CGTCGCCGTGAGAAATGTGTTCTCGCAGACCTCTGCTGCGGATAAAGGCGACAACGCCGG
CAATGTCCGCTTCGGCGGCACGCCTGCTCATGACAATAATCATATTTCCTCCTGACACAA
GAAACGGCCTACCCAAAATAGGATTTTTGCAAGCCGTGTTATACTGTGGCGTGTTTTACA
GATTGTTCGGGCTATGGATTTATTATCGGTTTTCCACAAATACCGTCTGAAATATGCGGT
GGCCGTGCTGACGATACTGCTTTTGGCGGCAGTCGGGCTGCACGCTTCCGTATATCGCAC
CTTCACGCCTGAAAACATCCGCAGCCGCCTACAACAAAGCATTGCACACACACACCGGAA
```

```
AATCTCGTTTGATGCGGACATTCAGCGCAGGCTCCTGCCCCGGCCGACCGTCATCCTGAA
AAACCTGACCATTACCGAACCCGGCGGCGACCAGACTGCCGTTTCCGTCCAAGAAACCAA
AATCGGATTGAGCTGGAAAAACCTGTGGTCGGATCAGATACAGATTGAAAAATGGGTGGT
TTCGAGTGCGGAACTTGCCCTGACGCGCGACGGGAAAGGTGTTTGGAACATCCAAGACCT
GATCGACAGCCAAAAACGCCAAGCCTCAGTCAACCGCATTATCGTCGAAAACAGCACCGT
CCGCCTCAATTTCCTGCAGGAACAGCTTATCCTGAAGGAAATCAACCTCAACCTGCAATC
CCCCGATTCGTCGGGGCAGCCGTTTGAAAGTTCGGGCATACTGGTTTGGGGAAAGCTGTC
CGTCCCGTGGAAAAGCAGGGGGCTGTTCCTTTCAAACGGCATCGGCCCGCCCGAAATCTC
ACCGTTCCATTTTGAAGCTTCCACTTCGCTGGACGGACACGGCATTACCATTTCCACCAC
CGGCAGCCCTTCTGTCCGCTTCAACGCCGGCGGAGCGGATGCCGCCGGCCTCGGCCTGCG
TGCAGACACTTCCTTCCGCAACCTCCACCTGACCGCCCAAATCCCCGCGCTGGCACTCAG
GAACAACAGCATTAAAATTGAAACCGTCAACGGCGCATTTACCGCCGGCGGCGAATATGC
CCGATGGGACGGTTCGTTCAAACTCGACAAAGCCAACCTGCACTCCGGCATCGCCAACAT
CGGCAACGCCGAAATCTCCGGCAGCTTCAAAACACCGCGCCACCAGACCAACTTCTCCCT
CAATTCGCCGCTCGTATGGACGGAAAACAAAGGGCTGGACGCGCCGCGCCTGTATGTATC
GACCCTTCAGGATACCGTCAACCGCCTGCCGCAACCCCGTTTCATCAGCCGGCTCGACGG
TTCGCTGTCCGTACCGAATCTGCAAAATTGGAATGCCGAATTAAACGGCACATTCGACCG
CCAAACCGTTGCCGCGAAATTCAGATACACACATGAAGACGCACCGCATCTGGAAGCCGC
CGTCGCACTGCAAAAATTGAACCTGACCCCCTATCTTGACGACGTGCGGCAACAAAACGG
CAAAATATTTCCCGACACCCTCGCCAAGCTGTCCGGCGACATCGAGGCGCACCTGAAAAT
CGGAAAAGTCCAACTTCCCGGCCTGCAACTGGACGATATGGAAACCTACCTCCACGCCGA
CAAAGGCCATATCGCGCTCAGCCGTTTCAAGTCAGGGCTTTACGGCGGCCATACCGAAGG
CGGCATCAGCATCGCCAACACCCGTCCCGCCACTTACCGCCTGCAACAGAATGCAAGCAA
CATCCAAATCCAACCGCTGCTGCAAGACCTGTTCGGCTTCCACAGCTTCAGCGGCAACGG
CGACGCGGTCATCGACCTGACCGCGGGCGGCGAAACCCGAAAAGAGCTTATCCGCTCGCT
TCAGGGCAGCCTGTCGCTAAATATTTCCAACGGTGCATGGCACGGTATCGACATGGACAA
TATCCTGAAAAACGGCATTTCGGGCAAAACTGCCGACAATGCCGCACCCAGCACACCCTT
CCACCGATTCACGCTCAACAGCGAAATTTCAGACGGCATCAGCCGCCACATCGATACCGA
ACTCTTCTCCGACAGCCTCTATGTTACCAGCAACGGCTATACCAATCTGGATACGCAGGA
ATTGTCTGAAGATGTCCTTATCCGCAACGCCGTCCATCCGAAAAACAAACCGATTCCCCT
GAAAATCACCGGCACGGTGGACAAACCGTCCATTACCGTCGATTACGGCAGGCTGACCGG
CGGCATCAATTCGCGCAAAGAGAAACAGAAAATCCTCGAAGACACCCTGCTGGAACAATG
GCAGTGGCTCAAACCTAAAGAACCGTAAACATCCTGCGTACAAAAATGCCGTCTGAAACA
CCCCCGCGCTTCAGACGGCAGACCGTAAAACCTACAACCCCAATTCCTCCCAAATCCCAT
CAATCTTAGCCGTAACCGCAGGGTCTTTTTTGATGACGCGTCCCCATTCGCGGTCGGTTT
CTCCCGGCCATTTGTTGGTCGCATCCAAACCCATTTTGCCGCCGAGTCCGCTGACGGGGC
TGGCGAAGTCGAGATAATCGATGGGCGTGTTTTCTACCAAAACAGTGTCGCGCACGGGGT
CCATGCGCGTGGTGACCGCCCAGATGACTTCTTTCCAGTCGCGCACGTTCACATCGTCAT
CCACCACGATGATGAATTTGGTATACATAAACTGGCGCAGGAACGACCAGCAGCCCATCA
TCACGCGCTTGGCGTGTCCGGCGTACTGTTTTTTCATGCTCACCACCGCCATGCGGTAGG
AGCAGCCTTCGGGCGGCAGGTAGAAATCGGTGATTTCGGGGAACTGCTTTTGCAAAAGCG
GTACGAACACTTCGTTCAACGCCACGCCCAAAACGGCGGGTTCATCGGGCGGTTTGCCCG
TGTAGGTCGAATGGTAAATCGGGTTTTCGCGCATGGTGATGCGTTCGACCGTAAACACAG
GGAAATAATCCTGCTCGTTGTAATAGCCGGTGTGGTCGCCGTACGGGCCTTCCAACGCGG
TTTCGTTCGGATGGATGACGCCTTCCAACACGATTTCTGCGCGGGCAGGCACTTGCAAAT
CGTTGCCGATACATTTCACCAGCTCCGTCCGCGAACCGCGCAGCAGTCCGGCAAACTGGT
ATTCGCTCAAGGTATCGGGAACAGGCGTTACCGCGCCCAAAATGGTGGCGGGGTCGCAGC
CGAGTACGACGGCGACGGGATACGGCGTATCGGGATTGAGTTTGCGGAACTCCTGATAAT
CCAACGCGCCGCCGCGATGCGACAGCCAACGCATAATCAGCTTGTTTTTGCCGATGAGTT
GTTGGCGGTAAATGCCGAGATTTTGGCGTTTTTTGTGCGGCCCGCGCGTGACGGTCAAGC
CCCACGTTACCAGCGGCGCAACGTCTTCCGGCCAGCAATGCTGAATCGGAAGTTGATACA
AATCAACGTCTTCGCCTTCCCACACGATTTCCTGACACGGCGCGTTTTTCACCACGTTCG
GCGCCATGCTCCAAATGTCTTTCAGCAGCGGCAGTTTGGAAAACGCATCTTTGATGCCTT
TGGGCGGTTCGGGTTCTTTCAAATACGCCAGCGTCTGCCCAATTTCACGCAGCTTGGACA
CGCTGTCCGCGCCCATGCCCATCGCCACACGTTCGGGCGTGCCGAACAGGTTTGCCAACA
CGGGATAACCGTAGCGCGTACCGTCGGGCTTAATCGGGTTTTCAAACAGCAACGCCGGCC
CTTCGGCACGCAGCACGCGGTCGGCGATTTCGGTCATTTCCAAATACGGGGAAATGGGGT
GTGCGACGCGCTTGAGTTTGCCCTGCTGCTCGAGCATGGCGATGAAGTCGCGCAGGTCTT
TGTATTTCATATTCATCCTTTTTGTCCTTTTATCCTGAACAATCCGATTCGGATACCGCC
```

-494-

```
CCTATCCTTGCCTGTGCCTCGGCATATTCTATGCCGTGATAAAAGTCGCGTACCAGCGGA
TGTTCGCCGCCTTGATGGAGTTGCAACAAAGGACGTTGACCATCGGGTTGGGTAACGACA
TTGCAGTGCAGACCGAAGGTGTCGGTTTCATAAGGGGGCAGCTGGTTGCAGATCATGCCG
AAATAAACAGCGTTTTCAAGGTTGTCGTAAAAGCGGCTTTGATAGTCGTTAAAACTCTTT
TCGCTGACGGATACCCACACGCCATATTCCAGCGTTTCCTCATGCCCGATAATCGGAATC
GGCAGCACCGCGCGGATAAAGCGGTCGGTTTGGTCGGGATAGCGGATGATGCAGAAATCA
GAATCGCATTCTGCTTGATAAGCAATGCGTTCTTCTTCACTGAGTTGATTATAGGGATCG
GGTGCGGTAAAGCCGATTGCGGGCATTTCTTCGTGGTTTTCGCCGCAGGAAGTGCAAGTG
TACATAAGGTTTCAGACTTTCAAAACGAGTTTGCGGTAAAGCCATTCGCCGGCAAACAGC
ATCCCCATCAATACATAGGCAATCACGCCGGTATAAACCGCCCACCAATCATATCGCCCC
AACCGTGCCAACAAAGCGGCAAGCGTCCCGTTGATTATAAAAAATACGCACCAAACCTGC
GTTACCCGGCGGGTATAGCGCACGGCTTTTTCAGGCAGGTCGGGCTGTTGCAGCCGCGCA
AGTTTTTCAATCACCGTCTGCCCGGCAAACAGGCTGCCGCCGAACACCGCCAACATCATC
AGATTGACGAGGACGGGATACCAATACATCGAATCATGCCGCCCGAACACCAATACTGCG
GCAAAAAACAGTGTAATAAACAAAGCCGCATAACGCTGTTGGGGCAGTTTGGCAGTCAGG
GCGCGCAGCAGCCACAACCCGCACATCGCCGCCGCCAGCCAAACAAACCAGCCCGCCTCC
CTGCCGTATATAGTGGATTAACAAAAACCAGTACAGCGTTGCCTCGCCTTGCCGTACTGT
CTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATACCACAAAGCGGGATAG
GCAATGCTTAATACGGTCAGAAAAATATGTCCGAAAAAACCGGGTTTCATTTTGAATCCG
CACAAATGTTTTCAGACGGCATCCGATAAAAACATGCCGTCTGAAAAATAATTAGAAATA
CCCGATTAGCCCGCCTGAATCTTCAATACCGCCTGTACCACGTCGTTGACGGTGCGGACA
TTGCGGAAATCTTCGGCCTGCAGCTTGCGGCCGGTTTCGCGCTTGATGCGGTCAATCAGG
TCGATGGCATCGATGCTGTCGATTTCCAAATCTTCGTAAAGATTGGTATCAGGCGTAATC
CGTTCCGGTTCGATTTCAAACAACTCGGTCAGGGTATCGCGCAACAACCGGTAGATTTCT
TGTTCGGTCATATGTTTCATCCTTATGCTTGGCGGCTTTTGACAAAGGCGGCGAGTGTTT
TGACATTGGCAAAATGTTCGCGCAAGTTCTCCTGCTCGCCGTCCAATCGGAAACCGAAAT
GTTTTTGCACCGCCAAGCCCAATTCCAGCGCATCGACGGAATCCAGTCCCAGCCCTCCGT
CGCCGAACAGCGCGTCTTCGCTGCCGATGTCGGCGGCGGTTATATCCTCCAAAGCCAAAC
TGTCGATAATCAGTTGTTTGATTTGGTTTTCCAAGTCGTTCATATGGTTTTCCTTGTAAA
ATAGTCCTGCAGATATTCATTCAGCCGCCGCGCCGCAATCGGCAACGGTTTCTCGGCGAG
CCAGTCTTGGGGGAGGATGTCGTCTCCGACGGTAATTTCATACCGTATCCTTTTCGGGGG
GATGCGGTACCACGGCTGCCCCTTTTTAAAATTGGGCGGATTCATTTTGATACATACGGG
CGTAATCACTTCGGCATACCGCAGTCCCAAAGAAACCGCGCCCCGGTGCATTTTTACCCG
TCCGTCCCACCCCGTCCTCGTTCCTTCGGGGAACACCAGCAGGCTCTGCCCGCTGTCAAA
AACCGCCTTTACCGTTTCCAGCATTGCTTCCGACTCTTCGTTCGGAATATAGCCCGCACC
TTTAATCTGGCTGCTCATTGCCGGATTGTGCTGCAAATCTTTTTTCACGATACAGTTCAT
TTCGGGCACATGGCCGACAAGCAGCACCACATCCAGCAAAGACGGATGGTTTGCCAAAAT
CAACTGTCCCGGGCGGTTGAGTTTTTCAACACCCTTGAACGATACCTCCAACACGCCCGA
CCATTTCAGATAAGCAACGAACAAACGCCAAGATGTTCCGATAATCCGGCGCGCCGCCAA
TTGGCGGGCGACAGACCCTGAAGTGCCGTTCAAAGTATAAGGCAACAAAACCAATTTCAT
CATAATGCCGCCGACACCGAAAATCACAAATCCTAACCAAGTCGCAAAAAAACGGCGGCA
ATAATCCAATTTATCCATTCCGCTGCCACAGCCATTCACGATTGCGATATACCCGGCGGC
ATTCTCGACTGCCGTTCAGCAGAAAGCGCACCCATTCCAAACCGCTCCAATATGCCTCGG
GCAGCATACCGGCTTCAGACGGCATATCGTCCGAAGCAGACAAAGTCAGGCTGTAACGCG
TCCCTTTGGTCAGAACCATCGCCAAAGCATAAGCAAACGGCGCGCGAGTCGCCGATACGG
CATATCCTTCCGGCAGCGGATCGTCCGCCGCCAAAACCAAAACCGACCCGCATCCCTCTT
CCAACAGTGATGCCGCTTCCGCCAATGCCGTTTCCACACCGTCGGCACACACGGCCAATG
CCGTCTGCTCGCTCATATCCTGACGCAATATCGACCATTGCCCCGCCGTTGCATTGTGCA
CCGACAAACCGAACGAAGTCGGCGACACGGTATGCGATTTCAACAGTTCCAACCACAAAT
CGAAACTGCGTGCCATTTCCCCGTCGTGCGAGGCATAAACTACCGGACTGCCGGGATGGG
CGGAGGCAATGTCCCAAGCCGCGTCGCATACCAAACGCGCCGCCTTACTCAAACGGCGGC
GCTGCATAGCGGGCAGGAACGGCAATTCCGGCCTGACATCGGGCAAACCGTCGGCAAAAT
CCGGACATTCCGCCCATTTTGCCCACTGGGCCATATCGCGCATTTTGCTGCCCGAAACCC
GCCAGGCGGCGATGTCGAAGTGGAACCGGCAAATAATCGACGGCATAGTTTCTTTCAAAA
ATTTACACTGTGCCGCATTCTAACCAAAGCCTATCCCCCTGACAATGCCGAAATTCAAAC
GCATTCTGCCCCCTTTCTCCGACAACGCCGCCCCTCGGAAAACCGCCAGAATTAGCCTG
AATTTACATTTATCATTATAATGCCCGTATTTGCCAGCCTGCCGCCGCAATATATGGACA
CACTGCCAGAATGCCCGATTACCAACACCGCCTCCCTGCTGCCGCACAGCGGGCGTATGG
TTCTGATAGACCGCATTACCCGATACGGCGATGATTTTGTCGAAGCAGGGGCACAGGTAA
```

-495-

```
GCCCCAATCACATCCTTTTACTTGACGACAAACTGCCCTACACGGCATTTATCGAACTGA
TGGCACAGGCTGTCGGCGCGTATGCCGGTATCCAAGCCCGAAAAAACGCACGGTCGGTCC
GGCTCGGCTTCCTGCTCGGCACGCGCAAACTTGAAATCTTCGCCCAATCCGTCCCAATCG
GCACGCATCTGCTGGCAACGGCGCATATGTCTATTCAGGATGCCGGGGGTATGGGCGTGT
TTGACTGCGAACTGCGTTGGACAGACGCGCCGGAAACTTCGTCCGAAACACTCCCTTCAG
ACGGCATTTTGGCGCGCGCCTCACTCAACGTGTACAGCCCCGAACACCCTGCCGGAACAA
CCGATGCCGTCTGAACAGGCACACACATACGGAGAACAACGATGACCGAAACTGTCCTGA
TTACCGGCTCCAACAGGGGCATAGGCAAAGCCGTCGCATTCGGTTTGGCGGAAGACGGCT
TTGATATCGCTGTCCACTGCCGCAGTCGCCGCGACGAAGCCGAAGCCGTGGCGGAAGAAA
TCCGCGCTTTGGGCAGAAATGCGCGCGTGTTGCAGTTTGACGTGTCCGACCGCGAAGCCT
GCCGCGAGATTCTGACCGCCGACATCGAAGCAAACGGCGCGTATTACGGCGTGGTGTTGA
ACGCCGGACTGACGCGCGACAATACCTTCCCCGCGTTTTCAGATGACGATTGGGATGTGG
TGCTGCGGACTAATTTGGACGGTTTTTACAATGTATTGCATCCGCTGGTTATGCCGATGA
TACGCCGCCGCAAAGCCGGACGGATTGTGTGTATGGCATCAGTGTCCGGCCTGACGGGCA
ACCGCGGGCAGGTCAATTACAGCGCGTCAAAAGCAGGCATTATCGGCGCGGCAAAAGCCT
TGGCGGTCGAACTGGCGAAACGCAAAATCACCGTCAACTGTGTCGCGCCGGGTCTCATCG
ATACCGATATTATCGATGAGAACGTACCTGTCGAAGAAATCTTAAAGGCTGTCCCCGCAG
CGCTTATGGGGCTGCCGGAAGAAGTGGCGCACGCGGTGCGTTTCCTGATGGATGAAAAAG
CGGCGTACATCACGCGCCAGGTGATTGCGGTGAACGGAGGTTTGTGTTGAATACCAGAAG
GGTCGCAGTAACAGGCATAGGCGGCATTACCGCCTTCGGCCGGGATTGGCAAAGCATACA
GGCAGCATTCAAAGCCGAAAAAACGCCGTCAAATATATGGATTGGCACGAACGTTTCCC
CGAATTGGAAGCGCAACTGGGTGCGCCGATTGAAAATTACGCGCCGCCGAAACATTGGAC
GCGCAAGCAGCTCAGAAGTATGGGGCGCGTGTCGTACCTGTGCGTCGATGCGGCGGAGCA
GGCGCTGGCGGATGCCGGTTTGCTCGGGGACGAAAGCATTACCGACGGACGGATGGGCGT
TGCCTGCGGCTCTTCCAGCGGCAGCACCAAAGACATCGGCGATGTGGGCGAATTGTTGCT
GACCGGCACGTCGCGCAACTTCAGCGCCAACACCTATGTGCGTATGATGCCGCACACCAC
CGCCGCCAATATCGGCATCTTTTTCGGGCTGAAAGGGCGCATCATCCCGACATCGAGCGC
GTGTTCGTCCGGCAGCCAAGGCATAGGTTATGCCTACGAAGCCATCAAATACGGTCTGAC
CGATATGATGCTGGCGGGCGGAGGCGAAGAATTTTTCCCGTCCGAAGTGTATGTTTTCGA
CTCGCTTTATGCCGCCAGCCGCCGCAACGGCGAACCGGAAAAAACCCCGCGCCCATACGA
CGCGAACCGCGACGGGCTGGTCATCGGCGAAGGCGCGGGGATTTTCGTGCTGGAAGAATT
GGAACACGCCAAACGGCGCGGTGCGATAATTTACGCCGAACTCGTCGGCTACGGAGCCAA
CAGCGATGCCTACCATATTTCCACGCCCCGCCCCGACGCGCAAGGCGCAATCCTTGCCTT
TCAGACGGCATTGCAACACGCAAACCTTGCACCCGAAGACATCGGCTGGATTAATCTGCA
CGGCACCGGGACGCACCACAACGACAATATGGAAAGCCGCGCCGTTGCAGCGGTTTTCGG
CAACAATACGCCCTGCACGTCCACCAAGCCGCAAACCGGACACACGCTGGGCGCGGCGGA
CGCAATCGAAGCCGCGTTCGCGTGGGGCATTGCCGACCGGCAAAGCAATCCCGAAGGAAA
ACTTCCGCCCCGGCTTTGGGACGGGCAGAACGACCCCAACCTGCCCGCCATCAACCTGAC
CGGCAGCGGCAGCCGCTGGGAAACCGAAAAACGCATTACCGCCAGCTCGTCGTTTGCCTT
CGGAGGAAGCAACTGCGTCTTAATCATCGGATGAAATAAGTTTGTCAATCCCACCGCTAT
GCTATACAATACGCGCCTACTCTTGACGGGTCTGTAGCTCAGGGGTTAGAGCAGGGGACT
CATAATCCCTTGGTCGTGGGTTCGAACCCCACCGGACCCACCAATTCCCAAGCCCGGACG
TATGTTTGGGCTTTTTTGCCGCCCTGTGAAACCAAAATGCTTTGAGAAACCTTGATAATG
AAAAAAGTCAGCGTATTGATTGTTGCCAAAAACGAAGCAAACCACATTCAGGAATGTATT
GAAAGTTGCCGTTTCGATAAAGAAGTTATCGTTATCGACGACTACAGCACCGACAATACT
GCCGAAATTGCCGAGGGGTTTGGGCGCAAAAGTCTTCAGACGGCATTTGAATGGGGATTTC
GGAGCGCAAAAAACATTTGCCATCGAACAGGCAGGCGGAGAATGGGTTTTCCTGATTGAT
GCAGACGAACGCTGCACGCCGGAACTATCTGATGAAATCTCAAAAATTGTCCAAACCGGC
GATTATGCCGCCTATTTTGTCGAACGCCGCAACCTTTTCCCCAACCATCCCGCCACACAC
GGCGCGATGCGTCCCGACAGCGTATGCCGTCTGATGCCGAAAAAAGACAGTTCGGTGCAA
GGCAAAGTACACGAAACCGTACAAACCCCCTACCCCAAACGCCGTCTGAAGCATTTTATG
TACCATTACACGTACGACAACTGGGAACAATATTTCAACAAGTTCAACAAATATACTTCC
ATTTCAGCCGAAAAATACCGAGAGCAGGGAAAGCCCGTGCGTTTCGTTAGGGACATTATC
CTCCGCCCGATTTGGGGGTTTTTCAAAATTTATATCCTGAACAAAGGGTTTCTTGATGGA
AAAATGGGTTGGATTATGTCCGTCAACCACAGCTATTACACGATGATTAAATATGTCAAA
CTATATTATCTGTACAAATCCGGCGGAAAATTTTAAATGGAAAAAGAATTCAGGATATTA
AATATCGTATCGGCCAAGATTTGGGGTGGAGGCGAACAATATGTCTATGATGTTTCAAAA
GCATTGGGGCTTCGGGGCTGCACAATGTTTACCGCCGTCAATAAAAATAATGAATTGATG
CACAGGCGATTTTCCGAAGTTTCTTCCGTTTTCACAACGCGCCTTCACACGCTCAACGGG
```

```
CTGTTTTCGCTCTACGCACTTACCCGCTTTATCCGGAAAAACCGCATTTCCCACCTGATG
ATACACACCGGCAAAATTGCCGCCTTATCCATACTTTTGAAAAAACTGACCGGGGTGCGC
CTGATATTTGTCAAACATAATGTCGTCGCCAACAAAACCGATTTTTACCACCGCCTGATA
CAGAAAAACACAGACCGCTTTATTTGCGTTTCCCGTCTGGTTTACGATGTGCAAACCGCC
GACAATCCCTTTAAAGAAAAATACCGGATTGTTCATAACGGTATCGATACCGGCCGTTTC
CCTCCCTCTCAAGAAAAACCCGACAGCCGTTTTTTTACCGTCGCCTACGCCGGCAGGATC
AGTCCAGAAAAAGGATTGGAAAACCTGATTGAAGCCTGTGTGATACTGCATCGGAAATAT
CCTCAAATCAGGCTCAAATTGGCAGGGGACGGACATCCGGATTATATGTGCCGCCTGAAG
CGGGACGTATCTGCTTCAGGAGCAGAACCATTTGTTTCTTTTGAAGGGTTTACCGAAAAA
CTTGCTTCGTTTTACCGCCAAAGCGATGTCGTGGTTTTGCCCAGCCTCGTCCCGGAGGCA
TTCGGTTTGTCATTATGCGAGGCGATGTACTGCCGAACGGCGGTGATTTCCAATACTTTG
GGGGCGCAAAAGGAAATTGTCGAACATCATCAATCGGGGATTCTGCTGGACAGGCTGACA
CCTGAATCTTTGGCGGACGAAATCGAACGCCTCGTCTTGAACCCTGAAACGAAAAACGCA
CTGGCAACGGCAGCTCATCAATGCGTCGCCGCCCGTTTTACCATCAACCATACCGCCGAC
AAATTATTGGATGCAATATAAACTGCTTTCAGACGGCATATGCCGTCTGAAAGCCTTTGA
TGCAACAAACCACTAAATTATATTCGTTCATTGGAAAGAAACACCCCGAATTCATCCTTC
AAAATAAGAAAATCCCAATATCCCCCGATATTACGCAGCCTATTGGCAAAGTTTTGCAGC
GTCTTCCCCGGCTTGTGCTGCCGCGTCAAGTGCTTTGTTACAATGTATAGTAGACTAACA
AAAACCAGTACAGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTCAA
GCACCAAGTGAATCGGTTCCGTACTATCTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTG
ATTTTTGTTAATCCACTATACTACCTTCACATTTCTTAATAAATTTTATGAGTAACCATA
CTTCTTGGTCGTCCAAAATCGGTTTCGTCCTTGCTGCGGCAGGTTCGGCCATCGGTTTGG
GCGCGATTTGGAAATTTCCTTATACGGCAGGCACCAACGGCGGCGCGGTGTTTTTCCTGC
TGTTTTTGATATTTACTATCTTGGTCGCCCTACCCGTTCAGCTTGCCGAATTTTATATCG
GGCGCACGGGCGGTAAAAATGCCGTCGATTCCTTCAGGGTTCTGCGTCCGGGCACGCAAT
GGCTTTGGGTCGGGCGTATGGGCGTTGCCGCCTGCTTTATTTTGCTGTCGTTTTACAGCG
TGGTCGGCGGATGGGTATTAAATTATGTCGTCCACAGTTTTACGGGGGCGGTTCATACCG
GCGCGGACTTTGAAGCCTTGTTCGGCGCGACGATTTCCAATCCGGCAGGTTCGCTGTCCT
ATCAGGCACTGTTTATGCTGATTACGGTTTGGGTGGTCAAAGGCGGCATTTCAGACGGCA
TTGAAAAGGCAAACCGTTATCTGATGCCGGGGCTGTTTATCCTCTTTATTGCGCTGGCAA
TCCGTTCGCTGACGCTGCCGGGGTGCAATGGAGGGCGTGTCTTTCCTGCTCAAACCGAATT
GGTCGTACTTTAAAGCCGATACGATGATTACGGCTTTAGGCCAGGCGTTTTTTGCCCTGA
GCATCGGCGTTTCCGCCATGATTACCTACGCTTCATATTTGGGAAAAGATCAGGATATGT
TCCGTTCCGGCCATACGATTATGTGGATGAACCTCTTGGTTTCGCTGCTTGCCGGCCTGG
TGATTTTTCCGGCGGTGTTCGCCTTCGGTTTTGAACCGAGCCAGGGGCCGGGATTGATTT
TTATCGTATTGCCCGCAGTGTTTATGAAGATGCCGTTCGGTACGGTTTTGTTTGCGGTAT
TTATGCTGCTGGTCGTTTTCGCCACGCTGACTTCGGCATTTTCGATGTTGGAAACGGTCA
TTGCCTCAACCATCCGCCAAGACGAGCGCAAACGCAAAAAACACACTTGGCTTATCGGCA
CGGCCATTTTCATTATCGGCATCCCGTCCGCGCTGTCTTTCGGCGTATGGGGCGAGTTTA
AGGTTTTCGGCAAAACCATTTTTGATTTGTGGGACTATGTTATTTCCGCCGTCATTATGC
CGATTGGTGCTTTGAGTGTTTCCATCTTTACCGCCTGGATTCAGGACAAGCAGTCTGTGT
TAAAAGATGCCGGCGCGGGCAGCACCGTACCACGGGCAGTGCTGCTGCTGTGGCTGAATA
CCTTGCGCTACCTTGCCCCGATTGCCATTATTATTGTTTTCATCAATTCTTTGGACATCC
TTTAAAAGCCATCCAAACAGCAAAATGCCGTCTGAAAGCCTTTCAGACGGCATTTTTGC
TTCGGGTTCAGCCTATTTCGTTCAAAGTATAGTGGATTAACAAAAATCAGGACAAGGCGA
CGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAG
AGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTA
TAGCCTTGCGCGATGCCGTTCAAGGACAAACCCATACCCTTTTCGGCAAAACGGATTTCA
CGGTCGTCAAACGAGACTTTGCCGAAGCCGACCCGTTTCAGGGCTTCGTCCACGCTGTTT
TGAGGAGGCGGCGTTTCCGCATCGGGACGGGCGGCAAAATAATCGGCATACAGTTTCCAC
AACGCCTGCACTGTCGGATCGAACGCGCCGTCCGTCAGCGCGTGAATATCGCGGCACAGG
CTCAACAGTTCCAAAAAATCCGCCGACGGCGAAGTCAGATAACCGTCCCTGTTCAGGCGG
CTGATCAGGCTGTCTTCACGGTAAAGGCTGAACAATTTTTTCCAAACGCGCCACTTCCGC
CAAAACCTTGTTGACCAAATCCGCCGCACGCCTGTCGTCCACACCGAACAGACGGAGCTC
CGCACCGGAACCCAGTGCGACACCTTTCCAGAAAAACACATTTTCATTGCGTTTTTCATC
CCCGTTGCGTTTTTCATCATCGGCGGCAAAAGGATTCGGCAGGAAAGAAACCGCCGCGCC
CGCCGCCGCAACGGCGGCAACCGTCAGAAAACGCCTGCGCCCGAAATGCCTGCCCATACC
GCCTCTAAACCGACACTGCCGCCTTGATATGCGGATGAGGGTCGTAACCTTCCAACTCGA
AATCTTCAAACTTGAAGGAAAACAAATCTTTGACTTCAGGATTGATTTTCATCACTGGCA
```

-497-

AGGCGCGCGGTTCGCGTTCCAACTGCAATGCGGCCTGCTCGAAATGGTTGCGGTACAAAT
GCGCGTCGCCAAACGTATGGACAAACTCGCCCGCCTCCAATCCGCACACTTGCGCCATCA
TCATGGTCAACAATGCGTAGCTGGCAATATTAAACGGCACACCAAGGAAAATATCTGCAC
TACGCTGGTAAAGCTGGCAGGACAGTTTGCCGTCGGCAACGTAAAACTGAAACAGCGCGT
GGCAGGGCGGCAAGGCCATTTCATCGACCAAAGCCGGATTCCACGCCGATACAATCAGGC
GGCGCGAGTCGGGATTCTTCTTGATTTGTTCCAGCACATTGGCGATTTGGTCGATATGCC
TGCCGTCGGGCGCGGGCCAGTTACGCCACTGGTAGCCGTAAACCGGGCCTAAGTCGCCGT
TTTCGTCCGCCCACTCGTCCCAAATGGAAACATTGTTGTCCTTTAGGTATTTGATATTGG
TATCGCCTTTGAGAAACCAAAGCAGCTCGTGGATAATCGAACGCAGATGCAGCTTTTTGG
TCGTCAGCAGCGGAAAACCTTTGCCCAAGTCAAAACGCATCTGATAACCGAATACGGAGC
GCGTACCCGTACCGGTGCGGTCTGATTTGTCCGTACCGTTGTCGAGGACGTGGCGCATCA
AGTCCAAATAGGCTTTCATAGCAGTCTTTCATCAAATTAAACGGCGCATATTGTAACATT
TCCGGATAATGCCCAAAACACGGATACAGGCAGGCAGGATTGTTGGCAATTTCAGTCCTT
TTCCACAGTAAAACCCGGTGGGAAAACAAAATTACCTTGATTGGAATCAAAAAATCTAGT
TTAATTACTTAGAATAAAATTTCAATAATATTTTTATTTACGAAATTAATTTATGATTAT
TGATTAATTATCGGCAACAAACATCAAACATCGAAAATATGGAAAAAATAATGTCAACAA
TTTTTGCCAAATCGGGCTTGGCATCAGAAAAAAATAGGTTTATATTCCCACCTACAAATT
TGTTTTCCCATTAGTACACTATCAACCAAAAGGAGTATCCGAATGACTGACCTGAACACC
CTGTTTGCCAACCTCAAACAACGCAATCCCAATCAGGAGCCGTTCCATCAGGCGGTTGAA
GAAGTCTTCATGAGTCTCGATCCGTTTTTGGCAAAAAATCCGAAATACACCCAGCAAAGC
CTGCTGGAACGCATCGTCGAACCCGAACGCGTCGTGATGTTCCGCGTAACCTGGCAGGAC
GATAAAGGGCAAGTCCAAGTCAACCGGGGCTACCGCGTGCAAATGAGTTCCGCCATCGGT
CCTTACAAAGGCGGCCTGCGCTTCCATCCGACCGTCGATTTGGGCGTATTGAAATTCCTC
GCTTTTGAACAAGTGTTCAAAAACGCCTTGACCACCCTGCCTATGGGCGGCGGCAAAGGC
GGTTCCGACTTCGACCCCAAAGGCAAATCCGATGCCGAAGTAATGCGCTTCTGCCAAGCC
TTTATGACCGAACTCTACCGCCACATCGGCGCGGACACCGATGTTCCGGCCGGCGACATC
GGCGTAGGCGGGCGCGAAATCGGCTACCTGTTCGGACAATACAAAAAAATCCGCAACGAG
TTTTCTTCCGTCCTGACCGGCAAAGGTTTGGAATGGGGCGGCAGCCTCATCCGTCCCGAA
GCGACCGGCTACGGCTGCGTCTATTTCGCCCAAGCGATGCTGCAAACCCGCAACGATAGT
TTTGAAGGCAAACGCGTCCTGATTTCCGGCTCCGGCAATGTGGCGCAATACGCCGCCGAA
AAAGCCATCCAACTGGGTGCGAAAGTACTGACCGTTTCCGACTCCAACGGCTTCGTCCTC
TTCCCCGACAGCGGTATGACCGAAGCGCAACTCGCCGCCTTGATCGAATTGAAAGAAGTC
CGCCGCGAACGCGTTGCCACCTACGCCAAAGAGCAAGGTCTGCAATACTTTGAAAAACAA
AAACCGTGGGGCGTCGCCGCCGAAATCGCCCTGCCCTGCGCGACCCAGAACGAATTGGAC
GAAGAAGCCGCCAAAACCCTGTTGGCAAACGGCTGCTACGTCGTTGCCGAAGGTGCGAAT
ATGCCGTCGACTTTGGGCGCGGTCGAGCAATTTATCAAAGCCGGCATCCTCTACGCCCCG
GGAAAAGCCTCCAATGCCGGCGGCGTGGCAACTTCAGGTTTGGAAATGAGCCAAAACGCC
ATCCGCCTGTCTTGGACTCGTGAAGAAGTCGACCAACGCCTGTTCGGCATCATGCAAAGC
ATCCACGAATCCTGTCTGAAATACGGCAAAGTCGGCGACACAGTAAACTACGTCAATGGT
GCGAACATTGCCGGTTTCGTCAAAGTTGCCGATGCGATGCTGGCGCAAGGCTTCTAAGCA
AACGCCGCCGCTCCGCAAACAAAATGCCGTCCGAACCGCAAATGCTGTTCAGACGGCATT
TCCTTATCCGCCCGTTCAAATCGGGTGAGACTACCGATACATCTGAATATGCTATGCCGT
CTGAACGGCATTCACACCGCCCAATCCTGCACGCGCTTCAAATCATTTTGCGCCAAAGTA
TCTGCGTGGCGGTTACGGCTCTGATATTCCCTGTCTTTCAAGATGCTGCTCGCCACATAA
TTCAAATGTGCCTTTGCCGCCTCCGAAGCCTCGCCCGGCCGGCGGTTTGATATTGCCTCA
TACAATACACGGTGCTGCGCCATCAGCTTCGGACGCGGATCTTCTTCCTGATTCAGATAA
ATAAGGCTGCTGCGCGTCTGCCGGTACAGCATTTTCAACAAACCGCCCGACAAATGGCTG
AACAACAAATTGTGCGCCGCATCGGCAATCGTCTGATGAAAGCTGACATCAGCTTCGCTC
TGATGTTCCAAATTGCCGCTTTCGCACGCCTCCTCAAACTTTTCAAGCCAAAACCCAATC
CGCTTCAAATCGGCATCCGTGCGGCGTTCTGCCGCCAATGCCGCCATACAGCCCTCGATG
TGGCAACTGAAATCAAAAACATCCTGTTCCCAATTGGAATGCTTGCCCAAAAGCTCCTGC
CAACTTTGCAAAAAATCCTGCTGCGGCTTGACCGAAACATAATAACCGTCTCCCTGCCTC
GCTTCCAAAACCTGACGGGCGACCAAAACATTCAATGCCGACCTGACCGACGGGCGCGAA
ACGCCGAACTCTTCCGCCAAAACGCGTTCGGGCGGAATCTTGCCCCCTTCCGCGTAAACC
CCTTCCGCAATGCGCTCCTCCAATACCGACAATACCTGATCGCTGATTTTCTGAGGCCTT
ACCAGTTTCATCACTCCTCCTTTATAAAGATTCCCTGCAGAACCCTTCCGAAATATAGTG
GATTAACAAAAATCAGGACAAGGTGACGAAGCCGCAGACAGTACAAATAGTACAGAACCG
ATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACG
CCGTACTGGTTTTTGTTCATCCACTATACATCAAACATCAAATTGGACTGACCAATCAGG

-498-

```
GCGGATTCTAATGACACGCCGTTCCCGCCGTCAACGGCATTTACCTCGCACCGCCCCCGA
AACACAAGAAAAAACTACACCAAACTACAATTTTTGTTCATGCAAATATTTGTTTTGACA
GGATTTAAACAAAAGCTCCGATTCAAATCTGCCGAACCGCCCAAAAATATATTGACCTAA
ATATTAAAGTTTCGTAAAGTAATGCAACGTTGCTTTAATTGGTTTGACCACTATTGCCGA
CGATTAGAAAAATATTTTCGGAGATGTTCAATTATGGAAACTTGGGTTCAAAACTACACG
GCAATCGGCGGCAGCCTGTATCTGACTGCCGCCGCCGCACTCTTACCCATCGTCTTTTTC
TTTGCCGCGCTGACCGTCCTGAAGCTGAAAGGCTATCAGGCGGGGCTTTATACGCTGCTG
ATTGCGCTTGCCGTTGCCGTATTCGGCTTCGGGATGCCGACGGGTATGGCGGTTTCTTCC
CTGCCGCCGCAGCCGCATTGACCCAACGCCCCTACGCCACACTGTATTTGACCGCGCATT
ACAAAATCGGCAAATCCACCCGCATCGGTTTGGACTTTGAAAACGTGTTCAACAAACGCT
ACCGCCCTATGCCCGACATTCACGTTTACGGCACGCCGCGCAGCCTGACCGCAACCGTCA
AACATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATA
GTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAG
GCGAGCCAACGCTGTACTGGTTTTTGTTAATCCACTATAAAGAAAGAAATGCCGTCTGAA
ACCTTATCGTTTCAGACGGCCTTGGATTCGGATTTCAAGTGCAACACTAGTGTATTAGTG
GTTGGAACAGATTCAAGAATAAAACACTTGGCGTTTCGTAGCCAAGTGTTTTTCTTGGTC
GGTGGTTCAACTCATCTTGAACCCTGCGTATCTCCCGATCACTGATGTTACGGAAATCGG
TTTGTTTGGGGAAGTATTGCCGGATGAGTCCGTTGGTGTTCTCATTCAGCCCTTTCTCCC
AAGAATGGTAAGGGCGACAAAAATAAGTCTCCGCTTTCAATGCTTTGGTTATTTTGGTGT
GTTGGTAGAACTCTTTGCCGTTATCCATGGTGATGGTGTGCACCCTGTCTTTATGTGCCT
TTAATGCCCTAACAGCTGCCCGGGCAGTGTCTTCGGCTTTGAGGCTATCCAATTTGCAGA
TGATGGTGTAGCGGGTAACGCGTTCGACCAAGGTCAATAATGCGCTTTTCTGTCCTTTGC
CGACAATGGTGTCGGCTTCCCAATCGCCGATACGGGATTTCTGGTCGACGATAGCGGGTC
GGTTTTCTATGCCGACACGGTTGGGTACTTTGCCTCTGGTCCATGTGCTGCCGTAGCGTT
TGCGGTAGGGTTTGCTGCATATTCTGAGATGTTGCCACAACGTGCTGCCGTTGCTTTTGT
CTTGGCGAAGGTAGCGGTAAATGGTGCTGTGGTGGAGCGTGATCCGGTGGTGTTTGCACA
GGTAGGCGCATACTTGTTCGGGACTGAGTTTGCGGCGGATAAGGGTGTCGATGTGCTGAA
TCAGCTGCGAATCGAGCTTATAGGGTTGTCGCTTACGCTGTTTGATAGTCCGGCTTTGCC
GCTGGGCTTTTTCGGCGCTGTATTGCTGCCCTTGGGTGCGGTGCCGTCTGATTTCGCGGC
TGATGGTGCTTTTGTGGCGGTTCAGCTGTTTGGCGATTTCGGTGACGGTGCAGTGGCGGG
ACAGGTATTGGATGTGGTATCGTTCGCCTTGGGTCAGTTGCGTGTAGCTCATGGCAATCT
TTCTTGCAGGAAAGGCCGTATGCTACCGCATACTGGCCTTTTTCTGTTAGGGAAAGTTGC
ACTTCAAATGCGAATCCGCCGGCATTTTATTGCCCGACCGGTTATTTGTCGGTTTGGGTA
TCCCGTTTCAATCCGCCGCCGAGTGCCTTGTACAAATCGGCAAGGTTTTCGGCGCGGGTC
AGTTGTGCCGACAAAGCCGCACCCTCCGCCGCATAGCTGCTGCGTTCCGCATCGAGCAAG
TCGAGCGCGCCGGATACGCCGTGCTTGTAACGCAGGCCGACCAAGCGCAACGCTTCTTTA
GAGGCGCGGCTTTGTTTGCTTAAAGCGTCATAGGCTTTATCCAGCTGCTCGCGCGCCGCC
AATGCGTTTGCCACGTCTTGAAATGCGGATTGGACGGCGGATTCATAGGCAACGATTTGT
ACCTGTTGGCGCAGCTTGGCTACATCAAGGTTCGCCTTGTTCGTACCCCAGGTAAAAATC
GGCAGGGTAATAGACGGCGCGAACGACCAAACGCCCGTGCCGCTTTTGAACAACCCACCC
AATTCGGCAGAACCCGTACCGACGGTTCCGGTCAGGCGGATGGATGGGAAAAAGGCGGCG
CGTGCCGCACCGATATTGGCGTTTGCCTGTTTGAGCGCGTGTTCGGCAGCACGGATATCG
GGACGGTCGAGCAATACTTCGGAACTCAAACCGGCCGGCAGTTTTTCAACAAAAAACTGC
TTGTCCAGCGGCAAACCGGCAGGCAGGTCTTCGGGTATCGGTTGGTTAATCAAGGTTGCC
AAGGCATTGCGCGCCTGTTCGCGGCTGCGCGCGGCATGGGCATAATCGGCTTTGGCAGAT
TCGATCAGGGCTTCCTGCTGACGTAGGGCGACGGCGGAAATCACGCCTGCCTTGTAACGT
AATTCGGACAGCTTGTAGGTTTCCTCGCGCGTTTTCAAAACACGTTGCGCCAAAGACATC
GCTTCTTCGGCGTAACGTTCGTTGAAATAGGCTTTGGCAACGGTGGCAATCAGGCTCAAA
TGTGCCGCATCGCGGTTGGCGGTGCTGGCGAAATAGCCTTGCAGTGCCGCCTCGCTGCTG
CTGCGTACACGCCCGAACAGATCGAGTTCGTAAGATGCCGCACCCAGTCCGACTTTGTAG
CTGCTGCTTACATTGCCGCCGCTCAAGCTGCCTTGGCGCGAGTCGTTCGCATTGGCGGCA
AGCGTGGGCAGGAGGTTGTTGCGCTCAATCATGTATTGTTTGCGGTAGATTTCGCTGTTC
AATACGGCGGTACGCAAACTGGTATTGCGCTCGAGTGCGATGTCGATCAGCTTTTGCAGG
CGCGGGTCGGCAAAATAGTCATGCCAACCTAAATCGACGGCGCGGATGCCGCTGTCGGCG
GTATCGTTTTTGAACGTTTCGGCAACTTCGACTTTGGGCTGCTCGTATTGGGGAATCATG
GTGCAGGCAGACAATGCAAAGGCTGCTGCAACAGAAGTCAAGGTGGTTTTCAATGTAGTA
TCCATAAAAAAGTCCTGATGCCGTCTGAAAACCCGTGGGCGTTCAGACGGCATGGTTGCT
TAATGTTGGCTGTCGTCCGAACCGGTGATGCCCGCTTCGGCGGCGTGTTTTACTGCCATT
TCGTGTTCGTGCGCGGTTTCTTTGAAGAATTTGCGCACCACCACATAGAAAAGCGGAACA
```

```
AGGAACACGGACAAGAGCGTGCCGATGAGCATCCCCCAGAATACGGTTGTACCGATGGCG
CGCTGGCTGGCAGAACTTGCACCGCCGGCAATATACAGGGGAACCACGCCCAAAATAAAG
GCGAACGAGGTCATGATAATCGGACGGAAACGCAGGCGGGCGGCTTCCAAAGCGGCTTCA
ACCGCGCTTTTCCCTTGCGCTTGAAGGTCTTTGGCAAATTCGATAATCAAAATCGCATTT
TTCGCACTCAAACCCATCACGGTAACGAAACCGACTTGAAAGTAGATGTCGTTGGCGAAC
GAGGGAACGCTGCCCAACAGTCCTTCAAACAGGTTGCGCCCGGTTACGCCCGCAGCCGCA
CCGATCAAACCCAACGGAATCACAAGGATGACCGCCAGCGGAATCGACCAGCTTTCATAA
AGCGCGGCAAGTACCAAAAATACGGCTGCAACCGCCAAACCGTACAAAATCAGGGTTTGC
GAGCCGCCTTTTGCCTCTTCGCGCGACTGTCCGCCCCACTCCAGGCTGTAACCGCCGCCC
AATTCGTCAACCATTTTTTGAACCGCCGCCATAGCCTGCCCGGTGGAAACGCCGGTTGCA
GGCGAAGCGGACAGCTTCATCGAAGGATAACCGTTGAAGCGTACGCTCTGTTCCGTACCG
TTTTCCCAAGAAACAGTAGCAATGGTGGAAAGCGGTACGGCGACGCCGGATTTGTTCGGC
ACGGTCAGGTTCAAAATATCGGCAGGCTGCATACGGGCATCCTCGTCGGCCTGCACCATC
ACGCGTTGCAGACGGCCTTGGTTCGGGAAGTCGCTGACATAAGACGAACTCAGCGCGCTT
GCCAATGCGGTGCGGATGTCGGCAAACGAAATGCCTTGCGCCGCCGCCGCGGCACGGTTG
ATGTCGATTTTCAACTGCGGCGAGTCTTCCAAACCGCCAGCACGGACGGTGCTGGGGTCA
AACAAACCGCTGGCACGCATTTTCTGAATCAACTCGTTGCGCTTCGCCAGCAATGCGGTA
TGGCCGGTATTGTTGCGGTCTTGCAGGTTGATGCTCAGACCCGAACCGTTGCCCAACTCC
AGAATCGGAGGCGGGACGACGGCGATGCCAAAACCGTCTTTAAGCGTCCCCATCATCATA
CCCGTCAGCTTGCCGGCAATCGCAACGGCATCGCTGCCGGGCGCGGTACGCTCGTTCCAA
TCTTTCAATATGGCAAAACCCATCGCCATATTCTGACCGCTGCCCGAAAAGCTGAAGCCG
GAAACGGTAATGATGTTTTCTATTTCAGGAATGCTTTTCGCCAGTTGGGTAACTTGCGCC
AAAGTCGCATTGGTGCGCTCTTGGGTCGCTCCTGCAGGCAGTTGCACGCTGACCATGACG
AAGCCTTGGTCTTCGGTCGGCAGGAATGAAGTCGGCAGGCGCATAAACAGGAACACGCCC
ACAACCGCCAAGCCGATATAGACAACCATCATGCGGAAAGTCTTACGCAGCACTTTGGCA
ACCCGGCCTTCGTAACCGTGCGTCCAACTGTTGAATTTCTTGTTAAACCAGCCGAAGAAA
CCTTTTTTCTCTTCGTGATGCCCTTTCGGGATTGTCTTCAACATTGTGGCACACAAAGCA
GGGGTAAGGGTCAGCGCAAGGAAGGCGGAGAATGCGATTGATGACGCCATCGTCAGGGCA
AACTGTTTGTAAATATTGCCCGTCGCCCCGCTGAACATCGCCAACGGTACGAACACGGAA
ATCAGAACGGCGGTAATACCGATGACCGCGCCCGAAATCTGACCCATCGCTTTTTTGGTC
GCTTCTTTGGGCGGCAAGCCTTCACCCGCCATAATGCGCTCGACGTTTTCAACCACCACA
ATCGCGTCATCGACCACGATGCCGATGACCAAAACCATCGCAAACATGGTCAGTACGTTA
ATCGACATGCCCATATAAGAGATGAAGGCGAAACCGCCCAACAGCGAAATCGGTACGACG
ATGGTCGGAATCAGCGTATAACGGATGTTTTGCAGGAAGAGATACATTACGACAAACACC
AGCACCATCGCTTCGATTAAAGTGTGAATCACTTTTTCAATCGAAATTTCGACGAATTTG
GAAGTATCGTAAGGGGTTTTTCCAGCTCATACCCTGAGGAAAGTATTTTTCCAACGTCGCC
ATGCGTTCTTTAACCGCCTTTGCCGTCGCCATCGCATTGCCGCTGTTGGACAGCATCACC
GCCATACCGGTGGTATTTACACCGTTCAGACGGGTTGAGGAAGAATAGTCTTCCATACCC
AGTCCGACCCTTGCCACATCCTTCAGGTAAACATTAGAACCGTCGGTATTGGCGCGGAGG
ATGACGTTGCCGAATTCTTCTGCCGTACCCAACTGCCCTTGCGCCGTTACGGTAGCCGTA
ACCGTCTGTCCGCGAACGGCGGGAAGCGAACCGATAGAACCCGCTGAAATCTGGACGTTC
TGGGCGGACAGCGCGCTGCCAACATCGGCAAACGACAAATTGTAGTTTTGCAGTTTCTTA
GGATCAACCCAAATCCGCATCGCGCGTTGCGCGCCGAACAGGCGTACCTGCCCCACGCCT
TCGATACGCTGCAACTCGGGAACGATATTACGCTGCGCGTAGTCGTTCATCTCTTCGGTT
GACTGCACATCCGACGAAAGCATCACAATCATCAGGAAATTGGAACGCGCCTTGGATACG
GTTACGCCGTATTGCTGGACAGTTGCCGGCAGCGTGCTCAATACTTCGGAAAGCTTGTTC
TGCACTTCCACCTGCGCCAGATTCTCGTCGGTATCGGGCGTAAAGGTCAGGCTCACGCTG
CCGCTGCCGCTCGAATCGGCGGAAGTGGACATATAATCCAAACCTTCCACGCCGTTCATA
TTCCGCTCGATCACGGAAAGCACGCTGTCTTCCATTACCTGCGCGGACGCGCCCGGATAA
GTGGCCCTCAGGGTGATGGTCGGGGCGGCGACGGACGGATATTGCGAAACCGGCAGGCTT
TTGATGCCGAAAATACCCGCCGCAATAATGAAAATCGAAATAACCCACGCAAAAATGGGG
CGGTCGATAAAAAATTTAGCCATCGATGCCTTCCTTATTTCGCTTCAGAAGCAGGTTTGG
CTTCAGATGCCGTCTGAACGCCGGATTGAGGCGCGGCGGCTTGGTTTTCAGACGACGCCC
ATTCTTTGGGCGTTACCTTTTTCGCACCCGTTATACCGGCGATACTGATGCCTTCCACAA
CCACCTTGTCCCCGTCCTTCAGACCCGACGTAACAATCCAATTCGTACCCTGCTGTTGCG
CAACCGTTACCTCGCGGGGTTCCATACCGCCTTGGGCATTCACAATCATCACGGTATCTT
TCGCACCGCGCGTTACCGCCTGCTGCCGGCACAACAAATGCGTTATCCACCGCCACTTGGT
CCATCAGCACGCGCACATACAGACCGGGCATCAAGATATTCTGATCGTTCGGTACGGCGG
CGCGCAGGGTAATCTGACCGGTCGATTCGTTGACGGCCGGATCGGCAAACAGCAGGCGGC
```

-500-

```
CTTTTTCAGGGTAAACTGTGCCGTCGTCAAATTTGATGCCGACCGCAATCACACCATCCG
CCGCCAGCAGTTTGCCTTCGGCTATCTGACGGCGCAATTTCATCACTTCGGATGCAGACT
GGGTAACGTTCACATACATCGGATTGGTTTGGCGGATGGTCGCCAGTACGGTCGCATCGC
CAGCGTTCAGCAACGTACCTTCGGAAACTTTGGACTGACCGATAAAGCCGGAAATCGGCG
CGGTAATGCGCGAACGGTTCAGGCTGATGCCGGCGGATTTGATTGCCGCCTGCGCCGCTT
TAACGCCTGCCTCGGCAGAACGTTTCGCCGTTACCGCAGCATCGTATTCCTGCCGGCTGA
CGGCTTCGGCGGCAACCAAAGGCTTGTATCGCGCCAAATCCGCATCCGCTTTGGCAAGCG
TTGCCTGAGCCGTTGCCAGTTGCGCGCGCGCGCTTTCCAGACCTGCTTCATAAGTGGAAC
TGTCGATCTGATACAGCGGCTGTCCGGCACGGACATAACTGCCTTCTTGGAACAGGCGTT
TTTGGATGATGCCGCCGACTTGGGCGCGGACATCGGCGGTACGCAGCGATTCCAAACGCC
CCGGCAACTCGACGGTCAATGCGACGGTTTGCGGATGGACGGTTACGACACCGACGACGG
GCGCAGGGGCTTCCCGACCAGCAGGCTGCCCGCCCTGCGCCGCGTCTCCGCCTTTACCGC
AAGACGACAGTACCAATGCAACGGCGGCAGCCAACGCGGCCGCACGCATCGCCTTAAAAG
CATAAAAAGCCATTATTTATCCTATCTGTCTGGTTTGATGTAAAGGGTTTTGCCAATCAA
CAGGCATTCTTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAA
GAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTG
TCTGCGGCTCGCCGCCTTGTCCTGATTTTTGTTAATCCACTATATTTCAGGATATAAAAA
CCGCCTGCTTCGCCAACCCGATGTTCAAACGGGTTGCGAAGCAGGTTTCATGGGTTTTCA
AAGTTGAGATGTAGTCTCAATTTCATGGGTTTCATTATACATACACGATTGCATGGTTAC
AAAGTCTTTTTTATAATCCGCCCTCATCAAACCGACCCGAAACGAAACCGCCATTATGAG
AAAAACCAAAACCGAAGCCTTAAAAACCAAAGAACACCTGATGCTTGCCGCCTTGGAAAC
CTTTTACCGCAAAGGGATTGCGCGCACCTCGCTCAACGAAATCGCCCAAGCCGCCGGCGT
AACGCGCGGCGCGCTCTATTGGCATTTCAAAAATAAGGAAGACTTGTTCGACGCGCTGTT
CCAACGTATCTGCGACGACATCGAAAACTGCATCGCGCAAGATGCCGAAGATGCCGAAGG
AGGGTCTTGGGCGGTATTCCGCCACACGCTGCTGCACTTTTTCGAGCGGCTGCAAAGCAA
CGACATCTACTACAAATTCCACAACATCCTGTTTTTAAAATGCGAACACACGGAGCAAAA
CGCCGCCGTTATCGCCATTGCCCGCAAGCATCAGGCAATCTGGCGCGAGAAAATTACCGC
CGTTTTGACCGAAGCGGTGGAAAATCAGGATTTGGCTGACGATTTGGACAAGGAAACGGC
AGTTATCTTCATCAAATCAACCTTGGACGGGCTGATTTGGCGGTGGTTCTCTTCCTGCGA
ACGTTTCGATTTGGGCAAAACCGCCCCGCGCATCATCGGGATAATGATGGACAACTTGGA
AAACCATCCCGACCTGCGCCGGAAATAATCAAGCCTTGGTAGCAATGCCGTCTGAAACGA
ACAAACCCTTTCAGACGGCATCAAAATGACACAAAGCCTTCTTCTAAAAATACATATTGA
GACCTTTGCAATAACATAGGTTACTAAAATTTTATGCTCAATCTTATTTTCAAAATGCAA
AACTTTTCTGATTTTTCCTACTTTTTGCTCAATATTAGGAAGGTTTTAGGCAATTGAAAA
TTTTTTGGCGCATTTTTATGCGTCAAATTTCGTTAACAGACTATTTTTGCAAAGGTCTCA
TATTCACTAAATTGCATTTTTAATTTCTTCTATCATTGCATGGACATTCTCTTGGTCAAA
ATGTCCGTTTTCTTCTGAATAAACTTCTAACAAATAATGTTCAATGAACGTTTTATCTGT
CGTCAGCGATACATCTCTGGCAATGTCTTCATACGACTCAAAATCATCTTCATGCCAGGG
ATTATATTTGTCCATATTTTTTTGAATTTCATTTTTCATATCATTTACCTTCCAATATTT
ATTTACAATTAATAACAATACCATTCAAAATGTAAACTGCATTTTTCTCCAGCATTTTTG
CAAATAAAAACTGAAAATCCCGCCATTTCCGCGAAAACGGGAAACCGTTTTTTGAGTTCC
AGTCATTCCTGATAAGGCTTTAACGTCAAGTTTTCGGATTACCGCCTTTATGAGAATAAC
GATGTGGGCATTTTCTGTTTTAATCTATTGCGGTTATATACATATGCGATTATTTTAGTT
TGCTTACAAAACACTTCATGTTACATTCAAAAATTTAATGCACTCAATATATTTTTTTAA
GGAGAAGCAGATGAGTCAAACCGATACGCAACGGGACGGACGATTTTTACGCACAGTCGA
ATGGCTGGGCAATATGTTGCCGCATCCGGTTACGCTTTTTATTATTTTCATTGTGTTATT
GCTGATTGCCTCTGCCGTCGGTGCGTATTTCGGACTATCCGTCCCCGATCCGCGCCCTGT
TGGTGCGAAAGGACGTGCCGATGACGGTTTGATTTACATTGTCAGCCTGCTCAATGCCGA
CGGTTTTATCAAAATCCTGACGCATACCGTTAAAAATTTCACCGGTTTCGCGCCGTTGGG
AACGGTGTTGGTTTCTTTATTGGGCGTGGGGATTGCGGAAAAATCGGGCTTGATTTCCGC
ATTAATGCGCTTATTGCTCACAAAATCGCCACGCAAACTCACTACTTTTATGGTTGTTTT
TACAGGGATTTATCTAATACCGCTTCTGAATTGGGCTATGTCGTCCTAATCCCTTTGTC
CGCCATCATCTTTCATTCCCTCGGCCGCCATCCGCTTGCCGGTCTGGCTGCGGCTTTCGC
CGGCGTTTCGGGCGGTTATTCGGCCAATCTGTTCTTAGGCACAATCGATCCGCTCTTGGC
AGGCATCACCCAACAGGCGGCGCAAATCATCCATCCCGACTACGTCGTAGGCCCTGAAGC
CAACTGGTTTTTTATGGTAGCCAGTACGTTTGTGATTGCTTTGATTGGTTATTTTGTTAC
TGAAAAAATCGTCGAACCGCAATTGGGCCCTTATCAATCAGATTTGTCACAAGAAGAAAA
AGACATTCGGCATTCCAATGAAATCACGCCTTTGGAATATAAAGGATTAATTTGGGCTGG
CGTGGTGTTTGTTGCCTTATCCGCCCTATTGGCTTGGAGCATCGTCCCTGCCGACGGTAT
```

```
TTTGCGTCATCCTGAAACAGGATTGGTTTCCGGTTCGCCGTTTTTAAAATCGATTGTTGT
TTTTATTTTCTTGTTGTTTGCACTGCCGGGCATTGTTTATGGCCGGGTAACCCGAAGTTT
GCGCGGCGAACAGGAAGTCGTTAATGCGATGGCCGAATCGATGAGTACTCTGGGGCTTTA
TTTGGTCATCATCTTTTTTGCCGCACAGTTTGTCGCATTTTTTAATTGGACGAATATTGG
GCAATATATTGCCGTTAAAGGGGCGACGTTCTTAAAAGAAGTCGGCTTGGGCGGCAGCGT
GTTGTTTATCGGTTTTATTTTAATTTGTGCTTTTATCAATCTGATGATAGGCTCCGCCTC
CGCGCAATGGGCGGTAACTGCGCCGATTTTCGTCCCTATGCTGATGTTGGCCGGCTACGC
GCCCGAAGTCATTCAAGCCGCTTACCGCATCGGTGATTCCGTTACCAATATTATTACGCC
GATGATGAGTTATTTCGGGCTGATTATGGCGACGGTGATCAAATACAAAAAAGATGCGGG
CGTGGGTACGCTGATTTCTATGATGTTGCCGTATTCCGCTTTCTTCTTGATTGCGTGGAT
TGCCTTATTCTGCATTTGGGTATTTGTTTTGGGCCTGCCCGTCGGTCCCGGCGCGCCCAC
ATTCTATCCCGCACCTTAAACACGATAAACAAAATGCCGTCTGAAATGCTTAAACGCTTT
CAGACGGCATTTGCCTTTCTATCCCGTCAGGCTTCTCCGGCCTCTTCCTTTTTTTCCGCT
GCGGCAAGCGTGTCGGCAAGCAGACGGACGAGGTTTTCAAACAGGGGCTGTTCGAGCGGG
TTTTGGCTTGCGTTGCCGAACACGAGGGCGACTTCGGTATAGTCTTTCTGCCCTTTGCTG
ACTTTGCTGCCGTGGTAGGCGGTTTGGGCTTTTTTCAGGGCGGCTTCCCAATCTTGTTTT
TGGGCAAACGCTTCGGCGGTGGCAAGCGAGGTTTTGGCAAAAAACGGCAGCGGGCGGTTT
TGCCCGATATTGAAAAACGCCATCCATTCCGACAATAGCTGCAATGCCCTGTCTTGCGCG
ATTTCCGCCAATATTTCGGTTTCTCCGGATTGGACGATAAAGGTTTGCCGCATTTCGGCT
TCAGACGGCATAACGGCGCAAAATATCAGGTGTTCCAGCAGAAAAGCGATACGTTGCGGC
GCGTTGGGTTTGCCGTAGGCGTAAAACACTTGTCCGCAGCGGTACAGATTGCCCAAGCTG
CCTTTCAGGATTTGCCCGTCCGACGGTATGGCATATGAAAGCGGTGGCAGTTTGGGGCTG
TTTAAAACCGCCGTGTCGATTTGTTTGGCAGCAGTTTGGAAGTCCTGCTGCCAAAGTCTG
CCCAACTCTCCCGACGGCAGGAGGCTTTCCGCCCCGATGCGGGCGGCGGTTTGGGCAAAA
TCCCGTCCTTCGCACCGTGCTTCGATGTAGATTTCGGCGATTTGATCGGCGTGTTGCGGC
TCGAAGGGTTCGGCAGGCTCCCAGGCTTCGCCGATATGGGGTTCGCTCCACGCAAGCTGC
TGCTGAAGCCATACTTTGACAGGGTTGCGCCAGAAACGGATAAATTCGTCCTGTCCGATT
TCGGCAACAGGTTCGGCGTTTTCTACGGGTTGATCGAAAAAGGGTTGCGGCGGTTCGGGC
GTTTGTCCGAGCGCGGCGGCGTAGTCGGTACGCGTGCCGAATATGCCGTCTGAACGTCCG
CCTTCTTGAAAATATCGGCGCGAGAAGGCTTGCAGCGGATGCTGTTCTATCAGGTTTTGT
GCAAGTTGGCGGCTACCGATGCCCGCCATAGCGGCAACGGTATCGATGAGTTCGCCCAAC
AGGGAAGACGGGGCAAGCTCTTCGTCTTTGCGGATGTCGCGCCCGATGTAGGACAGGTAG
AGGATTTCACGCGCGCTGATGAGGGCTTCGAGGAACAGGTAGCGGTCGTCATCGCGGCGG
GCGCGGTCTCCTTTGGCGGGATGTTTGGCAATCAGGTCGAATACGGCGGCTTTGGTATTA
CGGGGAAAATCTCCGTCGTTCAAACCCAACAGGCAGATGACTTTGAACGGCAGGCTCCGC
ATCGGCACCATACTGCAAAAGGTGATGCCGCCGCGTAAAAAGCCTGCCTCGCTTTCGCTG
TCGAGAAAGCGTCGGATATGGCGGATGACGGTGTGCGGCGGCAACTGTCCGGAAAATTGC
GCCAATTCGGTTTCCGCCTGCCATTTGACCCATTCGTTTTCAAGGTTTTGGACTGACTTT
TGGTCATCGGCTTCAGCTTGGAACAATGTTTCAAGCAAATCCCGGCAACGCGCCACCCAT
TCGCCGACCGTTGCGGGCTGCCGCCATATCCGTACAATATCCGTCAGGGTTTCGAGGAAG
GCGGCAAAACGTCCGAACATGGCGGTTTGATTCACGTCGGCATACCACGCGCTGACATCC
TGCCACATCGGATTGCCGCCTTTGGGCAGCATCCAGCCCAATATCATGCGTTCTACCGCC
TGCTTCCAGGTGAACAGCTGATCCGTGCCGCCGCGCATTTCTCCGTCCAAACCCCAGTGG
ACGTTCAAATCGGCAACCATGTCGTGCAAAAGCGGTAAATCGTCCTCAGTCAGTCCGAAA
CGGCGCAACACGGGCGCGGTTTCTAAAAGCACAAGCACTTTATCGACTTCAAATCGGCTT
TCCAACAAGTCGAACAGGCATGACAAAGCATGAAACAGCGGTTGGCGGCGGCTGATTTTC
ACGTCTGACACGGAATACGGCAATGCCTGCGCACCGGGCTGCGCCTGTCCGAACACGGCT
TCGATAAAAGGCGTATAGGATTCGATATTCGGGGTTAATACGGCGATATCGTGCGGCTGC
CAATCGGGGATGTTCATGCAGAATTTTCAACAGCTTGTCTTTGAGTATCTGCAATTCGCGC
AAAGGGCTGTGTGCGGAGACGATGCGTATCGAGCCGTCGCCCGTGTTGACGCTTCCCGCC
ATTTCAGACGGCATTTTCAGGTTTTGAATATCGGTTGCAGGGCGTGTAAAAGCGTATCG
CGCCCGCCTTCCTCAAATACCGGCGTTTCGCCTTCTATTTCCATTTCGTTCAAAAAGTCG
AAAAAGTCCCGCCCCTGCTTGCCCAATGAGGCGAGCAGCGGATGCCCTGCCTGAGTTAAA
TCGGGATCGCCGCCACCTTTGAGGATTTGCGCCGCTTCGATGACGTTGCCCCAGTACATC
CCGCTCGGATTGAGTGCGAACACGAACACGTCGCAATGTTCGGACAGCTTGTGCAAAAGT
TGCAAATACATCGGCGCCATCGTGGAAATGCCGAACACGAAATAACGCTCGGGCAGCTTA
TCACTGCTCAAAGATTCCAACAGCTTTTCCCACAACGCGACACGGTGCGGCGCGCTCTGC
CTGCCGTCGTCGAGGTAACGCCACAGTTTGGACTGCCAGATTTCGTCGTCGCCCAAACCG
AGCCGCCTGCCCTGCTGCCAAGCGTCTATCCACTGAGGACGGTACACGAGGTATTGGTCG
```

```
AATATGTCCGCAAGCTGTCCCGCAAGCTGGTAATCTGCCGATTCGCCGCTGCCCAGATAG
TCTTGCAGCACATTCCTCACATCTTCAAATTCTGCCGTATTCCGAAATGCCTCGCTGCGG
AACAAATCCAGCAGCCGCCAGCGCATGACTTCGGGCGCAAACGGGCTGAGTTCCGGAATA
CCGGGAATCAGTTTTTTCATCAGCTTCCACGTCAGGCCGGCGGGCAGGCTGAACGACAAA
TTCGCCGCCACGCCCAAATCGCGGGCGAGGCAGGTATTGAGGTAGCGGCGCATCCCCTGA
CTCTGCACAATAATCTGTTCGGGCTGTAAAGCCGATTTCAGCGGTTTGACTTTTTGAATG
CGGGCAAACAATGCCGCCAGCGTTTCAAGACGGTTGGATTGATACAGATAAAACATGATT
TCAAACAGAAGCTGTGGTCAAGTATTCGGGATTATATAGCCTTTCCCCCGTCCGCCTTCA
AACAAAATGCCGTCTGAACCTTTCAGACGGCATTTGGTCATTTAAACCATCTCCTCAAAA
CAGGAATCCGCGACAACAGCAGCGTATCCAACAGCCAAATCACGGCAATGGCAAGCAGTG
AGGTCGGGAAGAGCAGTGCGATTGCCAATAGCGGCAATGCCATCATCCACCAAACCGGCA
GCTTGACTTTCTGCGCCGGCGGAACGATGCCCACCGCTCCGGTCGGACGGCGTTTCCACC
ACATCACGCAGCCGCTGATACCGATAAAAATGACGGCAAGGCAGAACAAGACGTTCGCCA
ACACGCTCCACCAGCCCAGAGTCCCCATATGCAGCGCAATGCTTGCCGCCATAAATTTGC
CGAACGGGTTGTAATCGTCAAAACGGATGTCGGCAAGGATTTTGCCGCTGTACTGGTCGA
TATGTACCGTGCGGTCGGCAAACGGGCTGATCATGTCGTAACTCATAGAATCCTGCGACA
AAGTCCATACGCCGTCCTCGCCTTTGGGCAAATTCAACTGATAACGCCCTTTGAAACCGA
TTTCCCGCGCAAAGCGGTCGACGGTTTCCAATGTCATCGGCTCGTCAGGGTTAATGCCGT
CTTTGCCCACAGTCGTCCCTGAAACAGGCATAGGCGTAAGCTCCAAAACCCACGGCACTT
CCTTAACCTTGCCGTCATTCAATACCTCGCCGTGGGTCGGCACGACTGAAACGGGGTTCG
GTTCGACACCCCATTTACCGGCAGGGAACTGACTCCAAGCCTGTACGAACTTGCCGCCCC
AAATACCCGCCCAAGCAATACCCGACAGGCAGAACAACAGCAAAATCAACGACACCCAAG
TTCCAAACGTGCCGTGCAGATTCCGCCACCAAGAACGCGCCCTGCCTTTTGACGGCAGCA
GCATCGCCTTGATGCCGCGCCGTTTCACCCACCAAAGGTACAAGCCGCTGACAACCATAA
TAATGGTCAGTGAAGCTGCCGTTTCCAAAAGATAATCGCCTGCCGCACCGAGCATCATAT
CGCTGTGGATTTCATCCATCGTGTAATACCAACCCTGATTGCGCGGCATGGTACTGACCA
CTTTTGCCGTATAAGGATCGACCGCGACCATCGTTGCTTTGCCCTCATTGTTGACACGGA
ACACGGCAACCATATCATCGGCACGCGGCGCAATATACTGAACGACGGACGAAGTTTCCG
GATTAACGGCACTGCGTGCCGCTTCCGCCTGAACAGACAGAGGTTGTACCGTTGCCTGCG
GCACAACATGAATCCGCTCGCCCTCCTTACCGGTAATATTGGCAAACAGCAGCATACCCA
AACCCGTAACGGCAAGCAGGGTAAGAAAAGGCATAACCAGCAGACCGGCATAAAAATGCC
ACCGCCAAACGGTCAGATAACGCCGGTTGCTCTGATTGTCGGCTTCAGTTTTGATTTGTG
TATCCATTAATCGTCCTTTTGAAAATAGGGCTATCGTGATGATGCGCGATTATAAACAAT
AAAGACTAATTCTTTATGACTAAAGTCAAAATTCATTACAACAAATAGGCAGTCTGCGTT
TAAAACCGGATGCCCGTTAAAACAAAAAATCCAGATTCAATACTGAATCTGGATTTTCAT
AACCGATAATATCGGAAACTCAGTCAAGTTAGAATTTGCCGCCTGACTGGTTGACCATAT
AGTCAACCGCAGCTTTAACCTCATCATCGCTCAAATCGCCGCGACCGCCTTTTGCGGGCA
TCGTATTGAAACCTTCGATCGCGTGTTTGTGCAACGTGTCCTTGCCTTTTTTGATGCGGT
CGGCCCAATCGGCTTTGATGCCTACATGGGGAATACCCGGAATCGCATTGCCATGGCAGG
CGGCACAAACGGTTTCATAAACCTATTTGCCGTCCGCTTTGGCAGCAGGTGCAGCTTTTT
CCTCGGCTTTAGGTTCTGCTGCGGCAGGTTTGGCTTCGGACACGGCTTGTGCTGCTTCTG
CAGGAGCAGAGGCTGCGGGTTCTGCCGCCGGTGCGGGAGTCGGTGCAGGCTCGGCTTTTT
TCACCGGAGCTTTACCGTCTTTATCGGAAAGACCCCATACATAAGCAGTCATAATATGCA
GTTTGTCTTTATCCAAGAAATGTCCCCAAGCGGGCATTTGGCTGCTGCGACCGTTGGTAA
TGGTTTCGATAATGGATTTTTGCGTACCGCCCCACAACCACACGTCATCAGTCAGGTTCG
GACCCAAACCTTGGATACCTTGTCCCTTATCGCCGTGGCAAGTGAAACAGTTGGCAGGCG
GACCGCTGAACAAGGCTTGTCCGCGCGCGGCACGTTCCTCATCATACTGACCTTCGGGTT
TTGAAAGGGACATCACATAATGGGCAACGTCTTTCACGCCTTCTTCGCCCAAAGCAGGAC
CCCAGGCAGGCATAGTCGCAACACGGCCTTTTTCGATGGTCTCGTGGATTTTATCGGGAT
CACCGCCCCACAACCAATCGCTATCGGTCAGATTCGGAAAACCTTTAGAGCCTTTAGCAT
CAGAGCCGTGGCACTGGATACAATAAGTGTTAAACAGGTTTTGGGCGATTTGCTTGGCTT
GAGGGTCTTTTGCCACTTTTTCAATCGGCATATCCGCAAACTTGGCATACAGTTTGCCGT
ATTGCTCATCGGCTTTTTTGACCTCTTTTTCATATTGGTTATGGCTGGTCCATTTCAGCA
GACCTTTGTAGTCGCCGACACCCGGATACATAACCAAATAACCGATACCGAACAGCCACG
TCAAAACACACAGCCAAAACCACCAGCGGGGCAGCGGATTGTCGTATTCGGCAATGCCGT
CCCACTCATGACCCGTAGTTTGTACTTCTTCGCCCTTCTTCGGACGTTTGACAACATTTT
GAGACAGCAGCAGCCAAGCCAAAGCGATAAAGCTCAGTAAGACAATAACTGCAATATATA
TATTCCAGAAATTACTGGTAAATTGGGATGTTGTGTTCATTGTTTTGCTCCGTTATCACA
ATATTAACGGTTTTCGCTTTTCTTATCTTGCGCATCTTGGTTTTCATCAAAAATGCTGTT
```

```
TGCGGCATTATCGTAGTTTTTCTTATTCCGCCTGTTGAAGACGATATAGAGTACCAACAG
GAAACAGATAAAGATCCATACCGTGAAGAGAGCACGAATACCGTTAATATCCATGATGTT
ACCTTACGTTTTTCAAAGCCAGACCCAATCCTTGCAGATAGGCGACTACAGCATCCAGCT
CGGATTTGTTTGCCAAAGCCTCAGGTGCTTTCGCAATTTCCTCATCACTGTAAGGAGTAC
CTACTTTACGCAAAGCCTTCATGTTGGCAACGGTTGCATCGACATCGACTTTATTGCGTG
CAAGCCACGGGAATGCCGGCATATTGGACTCAGGCACGACATCACGGGGATTCAGCAGGT
GGATACGGTGCCATTCGTCGGAATAGCGACCGCCCACACGTGCCAAATCAGGACCGGTAC
GTTTGGAACCCCATTGGAACGGATGGTCGTAAACCGACTCTCCGGCAACAGAGTAATGAC
CGTAACGCTCGGTTTCCGCACGGAACGGACGAATCATTTGCGAGTGGCAGTTGTAACAGC
CCTCACGGATGTAAATATCGCGTCCGGCAACCTGCAGGGCATTGTAAGGCTTCACGCCCG
GCGCCGGCTGTGTTGCCGCCTTGGTAAAGGCCAAGGGCACAACTTCAATCAACAGACCGA
CACTGACTACAAGCAGCGTGAACACAATCAGAACGCCGATTTTTCTTCAGCCAATTGTT
GTAATTTCATTTTGGTAGCCTATCTTTCTTAGTATTTTAGTGGTGCTGTGTTTGGGAAAC
CGCAGGGATTTCGGCATCGACTGCTTTACCACCGATGGCTGTGCGGTACACGTTGTACGC
CATAATGCACATACCACTCAGATACAATAAACCACCTGCAAAACGGATCACGTAGTAAGG
CATGGTGCGTTTTACGGATTCGACAAACGAGTAGGTCACGTACCGTCATCGTTCAAAGA
ACTCCACATCAAACCCTGCATCACACCGGCAATCCACATGGCAGCGATATACAGAACCAC
GCCGATGGTCGCAATCCAAAAATGTGCTTCTACCAGCTTGGTGCTGTGCATCTGTTCTTT
GCCGAACAGACGGGGAATCATGTAATAGACGGAACCGATGGTTACAAAGCCTACCCAGCC
CAACGCACCCGCATGAACGTGCGCGACGGTCCAGTCCGTATAGTGGCTCAATGCATTGAC
CGTTTTAATCGACATCATCGGGCCTTCAAAGGTAGACATACCGTAGAAGGACAAGGATAC
AATCAGGAATTTAAGAATCGGGTCTGTACGCAGTTTGTCCCACGCGCCGGACAAGGTCAT
GATGCCGTTAATCATACCGCCCCAAGAGGGTGCGAACAGAATCAAAGACAGAACCATACC
CAAAGATTGCGTCCAGTCAGGCAGCGCAGTGTAGTGAAGATGGTGCGGACCCGCCCACAT
ATAGGTAAAAATCAACGCCCAGAAGTGAACGACGGACAGGCGGTAGGAGTAAACGGGGCG
GGCTGCTTGTTTGGGTACGAAATAGTACATCATACCCAAGAAGCCGGCAGTCAGGAAGAA
GCCCACGGCATTATGCCCGTACCACCATTGAACCATAGCATCAATCGCACCGGAATAGAC
GGGGTATGACTTCATCAAACCGGCCGGGATGCTGATATTGTTGACGATGTGTAAAAGTGC
GACCGCCAAAATAAAGCCGCCGTAGAACCAGTTGGCAACGTAAATATGTTTAATCTTACG
TTTGGCAATCGTACCGAAGAATACGATGGCGTAAGCCACCCAAACCAAAGTAATCAGAAT
ATCGATCGGCCATTCCAGTTCGGCATATTCCTTACCTTGGGTCCAACCCATAGGGAAGCT
GACGACGGCGGCAACGATTACCGCCTGCCAGCCCCAAAAGGTAAATGCCGGCAGCCAACC
GCCGAAAAGACGGGTATTACAAGTACGTTGGACAACGTAGTATGATGTGCCGATCAGGCC
GCAACCGCCAAATGCGAAAATAACCGCATTGGTGTGCAGCGGACGCAGGCGGCCGAAGTG
GAACCAAGGTCCGATATTAGACAAGTCGAGGGCAGGAGCAAAAAGCTGGGCGGCGACGAT
AACGCCGACCAACATACCCACAATCCCCCAAACTACAGTCATGATGGCGAACTGGCGCAC
CACTTTGTAGTTGTAAGTTTGTGTGTCCATGAGAGTCTCCATGAATTATGGGAATAAAG
ATTTTTATCCTGCCGCTTCCGCAGCCTGTTTAAGGTGCAATCCGGCAAGCGTAATTTTT
TCTAAATTTAACATATCTGCCTTATTACGCCAAGCGGAATTACATTCGCACCGCCGACGA
GCCCTTTGCTTAATCTGTTTTTTATTACATATAAATCATATTGTTATAATAAATTACAAC
CCGACCGCCATTGCTTTTGTTTCCAATTTTCCCTTTTTGTGGCACTTTATTGATGTAGGT
TAAGCTGCATTTTAAAGGTATTTAATCCATCCCGTTTAACGATATATTTGATAGTTATGA
TTCATTATAAAATAACCCCGTCCCCTCTCGACCACGAGTGGCACATCCTGCTGACATTCA
CACAAGATGATGATCTTCCTATAGAAATAAGCCTGCCAAACTGGGTTCCGGGCAGCTATC
TGATTCGGGATTTTTCCCGCCACATCACTTCTATCCATGCATCCTGTAACGGCACGTCCA
TGCCGCTCGAACAAATTGCCAAAAACCGCTGGCATGCCGCCGCCGTACGCGGCGAGTGGC
AAATCCGCTACACCGTATATGCATTCGATTTGTCGGTTCGAGGTTCTTTCCTGACGACAG
AACGCGGTTTTTTTGACGGATCGTGCCTGTTTTTGAAAGTCGAAGGAACGGAAACGCTGC
CGCACCGCTTGGAATTGACGGGTATTCCGTCCGAATGGCGTATTGCCACAACGCTGCCGG
AAACAGGGAGGTTTGTCTTTCAGGCGGCATCTTATGCCGAATTGATTGACCGACCTGTCG
AGATGGGCTTGATTGAATTTTTAGATTTTGAGGCGGCAGGCATTCCGCACACAATTGCCT
TAAGCGGCATATATCCCGATTTCGACCGCAACAGGCTGGTTTCGGATATCAAAAAAATCT
GCGAAACAGAACTGGCGGTGTTTTCCTCCCCTGCCCCGTTTCAAAAATATTTGTTCCTGC
TCCACGTCGGCGACCATATTTACGGCGGTTTGGAACACACCGACAGCACCGCCCTGCTCG
CCGACCGCCACAGCCTTCCGCCGTACGGTATGACCGATGCCGACGATACCTACACCACAT
TGCTCGGACTTTTCTCCCACGAATATTTTCACGCGTGGAACGTCAAATCCATCAAACCTG
CCGCGTTCGTCCCTTATGACCTCGACAAAGAAACTATACCGAACAACTATGGGCATTCG
AAGGTATTACATCCTATTACGACGATTTGTTTTTGGCACGCAGCCGCACCATCTCGCCCG
AATCTTATTTAAACCTGCTGGCACAAGGCATTACGCGCGTACAACAAACCCGCGGCCGTT
```

```
TGAGGCAGACCTTGGCGGAATCGAGTTTTACCGCGTGGAACAAATTTTACAAACCGGATG
AAAACAGCCCCAACGCCATCGTCAGCTACTACCAGAAAGGCGCGCTTGCCGCATTGTGCC
TTGATCTGATAATACGCAACCGAAGCAACGGCAGACATTCTCTCGATACGTTAATGGACA
AACTCTATCGGGAGTGGAGGGACACACACTCGGGTATTCCGGAAAAACACTGGCAAATCC
GCTGTCAGGAAATTACCGGCTTGGATTTGGAAGATTTTTTCCAAAAAGCGTTATACAGTA
CCGAAGATTTGCCGCTTGCCGAATGCCTGGCAACCGCAGGCGTGGGACTGACCTTCCTGC
CGCTTCCCCGACAACACGGCGGCGGATACGCAGAACACATCTGCCCCGTCCCGTCGGCAG
GCGATTTTGGCGCACGTTTCAAACAAAACACCGACCACATCGTCCTGACCCATGTCTTCA
ACGGCGGCAGCGCGGAATCTGCGGCACTGTGCCCGCAAGACAAAATCATTGCTTTAGACG
GTTATGCCTGCACCGACTTTACCGCACAATGGGCCCGATACCACGTCAATGCAAAAATCA
ATATCCACTTCTTCCGTGCCGGCATATTGCGTCAAACCGTCTTGACGGTTCAGGCAGCGG
CAGCGGATACTGCCATCCTACATATCACAGACCGGAACCTGTTGGACAACTGGTTGTTCG
GTTAAACTTTCAGACGGCATTGCACACAAAATGCCGTCTGAAAAACAACCGCAAAGTAAA
GGAAACAAAATGGCCATTCTGAAACTTGACGAACACCTCTATATTTCTCCGCAACTGACC
AAAGCCGATGCGGAACAAATCGCGCAACTGGGCATCAAAACCGTCATCTGCAACCGCCCC
GACCGCGAAGAAGAATCGCAACCCGACTTCGCCCAAATCAAACAGTGGCTGGAACAAGCA
GGCGTTACTGGATTCCATCACCAACCCGTTACCGCACGCGACATCCAAAAACACGATGTC
GAAACCTTCCGCCAACTCATCGGACAAGCCGAATATCCCGTCCTTGCCTATTGCCGGACC
GGTACGCGCTGCTCCCTCCTGTGGGGCTTCCGCCGGGCGGCAGAAGGTATGCCGGTTGAC
GAAATCATCCGCCGCGCCCAAGCGGCAGGCGTAAATTTGGAAAACTTCAGAGAGCGGCTG
GACAACGCCCGCGTCTGATTACAAGCCGAAACGTTTAAACCACACCTTCAAGCGGCATTC
CACCGCAACTTGAAAAAGAGGACGGCAAACCTTACTGCCGTCCTCTGTCCTTCTCCGTTT
TTACAGTGGGAGACCTTTGCAAAAATAGTCTGTTAACGAAATTTGACGCATAAAAATGCG
CCAAAAAATTTTCAATTGCCTAAAACCTTCCTAATATTGAGCAAAAAGTAGGAAAAATCA
GAAAAGTTTTGCATTTTGAAAATGAGATTGAGCATAAAATTTTAGTAACCTATGTTATTG
CAAAGGTCTCAGTGGGTATAGCGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAA
CTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTT
GTACTGTCTACGGCTTCGTTGCCTTGTCCTGATTTTTGTTAATCCACTATAAAAATTAGA
AATGCACATTTTCATTATTCTCGCGCAGGCAGGACTCCAGACTTACCCATTTCAGTAATG
TTTGAAAATAAAAGAAAAATCAGATGTTTGTATTCCCGCCTGCGCAGAAATGGAGACGGT
GCTCTGTCGTCTCATTTTTGTTTTAATCAACTATATATAGCTGATTAAACATAAGAAATG
CCGTCTGAAAGACTTTCAGACGGCATTCGTTCAAGCGTCGAACTTTATTGCGCCTTGGTT
TCGGTTACAAAACCGATTTTGGTGATTCCTGCCTGACGGGCGGCTTCTAAAGCTTTGTTT
ACATAATCGTATTCCACCGCCTTGTCTGCCGCAATCGCCACAATCACGTTTTCATTCTGC
TCCTTGGCGGCTTTCAGACGGCTTTCCACTTCCCCGATTCCACTTTGCTTGCAGAATCC
CCGCCGACATAATAGCCGCCGTTCGCATCAATCGTCAGGCGCAGGGGGTCTTTAGGCTGT
TTGTCCTGCTTGTTTGTCTGCTCGGACGCGGTCGGCAGTTCCAAAGGGATGGAATGCGTC
AGCACCGGCATAGTAATCATAAACACAATCAGCAACACCAGCATCACGTCCACCAACGGC
GTAACGTTGATGTCGGACATCGGAGAATCGTCGCCGGAATTCATCGAACCAAATGCCATA
ATCAGCTATCCTTTTGATTAAGCAGGCGGACGTGCAAATCGTGCGCCATCGCATCCAAAT
CCTGGGTCAGTATTTTTGTGCCGCGATTGAGGAAGTTGTATGCCAACACCGCCGGAATCG
CCACGAACAAACCCGCCGCCGTCGCCACCAGTGCCTCGCCAATCGGGCCGGCAACCGCCG
CAATACTCATCTGCCCGCTTTGCCCGATATTGATCAGGGCGTGGTAAATCCCCCAAACCG
TGCCGAACAGCCCGATAAACGGCGCGGTCGCGCCGATGGAGGCAAGCGCGGTCATCCCGT
AATCAAACCGGCGCATAATCTGCGCCATACTGTTGCGGATTTGAATGACCAAATACTCGT
TCAACGGCAAAGCCTGCGCCAGTTCGGACGCTTCGTTTCGGCGGTAGTTGCGGTAAGACT
GCAATGCCTCTTGCGCCAGTTTGGACAAAGGCGCATCGACGGCGCGCACTTTTTCGACCG
CGTCGTTCAGCGACAAAGTATCGCGCATATGCCGTTTGACGGCGGCATTCCCTTTGCGCG
CCCGATACAGCTTGATGCAGCGCAAGACAACCAAACACCACGTTACGATACTCATCAACA
GCATCAACACAAACACACCAATCAGGACGGGATCGCCCGATTCAAACACTAATTTCAAAT
TCATAATGATTCCAACACTGAAAAAACCAATCAAACATCCAAGCTGCCGCAAACCGCTGC
GGCAACCGCCTAATTCAATTCAAACTTGACGGGGACTTTAAACTCCGTCCAGGCATTGGC
TTGAAAATGCCCGTTTTGCGCCGCCTTGCGTGCCGCATTGTCCAACCGGGAAAAACCACT
GCTTTTCACGATTTTAACGGACTCAACATGACCGCCCGGAGAAACCAAAACGCTCAAAAC
AACCGTACCCTGCTCGTCATTCTCCATAGAAAGCGTGGGATAAGCCGGGCGCGGAATGCT
GCCGTTGGCGCGTAAAGGATTGCCTTTGCTGCTGCCGGCTCCTTCCCCGTGTTCGCCTTT
GACACCGCCGCTACCTTTACCGCTGCCTTCTCCGCGCCCCGTTCCGTCTCCTTTGGTACC
AGTTCCCTTATCTTCCCCATTGCCCTGCTCGCTGTCTGCTTTGGCAGAAGCATTGCCGGG
ATGTTCGGCAGGTTTTTCAGACGGCTTCTCGACCGGTTTTTCCGCCGGTTTCGGGACAGG
```

```
CTTCGCTTCCGGCTTAGGCTCTGGTTTCGGTTTTTCTTCGGGTTTCGGCTTTTCTTCAGG
TTTCGGCTCTTCCTTAGGCTGCTGAATATCCGCATCCGCCTTTTTCGTAACCACCGGCTT
CAAAACCGGCTTGGGCGGCTCGACAGGTTTGGGCGGCTCGGGCACGGGTTGCGGTTCGGG
CGCAGCAGGCGCGCCTGCACCTTCGGGGGCGCCGTCCCCTCCGCCAAAATCGCCCAAATC
GACAAATTCAATAACATTGCCTGACTCTATCACGGGCAGCTTGTGCGCCTGCCAGAGCAA
TGCCACCATTGCCAAATGCAGCAGTGCGACGGAAAACACGACTGCGGGGGTTAAAATTCG
TTCTTTATCCATAATTCGGGCATAATAATAGCAACAATTCCTATTTGCAACCTATTTTTA
CAATTTTGGTCATATGAATGTCTGTTCCGTTCACAGGCAAACCGTGTTTAAACGCTGTA
TTACAGCAAATCATCAGATAACGGGCCGGCAGAAAAAATGATTCCGTCTGATTTCTTATT
CCAATAAAATCAGGTTAGATGATATATTGCCGCTTCTGTCTGTCAGCCGTTTCGGGCTGC
ACACCACATCTGTTCAAAGGAAAACCATGTTTCAAAATTTTGATTTGGGCGTGTTTCTGC
TTGCCGTCCTGCCCGTGCTGCTCTCCATTACCGTCAGGGAGGTGGCGCGCGGCTATACGG
CGCGCTACTGGGGAGACAACACTGCCGAACAATACGGCAGGCTGACACTGAACCCCCTGC ·
CCCATATCGATTTGGTCGGCACAATCATCGTACCGCTGCTTACTTTGATGTTCACGCCCT
TCCTGTTCGGCTGGGCGCGTCCGATTCCTATCGATTCGCGCAACTTCCGCAACCCGCGCC
TTGCCTGGCGTTGCGTTGCCGCGTCCGGCCCGCTGTCGAATCTAGCGATGGCTGTTCTGT
GGGGCGTGGTTTTGGTGCTGACTCCGTATGTCGGCGGGGCGTATCAGATGCCGTTGGCTC
AAATGGCAAACTACGGTATTCTGATCAATGCGATTCTGTTCGCGCTCAACATCATCCCCA
TCCTGCCTTGGGACGGCGGCATTTTCATCGACACCTTCCTGTCGGCGAAATATTCGCAAG
CGTTCCGCAAAATCGAACCTTATGGGACGTGGATTATCCTACTGCTGATGCTGACCGGGG
TTTTGGGTGCGTTTATTGCACCGATTGTGCGGCTGGTGATTGCGTTTGTGCAGATGTTCG
TCTGACTGGCTTTCAGACGGCATAAACGCTCCAGAAAACGCGGCAGGACATATTGCCCTG
CCGCGTTTTCCTGTAGTGTAATCTTATTTTTTTCATCATTATTAGAACCAGGTTGCATGA
TAATACCTTTCATTAACTGAAACACTGATTAAGAAACTCCAGTCTGTCTAATGATGAGGT
TTTCACATCGCCAAAACTTGCCAATCAAATGCTGGATTTATTGCCGTCTGAGATTTGGTC
AAATCCAAAGGCGACATTCTTAGACCCTGTGTGTAAATCAGGGGTATTTTTGCGTGAAAT
CGTCAAACGCTTGGATGAAGGCTTGACCAATCAAATACCAGATAAACAAACTCGCATTAA
CCACATTTTAAAAAATCAAGTTTTTGGAAGTACTGCCACGTATGTAGGTAGCTTTGACCG
ATATTTGCATAAAAACTCCTTTGCTGGTGAAAGGAATTATTTTGCCAATTTTAAAATATT
TCTGGCACCAAATAGTACAATGACAAAGACAATCATGCCAATGATTAAATCAGGATAGCT
AGAATGAGTCAATAACGTCAATGCTCCCGCCGCTATCACACCGATATTGATGATAATGTC
ATTGGATGTAAAAATCATGCTGGCTTTGATATGGATTTCTTTATTTTGATTTTTGCTCAG
TAGATATAAGCACAGCCAGTTTGCAATCAATGCCAAAAATGCCGTGCCAATCATCAGTTG
ATAATTGGGCAGCTGCTCAGCACCGATAAAACGCCTAATCACTTCTATCACCCCAAATAA
CGCCAATATTATCTGCGTTATCCCCGCCAAAAATGCCACACGTTTTTTATACGCCAGCGT
CATACCAATGGCTGATAGCGCCAATATATAGACAAAGCTGTCCGCCAGCATATCTAGACT
ATCAGCAATCAGCCCCATAGAATTAGCAAAAATACCAACCGAACACTCTATGATAAAAAA
CACAAAGTTAATCATGAGCACTTGATATAATAATCTTTTTTCTAAGTGCTCATCAGGCTT
GTTAAACACTATCTTATCAACAATCACTTCGGTGGAAATGATATGACTATCAAAATTAAG
CGGTTCAAGTACTTGTAAAATCGTTGTATCTTGATTATCGTGATAGACGGTTAAGCACCG
CCCAGCAATATCAAACTGTAATTCATAAATATCAGCACATCTTTTAAACGCATGCGAAT
GAGCTGTTCTTCGGACGGGCAGTCCATTTTGGTAATGTTAAAAATGGTCTTTTTCATCTA
TTTAGTTCCTTGTTTGATCAGGTTGGCTCAAATAAATCTGTGTTTATATTGCTGCTTGG
TAATTTTTGGATGGTTTGAGTAAATTGATTAGGTTAAAATTTACCTTTGGAAGTACCGCC
ACGCATAATAGTTTAGATATGTTTATAATCTCTGGATAAAAAAACGTAATAAGTGCTTAC
TGGATAACAAAGTCCAAACCAATAGCAGGCAAAATAAGGCATCCACCCCCCTTCTTCATT
AAGGATATATATTGAGAAACAAATCGCAACTAAACAGAAAAAACTTGGGAGATAAAGCCA
TTTCATTCCCCTATTCAAGAATCTAGCCAAGATAGGTATTTTGTATTCTACAAAAAAGAA
AGGCATTTCCAAGGGAAACATGTCAGATAAAAACTTTTGTTTATTTTTTACTATAGATAG
AACCTTGCTTCTCAAGAGAAAGCCATTAATAATACCGATGACAGCTATTAATATATAGAG
AATAGTATAAGTATGAATAATCTTCATTAGACAAAAGAAGAAATGGCAGATAAATTACA
TACGATATATTGGAATATAAAAATATTTACGGTCTAAACCTTGTTCAGTTGCAATTTTTTT
AAAATTGCCTTGCATAAAAAAATCAAAGGCGTCCATTAAACTATCTTTCACATTAGAAAT
TTAAAAGCTAAATAATACGACAAACAATGTGAAGTACTATTCATGGTTTATTTAAAAAAT
AATACTATTCTGAACATTATTTAGATACAGAAATTAACAAATTAGAACTAAACAAGCTTT
TAAATACTTTAATTTTATTGGAAAGCTATAAAAGGAACTATAACTTTACACACTAGTCAC
TTCTTTTTAAGAGGCAAAAGGGATTGGGAAGGTCGTCTTGGAGATAAGCACTGGTATTTC
GGCCAATGGTAAATAGAGTTTACCTCAAATAGGGTAGAACCTCCTTCATCTGTCAGTTAA
TAACAGCCACTTTTACAATGCCCTGTCAAAATAAAGCGGCACGCCCGATTTTTCACTCAT
```

```
CGTCATCAAATAACCCATCACCTTTTGGGGCCATTCGATGCCGCGCACCACGGTCAGATT
CCTCAAAACGGGGAAAACCAAAATATCCTCCATACCGATTCCGCCGTTGATGCCGTCTGA
AGCACCGTCCATCAAATTTTCCAACTCTTGCAAATCTGCGTTTATCCGTTCGAGGTATTG
GGCGGTTTTATTCAAATTGGCGGAAAAGCTGCCGATGCTTTTCTCTTTTTTGTCTGTAAA
ATATTTCACCGCTTCCGGCGTTGCAAATTCAGGCAGCCCGATTTTGATCACGCGCGGCTG
CACCAGTTTGTCGTTGTATCCGCCCACCTTGTCCAGCCACGCCCGTATCTCGGGGCGGAC
TTCGTCTTTCAGACGGTCTTCGCGGTCGAAATGCCGCACAATGTCCAAACTCTCGCCCAT
AAACGAACCGTCTTCTTTTTGCAGGACGGGCACTTGTTTCGCACCGATCATACCGATCGG
CGTTGCCTCGTCGTCGTTTGCCAGCACGGCTTCTTCAACGTCCGCGCCAAACAGCCCGGC
AGCCATCCGCGCACGCACGCAAAACGGGCAATGGTCGTAAATATACAGTTTCATCAAAAT
ATTCCTCGTCAACCTGTCGGTACCGACTACCTTAACACCCCGCGCCGCCCGAAACAAGTT
TATCTTCCCGCCTATGCACCGTAAATAAATAAGCTGTTACAATAAACTCGTTTTTATCGG
AACGGAAGACCCCATCATGACCGCCATCAGCCCGATTCAAGACACGCAAAGCGCGACTCT
GCAAGAATTGCGCGAATGGTTCGACAGCTACTGCGCCGCTCTGCCGGACAACGATAAAAA
CCTCATCGGTACCGCATGGTTGCTGGCGCAGGAACATTACCCCGCCGATGCCGCCACGCC
GTATGGCGAGCCGCTGCCCGACCACTTCCTCGGCGCGGCGCAAATGGTTCATGAACTCGA
CCTGCTCCCCGATGCCGTCGCCGCCACCCTGCTTGCCGACATCGGACGCTACGTCCCCGA
CTGGAACCTATTGGTTTCCGAACGCTGCAACAGTACCGTCGCCGAGCTGGTCAAAGGTGT
GGACGAAGTGCAGAAACTCACCCACTTCGCCCGGGTGGACAGCCTCGCCACGCCGGAAGA
ACGCGCCCAGCAGGCAGAAACTATGCGGAAAATGCTGCTGGCGATGGTTACCGACATCCG
CGTCGTGTTAATCAAACTGGCGATGCGTACGCGCACCCTGCAATTTTTAAGCAACGCCCC
CGACAGCCCCGAAAAACGCGCCGTCGCCAAAGAAACCCTCGACATCTTCGCCCCGCTCGC
CAACCGTTTGGGCGTGTGGCAGCTCAAATGGCAGCTCGAAGATTTGGGCTTCCGCCATCA
AAAGCCCGAAAAATACCGCGAAATCGCGCTGCTTTTGGACGAAAAACGCACCGAACGCCT
CGAATACATCGAAAACTTCCTCAACATCCTGCGCGGTGAACTCAAGAAATACAATGTCCA
TTTCGAAGTCGCCGGCCGCCCGAAACACATCTACTCCATTTACAAAAAAATGGTGAAGAA
AAAACTCAGCTTCGACGGCCTCTTTGACATCCGCGCCGTGCGAATTCTGGTTGATACCGT
CCCCGAGTGTTACACCACGCTGGGTATCGTCCACAGCCTCTGGCAGCCCATTCCCGGCGA
GTTCGACGACTACATCGCCAATCCCAAAGGCAACGGCTATAAAAGTTTGCACACCGTCAT
CGTCGGCCCGGAAGACAAAGGCGTGGAAGTACAAATCCGCACCTTCGATATGCACCAATT
CAACGAATTCGGTGTCGCCGCCCACTGGCGTTACAAAGAGGGCGGCAAGGGCGATTCCGC
CTACGAACAGAAAATCGCCTGGTTGCGCCAACTCTTGGACTGGCGCGAAAACATGGCGGA
AAGCGGCAAGGAAGACCTCGCCGCCGCCTTCAAAACCGAGCTTTTCAACGACACGATTTA
TGTTTTGACCCCGCACGGCAAAGTCCTCTCCCTGCCCACGGGCGCGACCCCCATCGACTT
CGCCTACGCCCTGCACAGCAGCATCGGCGACCGTTGCCGCGGTGCGAAAGTCGAAGGGCA
GATTGTGCCGCTGTCCACCCCGCTCGAAAACGGACAGCGCGTCGAAATCATTACCGCCAA
AGAAGGGCATCCTTCCGTCAACTGGCTTTACGAAGGCTGGGTCAAATCCAACAAGGCAAT
CGGCAAAATCCGCGCCTACATCCGCCAGCAAAACGCCGACACCGTGCGCGAAGAAGGCCG
CGTCCAACTCGACAAACAGCTTGCCAAACTCACGCCCAAACCCAACCTGCAAGAGCTTGC
CGAAAATCTCGGCTACAAAAAGCCAGAAGACCTCTACACCGCCGTCGGACAAGGCGAAAT
TTCCAACCGCGCCATCCAAAAAGCCTGCGGCACGCTGAACGAACCGCCGCCCGTACCCGT
CAGCGAAACCACCATCGTCAAACAGTCCAAAATCAAAAAAGGCGGCAAAAACGGCGTGCT
CATCGACGGCGAAGACGGTCTGATGACCACGCTTGCCAAATGCTGCAAACCCGCGCCGCC
CGACGATATTATCGGCTTCGTTACCCGCGAGCGCGGCATTTCAGTGCACCGCAAAACCTG
CCCGTCTTTCCAACACCTCGCCGAACACGCGCCCGAAAAAGTGCTGGACGCAAGCTGGGC
GGCATTGCAGGAAGGACAAGTATTCGCCGTCGATATCGAAATCCGCGCCCAAGACCGCTC
CGGGCTTTTGCGCGACGTATCCGACGCGCTCGCCCGCCACAAACTCAACGTTACCGCCGT
GCAAACCCAGTCCCGCGACTTGGAAGCCAGCATGAGGTTCACGCTCGAAGTCAAACAAGT
CAACGACCTCCCGCGCGTCCTCGCCAGCCTCGGCGACGTCAAAGGCGTATTGAGCGTTAC
CCGGCTTTAAATACAAAAATGCCGTCTGAAAGCCGAATAACGCTTCAGACGGCATTTTGA
TTGCCGGGGTTTGCTATTTTTTGTTGCATAGTCAATTAAAAACAAAATAGTACAATACTC
AACTTTGAAGGTCTAACCATGGCATACTCTGCGGACTTAAGAAACAAAGCTTTAAACTAT
AGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGC
AAGGCGAGGCAACACCGTACTGGTTTAAATTTAATCCACTATATTACGAACAATGCAAAA
ACATCAGCCAAACCGCAGCAACGTTTAACTTGTCAAGAAACACACTTTACCTGTGGATTC
GCCTTAAAAAACAAACAGGCAGCCTAAAACATCAAGTTACCGGTCTAAATGCCGTCAAAT
CGGATAGGCAAAAACCGGCTCAATATGTTGGGCAACACCAGGATGCCTATCTGCATGAAA
TCGCCAAACATTTTGATTGTACGGCAGCCACCGTTTGCTATGCACTCAAACAGATGGGGA
TAACGCGCAAAAAAGACCACCACTTACAAAGAACAAGACCCGGCCAAAGTAACGCATTA
```

```
TTTGACACAGCCGGCCGAATTTTCTGACTACCAACGCGTTTATTTGGATGAAACAGGATT
TGACCGCCACCTGTTCCGTCCCTATGCCCGCAGCCTGAAAGGGCAAATAGTGAAAGCGCA
GATAAGTGGAAAAAGATACCGACGCTTATCTCTGGTGTCCGCACAAGTCGGCAACCGGCT
GATTGCTCCGATGGTTTATCAAAATACGATGACCGGAGTCTTTTTTGAAGCGTGGTTTCA
GCAATGCCTACTGCCCGCATTGACTCAAAAATCGGTGATTATTTTAGATAATGCACGATT
TCACCGTATGGGTGTCTTACGGGAAATGGCGGAAAAATTGGGACATAAGGTATTGCCTCT
TGCACCTTATTCACCTGAGCTCAACCCGATTGAGAAGGTTTGGGCGAATATTAAGCGGTA
TCTGCGAACCGTATTGTCTGATTACGCCCGATTTAACGATGCACTACTGTCCTATTTTGA
TTTTAATTGAATATACATTTGAATTAATTCGCACTTAATTTAAATGTGTTTTTAACTGTG
CTTTATTTAAAGGCAATGAGAATGTGAAAATATCGGATCAATCCCAAAGCAGCCTGCACT
TTCGAAACGGGGTGCAGGCTGCTTTGGGAATTTCATAACCGTTTCAGCCTGCTTTATTCC
GCAAATACCGTTTCCAACCCTAACCCGCTCTCTTTCACCAAGCGCAAATAAGCCAGCATG
AATTTATACCGTGCTTGAGCCAGTTTCTGTTCTGCTTGGGCGACTTCCTGCCGCGCCCGT
ATTACTTCCAGCCGGTTGCGGATGCCGTATTGTTGGCCGGTTTCGGTCGATTTCAGTTTC
AAACGGCTGCTTTCCAAAACCCGTTCTTGCGCCATGATTTGGTAACGCGCCGCACCGCTT
TCGGTATAAGCCTGGCGTACGGCGAGTTTGATGTGCCGCTCGGTTGCGGTCAGCTGTGCT
TCGGCGGCCCCGTATTGCGCTTCGGCTTCATGGATTTTGCCCGACAATTCTCCGCCGGTA
TAAAGCGGCAAATTCAACTGTACGCCGACGCTCATCCCTTTGCCCCGATAGTGGTAGTCA
TTATTCTGCGCAGATGAAGTGTAGAGGTTATTCTGATAGCGCGACATGGGCAGAAACGGTG
GGATAGCGGCTGTTCTGTGCTGCCCGAAGCGCCTGTCCGCTGCTTTGCAGGGCAAGCTGC
TGCATCCGGTATTCATGATTGTTGGATAAGGCAATGCGCTGCCATTCATCCAGACTGTAA
CGTTCCAGCTTGGGCAGATAGCGTGCCAACAGGTTGGCGGTATCTATGGCCTCGATTTGT
TTGCTATCCAGGTCGGTGTAGTCGTTCAACTGGTTTTCATAGGTTTGTTTCTCAGCCAAT
ACGGCGATTTCTTGGGCCAGGGCATTGTCGTAACCGGCTTTGGCTTCGTGAATATCCAGC
GCGGTGGCAGCACCTTTATTGAATAAAGCCTGCGCCTGCCTTACCTGCTGGGCATAAGCC
TCTTTTTCCGCCGCATGGGCGGCAACGGTGTCTCGGCTGAGTAAAACGTTGAAATAACTT
TCGGCAACTTTCAACAGCAATTCTTCGCGTGCCGCATCGAAACGCTGTTCTGCAGCCTGC
GTATCGAACCTGCTTTGGCGGTATTGTGCAAATTTGGCAGCGTCAAATAAGGTTTGTCCC
ACCTGCACGCTCCATCCCTGTGTTTCGCGGGTGGAAGAAATCGATGGCGGCTGGCGCTGG
TAGCTGGCATTGGCGGATACATGGGGAAGGAATGCGGCCTTGGCTTGTTGTTGCCGTGCG
CGCACTGCATCACGCTGGTAATGGGACGCTTGAAAATCAGCCGAATGTTGCTGCGCCGCC
CGCCATGCTTCAGGCAGCGTAAAAGCCGAAACGGATGGGGAAAGGGATAGTGGCAAGGTA
AAAAGTGAAACGGGTAGGATATATTTGGAAAAATAGGATTTCATAGCCGAAAATAGTTCA
TGTTGCAAATAGGGCGTCAGTGTCAGGCAAACGGAAATACCGTAATCTTGCATTATCATT
AGATTGAGCAATGTCATCCGGGCAATGGTTTCAGGCAGTCTGCATGTCCGAACCGGCGGA
TAACAAATGCCCAGTACGGATCCGCCTATCGCTCCCTAAAGCTTTCGTCCAATTTGGTTT
GCAGCGGGCTTAACAGATAATCCAGCACCCGCCGTTTACCCGTTTTAATCTCCGCCGTGA
CATTCATGCCCGCCGTCAGATTCACTGCTTTGCCGTCAATATTCAAGGTATGTTTGTCCA
GCGACACCACCGCCGTATAAACCAAGCCCAACTGTTCGTGGCTTACCGCATCATGGCTGA
CACTTTTCACCTTGCCCGTCAGATAACCGTAGCGCGTATAGGGAAAGCTCTCAATCTTCA
CCACCGCATCCTGTCCCTGTTCCACAAAACCGATGTCTTTGTTCAATACCAAAACTTCCA
CGTCCATTTTGTCGTCATCGGGCGCAATCACCATCATTTTTGGGCAGCCTGCACCACAC
CGCCCACCGTATAGGTAGCCAATTCCTGCACCGTGCCGTCCGCAGGCGACTGTATTGTCA
TCAGCTGCTGCCGCTGCTTTGCCTTATCCGTTTGGCCGCGGTATTGGTCAATCTGTTCGT
TTGCCTGGCGCAGCGCATCCAGCGTATCGCGTTTCAGGTTCTGCGTATTCAGCACCCGAT
TCTGCTCCGCCTGTGCAATGGCCGCCTGAATCTGCCTCATCTGACCGCGCGTACTTTCCA
AATCGTTCCAATTGCTGACCGATTTGCTCTGCTGCTCCAAAAACGCATGTTCCGAAATAA
AATTGTCGGCCCGCAAACGGCGGTAGTCTGCTGTTTTCTGCTGCTCGATCGCCCCCACCG
AAACCAGCTTCTGCTCCTGCGCCTTGGCCGACTGCAATTCCGCCTGATGGCCGCGCAAAG
CCGACTGCAATTGCGCATCCTGCGCCGCCCATGCCTGATACTGGTGCTGCGCCAACACCT
GCGCCGATTGCACATCGGCATCGGAGAGACCTAAAGACCGTGCTTGCGCCATATCGATAT
GCGGCACGGTACGGCTTTCCAATGCCGCCAATACCGCTTCATAACGCAGTTTGGACAATT
GGGCAGCCTGCAAAGCCTGCTCCGACTGCACCACATCGCTGTCTGTTCCCACAGCCTCCA
GTTCCGCCAGCGTTTCTCCCTGTTTCACATGCTGCCCGTCGCGCACATGTACCGCCTTAA
CCACCGCCGTTTCCAGCGGCTGGATGGTTTTGCTGCGCCCGCCCGACACCGTTTTGCCCG
AAGCCGCCGCCACAATATCGATTTTGCCGAACCAGGACCACAACAAAGCCAAAAGCGCAA
ACGCCATAATAAAACGCGCCGCCCATTTCGGAGCGGCAGAGACCGGCGTATCGGTCAGTT
CCAAATGCGCGGGCAAAAACGCCTGTTCTTCCGCCGTGCGTTTGGGCGGTTTCAACTGGT
CGCGCACCGCCCAAACATTGCGCCATACAGTAATGTATCGAGAAAGAAAGGATTTCAGGG
```

CGGAGAAAAACATAACGGGTATAACCTTGGCAATATAGAAACAGGAAACAATATAAATAT
GTAAAGGAATTTTAACGGAAAGCGCGGCAGCTGTTAAGGGAAAGGCGGGAATATTGACAA
AAAATACCCAAGTCGTTACAAATATTCATTATTTTACTGCGTAACGCAACGCTGAAGCGC
AGGCTGCTTTTGAGATGCGGCAAGGTTCGGCAAAAAGCAGCCTGCACATTTAACCACAGG
AACAACCCATGTTTACCACAAACGATTTACGCCATTTCCTAGAAGGTTTGGCCATCCTAT
TCTCAATCGGCTATTGGGGCACCATGCTGCTGTTGCTTTGGTTTCTCGTCCGCTTTGCCT
ATAAAAAGCCCAAACGGAACCCCGGCAAAATCCTTTCAGGCAGCCTGACCGCCGCCGCTA
TCCTGATGCTGTTTGTTTGGATTATTCCCAAACAATTCGGCCCGATCAAAGAAGAAATAC
AGGCACAAGAAGAGTGGGACAGAAAATACAAAGAAGCCGAAGCCGTGTTTAACGAACAAT
GCAAACGGCGGGGGAAAGATTTACCAGACGGCGGACAATGTGGAAGGGATTATGCTGTT
GAAGGTAGTACCTGAGCGTACCGTTTCGGCAGATGCAAAAACCAGAGACCCGATGTGGGA
CAATGCGGCTTTACAGACCAGCGAAGGCGTAAATTTTATTGCTCGTTTCCTAGGATTTTT
TAGCGATGGGGAATACCGCTATGTGGATGTCCTGCAACCCAACCATTCCGATATTATTCG
GTATTCAGGTAAAGATTTTTCCGCTAAATCAAATATTTAATCATATACACCCCGCCCGTT
ATGCGGTAACGTTCGAAAACAATGTCGATTCCAAGCTGCGCAGGCACTGGGTGGCAGGTG
CGACCATACGGATTATCGACCGCCAAACTGACGAAGTGATTGCCAAGAAAACCATCTATG
TCTTTGAAAAAGGCTTGGACGGCACGGGTGGGGCGAGAATGCCGTGGAAGTTTGCTATCT
TGTGCAATAAAGAAAGACTTACTTCTTCAGAGCCGTTATCGGATTTTGTTCTTAGCGTTT
TAAAACCTTATATATTGCGTCCCTTATATATTGCGTCCCTAAGAAGGGACGATTAACAAA
AATTAACGTCCTTTACTTTCTACAAGTAACAGGGCTTTTTTTTGCCCGTTTTTGAGGATT
CGCACCATGGAAGATAAGCAAGGGATGACAAAGGCGGTTGCCGGCGTGATGACGGACGCG
CTAGCGGACGGCAGGAAGCCGACAACCGCTTCAAATCTTCCCCCCTTATCTAACAGGGGG
GGACAGAAACCGAAACGGCAGGCAGGGTTCAGGAAGTCTTCGAATGTTACGAAACGTACA
TAACGGACGGTAAAGGAAACCTGTTAGGCGTTCCTCTTCGGCGCGGTGTATCAGATTCGG
CTTTCATTGATCAAATTAGCTTTTCATTTCATGAAAAAACCTTTTTCGATAAATACGGCG
TTCGTGTAAGTCTTTTGGAAGACGAAGATTTTATTCGCGCCGCGTCCATGCTCGCCGAAG
AAGTTTTCGGTTTCGGTATCTACAAAGAATCCAAAGGTTCGGGCGGTCGTTTCTATGAGC
GCTGTTGGTTGATGGGTTCGGAAGACGCCCTATACGGTCGCGTCCATTTTGGCGGCCAAC
AAAATACCATTCTTTTCGAACTGACCGGCACCGGTTGCGGCGTCGCAAAAGAAGGCTGGG
AATCACGACTTTTCGCATTCCTGACTAATGCAATCCGCCCAAAAATCACACGCGTTGACA
TCGCAAAAGACTTTTTCAACGGCGAATACAGCCCGAACCAAGCCCGTGAAGACCGAAATA
AAGGTATGTTTACCTGTCATCACGTCAAACCAAAAGGCGAATGTTTGGGGTCAGATTGGG
AAGAAGACGATGAAGCCAAAATGACCAAAGGCAAGACCTATGGTATCGGCTCCCGTGAAT
CGTCCAAATATGTCCGCGTCTATGAAAAAGGCAAGCAGTTGGGCGATAAAACAAGCACAT
GGACGCGATTTGAAATTGAATTCAAAGCAAAAGACATCGTTATCCCTTTCGAAGTTTTGC
AGAATCCGGGCGAATATTTCGGCGGCGCATATCCGATTTGCGAACGATTCGCCCAAAAGG
CAACGCGCATACACGCGGTTAAGGAAGATAAGGTCATTTCAGCCGACCGCTACCTTGAAT
GGGTAAAAAAACAGTTCGGACGTGCGGCAAACGGTCTGAAATTCATTTTTCCCGAATTGG
ACAAAGCCAAACTGTTTGAACTGATTGAGCCGAGTCATCACAAGCTGCCCAAGTCTTTGG
CTCCCGAAGCCTACGACTGCGCCTTTTTGAAAGCTCAAGCCATTCATGAACAGCCCGCAT
TCAAACCGTACAAAGACCCTTACTATATGTACGAATATTACGAGAATCTTGAAAAACAGC
TTGAACAGCAAAAACACGTCAACAATGAAGAAAGCTATAACAACTTCATTTACGACAAAT
TCGCAAGACTACCGATTTCATGGGCTTAAAGTGTCTGCCCGAAAGACGTTTAATCACACA
AGGAAACCAAAAAATGAACATCCAACTTCAAGGCCACATCGTCGGCGTTAAAAAAAATCAA
CGGACAAATCGAAGGCAAGAGCTTCGACTATTGCTGCCTGATTGTCGCCACACCCTTAGA
CAGCTCCCAAGGCAACGCATTGGGCAGCTCTACTACTGAATACGATTTCGGCGGCTCTGC
CAATTTCGAGCAGTTCCGAAACGCCCAATTTCCGATCGAAGCAAACCTGAACGTAGAAAT
CGTCACTACGGGCAAAACCCAAAAACTGAAAGTCATCGGTTTTCAACTCGTGAAGAAAGG
CTGATTGAATGCAGAAAGTCTATGTTGTCCAGTCCGTATCAACAGGGGGACTTTCTGTATC
TCTCTCCTGAAACGGGCGACATCGGACATACCAAATTAATCACCAATGCCGATTATTTCT
ACGACTTCGAAGAAGCGATTAACGCAGGTTTGGAAGAAATCGGCAACCAATACGAATTTG
TCGTATTCGGATTTTTGAAAGACTGATTTCGGATGTTCGGCGGTCGTCTGAAAAACGCT
CCATCCATTACCGCCAAACACTTTTTGAAGGAAAATATCATGAAATTTATTAACACCTGC
CGTAAATACGGCGCAAAACTGGCTGTTGTAACAGCTGCTCCCCTGGCTTTGGCCGCACAT
GCAAATGCAACGTTGCCCGATACGGCAAAAAACGCTTTGGAAGCCGCAAAAGCGGACGGT
ATGGAAGCCGGTTGGATTGTAGTGGGCATTTTCGCCGCGCTTTTTGTATTTTCCATCGTT
AAGAGAGTGATGAAGTAAGACGGCATGTACTACCAAGTCGGAAATAAATGTCTTGAGAAG
CACCAGGCTGAAAACCTTTATTTCAGCTTGGTAGTACCAAGAATCAAAGAAAACGGACAG
ATTGTCAGGCCGGAATATAACGGCAGCCTGTGGAAGATGTCGGACGGTCAGCCGCTAAGG

```
CTTTTATTGGCGGAATGCAGTCCGAAAGACAACCTGCAAAGCGGTCTTGAAACAGGCTGG
ATAGTATTCGGCATCCTCGCGTCCGTTTACTTTGTTTCCCTGCTGAAAAAGGTTTTGAAA
TGATGGATTTTTATTTTTATCTCGGCGTTTCCGTACCCGTATTAATCGGGGCGGTTCTGT
TTAAGAATTGAGCGCATGAAGTTATGGTGTCAAAATCAGGCTTTTAATTAGACATTTGAG
GCTTGAAACCATGAATAAAAATGAACGTGACTTTTCTATATATCAAATTCTGATTTAGA
TAAATTGTCAGAATCTTATCCTGATAGGCCTCTTTCTTATGTGTTTTATTGTTATTTGAA
AGAAACTGGTCTATTGAAAAATTTCTCAATGGATAAATGTCATAATTTTTTTAATAGAAT
TAATTTTAATGAATCTTGCTTTGAAATTAAATTCAAGGATGATTCATTTTTCATTATTGG
CAATGGAAAAATTGATGTTTCGGATTCTAATAATTTCTTTTCTGTTTCTTTTGAGTGCTA
AATCTTTTTCAGCAGATTTAGAAATTAAAAATGGGAAATTGATGTATGCACTTTCGGAAA
AATATAACGATAATGGATTTAAGGCATACAAAGTTTTAGGTGAGGGAGGAGGAATTCATA
CAGAATATAATTACAAATTTGATAAAAGTTTGAATTTGAATGTATTAGAAAGTTCAACAG
GCGCACGCTCTCTTGAAAAAGTCCCCGTTAAAGTAACTGCATCAGTTTCCCGCGCCGCCG
TCTTGTCAGGAGTCGGCAAACTTGCCCGCTTAGGCGCGAAATTAAGCACAAGGGCAGTTC
CTTATGTCGGAACAGCCCTTTTAGCCCATGACGTATACGAAACTTTCAAAGAAGACATAC
AGGCACAAGGCTACCAATACGACCCCGAAACCGACAAATTTGTAAAAGGCTACGAATATA
GTAATTGCCTTTGGTACGAAGACAAAAGACGTATTAATAGAACCTATGGCTGCTACGGCG
TTGACAGTTCGATTATGCGCCTTATGTCCGATGACAGCAGATTCCCCGAAGTCAAAGAAT
TGATGGAAAGCCAAATGTATAGGCTGGCACGTCCGTTTTGGAATTGGCATAAAGAAGAAC
TGAATAAATTAAGTTCTTTGGATTGGAATAATTTTGTTTTAAATCGTTGCACATTTAATT
GGAATGGCGGAGATTGTTTGGTCAATAAAGGTGATGATTTCAGAAATGGGGCTGATTTTT
CCCTTATTCGCAATTCAAAATACAAAGAAGAAATGGATGCCAAAAAGCTGGAAGAGATTT
TATCGTTGAAAGTCGATGCCAATCCCGACAAATACATAAAGGCAACCGGTTATCCCGGTT
ATTCCGAAAAAGTAGAAGTCGCACCCGGAACAAAAGTGAATATGGGTCCCGTCACGGACA
GGAACGGGAATCCCGTTCAGGTTGTCGCAACATTCGGCAGGGATTCGCAAGGCAACACCA
CGGTGGATGTTCAAGTAATCCCGCGTCCCGACTTGACCCCCGGAAGCGCGGAAGCACCGA
ACGCACAGCCGCTGCCCGAAGTATCGCCCGCCGAAAACCCCGCAAACAACCCGAACCCCA
ATGAGAACCCCGGCACGAGCCCCAATCCCGAACCCGACCCCGATTTGAATCCCGATGCAA
ATCCCGATACGGACGGACAGCCCGGCACAAGACCCGATTCCCCGCCGTTCCGGACCGCC
CAAACGGTAGGCATCGCAAAGAAAGGAAAGAAGGCGAAGACGGCGGGCTTTTGTGCGATT
ATTTTCCGGAAATCCTAGCCTGTCAGGAGATGGGCAAACCTTCAGACGGCATGTTTCACG
ATATAAGCATACCGCAGGTTATAGACGATAAAACATGGTCTTCACATAACTTTTTACCGT
CTAACGGCGTATGTCCGCAGCCGAAAACCTTTCATGTTTTCGGTAGGCAATATCAGGCAA
GCTATGAGCCGTTATGCGTGTTTGCCGAAAAAATCCGTTTTGCCGTACTGCTCGCCTTTA
TCATTATGTCGGCTTTTGTCGTTTTCGGTTCGTTGAAGGGGAAATAAATGCCATTACTTG
CCGGTCTGATTCCACTTTTAGGCATACTTCTGAAAATGCTGATTGTCAGAATAATCCTTG
CAACAGGTCTGACATTTGTAACCTATGCCGGGTATCTCATCGCGCTGGAAAAGTTCAAAG
ACTACACGTCAAATGCGATCAATTCCATGCCTTCCGACATACTGAACCTTCTTTTAATTT
CGGGATTCGGTCAGGGGTTGGGCTACCTGTTCGGCGCATTCTCGTTCTTCATTGGTATGC
ACGCATTCAAAAAACTGACGTTTGTCTTTCCAGGATGAGGTAGAAGCATGATTTATCTGT
TTACAGGAAACATGGGGACAGGCAAAACCTCCCGCGTCGTCTCTATGATTTTGAACAACG
AAGACGGATTGTTCAAAATGAAATTGGAAGACGGCACAGAGGTAGACAGACCGCTTTATT
TCTGCCATATCGACGGATTGGATAAACGGCAGTTTAAAGCCCACGAACTGACGGAAGAGC
AAATCATGTCCGCCCCGCTTCGTGATGTCATACCGGAAGGCGCAGTGCTGATTGTTGACG
AAGCGCACTACACTTATCCGGTACGCGCGGCAGGCCGTCCCGTTCCGCCTTATATTCAGG
AACTGACAGAACTCCGCCATCACGGGCATACCGTTATTTTGATGACGCAGCACCCGAGCC
AACTTGATATATTCGTCCGCAACCTTGTTTCAAAGCATGTACACCTTGAACGCAAGGCAA
TCGGAATGAAACAGTATTATTGGTATAAATGCGTAACCTCGTTGGACAATCCCGCAGGCG
TAAGCGGCGTAGAAGTCGCAAGTTGGAAACCGCCGAAAGAAGCCTTTAAATACTATAAAT
CAGCAAGCCAGCACCAAAAGTTCAAGAAAAAAGTACCTTGGGCGGTTTGGGCGTTGATTG
CGATTGTAGGGTTTGTAGGCTGGAAAAGTTACGGCATTTTTAAAGTTTACAGCAAAGCCA
CAGACAGCCGGATTGAGCAGGAAGCGCAAAAAGAAAGCGTTGTGCAGACGATGACGGAGC
AGCCTGCATCATCAGAGGAAATGCCTTTAAAAAATTCAGACAATTTGAAACCTGAAGACT
TTGTGCCGACTTTACCCGAAAAGCCCGAAAGCAAGCCTATTTATAACACAGTCCGACAAG
TAAAAACCTTTGAGCAAATCGCCGGATGTATAGACGGCGGAAAATCAGATTGCACATGCT
ATTCAAATCAAGGAACACCCTTGAAAGAAATAACAAAGATAATGTGTAAAGAATATGTGA
AAAACGGGTTGCCTTTCAATCCTTATAAGGACGAACAGCAAAGGACGGAACAGGTGGAAC
AGTCCGCGAAAGCGGACAAGCCGCAAGTTCTCGTAATGGGCGGAAAGCCGTAGCAAAATC
TCATGTACGACAACTGAAGAGCGCGGAAAACCGTTTGAAGGAATTGGCGGCGGAGTCGTA
```

-510-

```
AAGCAGAAAGTTCAATCCCTACCCCTCAGGATGGCTTGAGCTGAGTGAAGGGGGTTAATT
GCTAGAATGGCTGTTTTTTTTAAAGTGTCTCAGTCTGGAATCGCTTCGTTCGGGGGTTGT
AGGTGCAGGAAAATAGGGCAGAAAAAAGGAAAAGGGGGAAGCTTTGTAAAGATTGGGCGC
GCTTTTTACCCAATCTTTATGAATACCCCCTTTTCCTTTTTATGAACTGTTTTTCAATA
CCGGAAACCCCCGAACGGAGTGATTCCAGACTGAGATACGCCCAAAAAAAATCAGACATT
CGGGTCGCAACAGAAACCTTTACCAAAACCTGCGACCCCAATAAAATCAGATACGGCAAA
GGCGATAAGCTTCAAGCCCTGAATGAGTAAATCAGCCCATTGAGGGCTTGGCGTTTGACG
AAACACCAAGTAAAGCCCACGACTTCGAAAGTACGGCCAAAGCGTACAGCTTGTAAGAAA
GATAGAAGCGTGGGCTTTCGTACATCTTAAGTTTGAACACTATCTAGGGCAAAAAGCCCG
AATTAATAAGGTTAAACCATGTACTTAGGAATAGACGTTTCAAAGCTCACAATAGATTGC
TGTTTGATTGTAGACGGTCAAAATTATCAAAAGAAGTTTCAGAACAACAAAGGAGGATTT
GAACAATTAATAAATTGGCTACAAAGTCATAAAGTAAACGATAAGCTCCATTGCGTGTGC
GAAGCAACAGGCACATATTACGAAGCATTAGCCGAATATCTTTATTCAAGATATACAATT
ACCGTAGAGAATCCACGAAAGATAAAAGGATATGCGATAGCAGAACTACAACGATCAAAA
ACAGATACACAAGACGCAAAGTTGATAGCCCAATATTGCCAAGACCGAAAGCACAAATTA
AAAGCATGGAAACCGCCGACAAAAGAACAGAAGCAATTACAGGAAATCGCCCGATATTTA
GACTATCTGAAACAGCAACGCGCAACAGAAAAAGCTAAACAACACGAAGCACCCGACTAT
ATCAAATCCCATATTCAAACAACTATTTCAAACCTGACAGCACAAATACAGATAGTCAAA
AAGCAATTACTCCAGTTCTACAAAGACAATCCAAGTTATAACAATCTACGCAAAAGGCTG
AAAACAATAACAGGCATAGGCGAGCAAGCGACAGCAGTATTGCTATCAACCTATAAAAGA
CATGAATTTAAAAATGCAAGACAGTTCACGGCTTATCTAGGCCTAGACCCTAGAAAATTT
CAATCAGGAACAAGCGTGAACGGAAAAAGCAGAATATCAAAAATAGGAAGTTCGGAAATA
AGGAAAAGCCTTTATATGCCTGCACTTGTTGCATATCGTTGTAATGCCTTCCCTGAATTT
GTAGGGCGTCTGAAAAATAAAGGGAAGCATATAAAATTGATATTAATTGCCATCATGCGG
AAACTGGCGGTAATAGCCGTTTACGATTTTGCAAAACGGCCAAGATTTCCAAGTGGAAAGA
TATAAATAAAAAATTAAACTGGGCTTTCGCCGGTGATTTTCAATTTATTGAAAATAAAGT
ATAAATTAAAACATCAAATCCATTCAAAACGAAACAAACATCCCGAAAAAGTCGGGGTGC
GCATTCTTGCAACTTCAAGAAATGTAAAGTTATTTGACCGTGAAATACACTATCTTTTTT
TCAACAAGCCACCACAGCAATCAGACAAAAGCAACCCACCGCCACACCCATGTCGGCAGT
ACGGCCGGACAAACCACCATCCGAAGCGGCGGGGATACCACCCTCAAAGGTGCTCAGCTT
ATCGGCATAGGCATACAGGCAGACCCCCAACTACAACCCTGACGACTATTGGTGGAACCG
ATATTAACTGACCCCCAAAAGTTGGACAGTTTAATCAAGCGGCTTTCAGGGACTGAATTC
TGTACTGAACAGGGCTCAGTCCTTTTAATTTCAACTTGATTCTATCGTTGTTGTAGTAAC
GGATATATTCGTGCAGTACAGCTTCCAATTCGGTAACGGAATCATATTTGCACGTATGGA
AACATTCCGATTTCAACGTTCCGAAGAAACTTTCCATTGCCGCATTGTCCAAGCAGTTTC
CCTTGCGGGACATACTCTGAACCAGACCGTTGTCTTTCAACTGCTTTTGATAAATATCAT
GGATATGCCGTTTCAAATCGGCATATTTGTCTTCTGCCGATTGGACAACCAATTGGTAAT
AGAAGGTGCCGCGTGGCAGTCCGACAATCACCAACAGCAGTTCAACGGATGGCATTGCCT
TAACCCTGCGACGAGTTGCGTTCTTTCTACCGCACTTCTTTCCCATAGATTAAGGCATCG
AGCTTTTTTAGGGCAGCCATTTCCGCTTTAAGGCAAGCCAATTCCGCAAGCAGTTCTTCC
TTGGTTTTCAGATAGTCGGCTTTTTCGTTTCCGGCGGATGCTGTTTTTTCACGGGCTTTC
TTCCTTTGGGTTTAGGGTTTGGGCTTTAAACCGTTAATACCATTCAAATGGTAGAGGCGC
AACCATTGCAGCAAGATGGAGCAGTCGGGCAAATTCAGTTGGTCTGCGGCAGCTTTTTGG
GACATTCCCTACCCCGCCACCAGGCGGATTGCCTCAAGTTTGTATTCGACCGAATATTTT
GTCGTATGCTTTCTACGTTTGATGCCACTCTCTCCGTGTAATCTGTATTTTGTCACCCAT
CTGCGTACCAATGAATCGGAAATAGAAAGATGGTCTGCTGTTCCCTGCCAAATAGTATTG
AACGACGGCAAGTCGGAATTCATCTGAATATTTTGCCATAAAAAACTGCACCCCCTAAAG
TCGGTAAGGTGTCCAACTTTTGGGATGCAGTTCAGAAGCGGTCTTTTTTTGCCTGCCGGT
TTTGAATCATCCTCCGTGTATATTCCCTTGACGAAAAAAATGATGATATTACGGATACCA
AAACTAAGGTCGTATCCGCCCCCCTACTCTCCCTAAGCAAAGAGATGAAACAGCGTATCG
GCTCCCTGCCGGTTGAATTTTCCGAAAAAACGCGACGTAACCAGCATCAACATATATAAG
AACAGCACAAATAGCATCAATACATCAGGCAACGAAAATGCAGAATAATGCACTTAATGG
TGTTTGGATATCTGTTGTTTTGTGCTGTTAGTAATTCTTCTTTCTGTGTTTACAGTTTAG
CAGTTGTACAGTTTTACAGTAATGTTTAAACAATGACTGATTTATTTTAAATGCAGATAT
TGTAGAGGATAAAAATGGCCAAAGTCCTTTCAGTAACATTTTTGATTTTTTAGCGAGCCT
TCTCATTTCCCCGGCGAGATCGGCAATGGCAGCGGTACTTTGGCCGCCGATATGCTTAAG
TTCAGTAACCTTACGCCACCAAAACCCTTGCTAGCTAAGGGTTAAACAGCTCACTTGAAA
TCTACTTAAGTCTAATCTAAACTATCCAATATGGATAGATTTTTAAACATAGGGCAAGCA
GCAAAATTATTGTAGCTGAAAGCACAATCACTCGCTGGTGGTCTCAAACACGTGCCGACT
```

```
ACCTCGCCGAAAACACTATCAGCCGCGATAAACCGTGGGAAAAGCTCGTTATCAGCCGCC
GCACTTGGTACTATCGCGGGAAACCGATGCTGTCTGAAACGCAACAGGAGAAAAATAATG
AGCCGTTACCTGATTACCTTTGATATGGATACCAACTGCCTGAAAGACAATTACCACGGA
AATAACTATACCAATGCCTACTCCGATATTAAAACCATCTTGGCTAGACATGGATTTGAG
AACATTCAGGGCAGTGTTTATCTAGGCCGTGAAGGCATCAGTGAAGCACACGGAACAATA
GCCATTCAGGAACTGACCGCTCGGTTTGATTGGTTTTACTCCTGTATTTCAAACATTAAG
TTTTACCGCCTTGAAAGTGATTTGAACGCACAATTTATCGCTGATGGTGTGTATCAAGCC
AAACAGGCTTTCCTTCAACGTGTTGAACAACTTCGTATATCCCTAACAGAAGCTGGATTG
TCTGATGAGCAAATCAATCAGGTTCTGGAAAAACAGAAATTTGAATTGGAAAGTCCTAAC
CTGAAATTAAATTAACCTCCTTTACTCACCAACATCCGCCGCAGCTCTGTCAGTTTTGG
CGCGCTGCGGCGATTTCTGTGCGTTTTAGAGCTTCGGGTAGGGTGTGAAACAACTCACTC
GAAATTTACTTAAGTCTAATCTAAACTATCCAAGCAGTAATTAGTACAAAAAAGGCAAAC
TTATTTTAGGAGTTTAAAATTGCAGCTGCGATAAACCGTGGGAGAGTCTCGGCATTTCCC
GCGCCACTTGGTACAAACGTGGCAAACCGATGCCGTCTGAAACCGTACAACAGGAGACAA
AATAATGCTTGCTCAAATCGAACTCACACCCTGCCAGCTAATGGTTTACGTAACTTAAGG
TTACTGGATTTACGCACTAAGGTTACTGAACTTAAGCATATCGGCGGCCAAAGTACCGCT
GCCATTGCCGATCTCGCTGGGGAAATGAGAAGGCTCGCTAAAAAATCAAAAATGTTACTG
AAAGGACTTTGGCCATTTTTATCCTCTACAATATCTGCATTTAAAATAAATCAGTCATTG
TTTAAACATTACTATAAAACTGTACAACTGCTAAACTGTAAACACAGAAAGAAGAATTAC
TAACAGCACAAAACAACAGATATCCAAACACCATTAAGTGCATTATTCTGCATTTTCGTT
GCCTGATGTATTGATGCTATTTGTGCTGTTCTTATATATGTTGATGCTGGTTACGTCGCG
TTTTTTCGGAAAATTCAACCGGCAGGGAGTCGATACGCTGTTTCATCTCTTTGCTTAGGG
AGAGTAGGGGGGGGCGGATACGACCTTAGTTTTGGTATCCGTAATATCATCATTTTTTTC
GTCAAGGGAGTATATCGACTCTAGAAGATAGGTATTAGATACTGCCTTTTCTTACAAGAG
TGATGGTAGGATGGTTCTCTTCAAGTCAATCAAACAGGAAAGTATTTCTTTTCTGTCTGA
AGATTTGAAAAAGGACTGGATGTTTCACAAGGTTAAAACTGGGGAAAAAGATGGATATGG
TTCAGATGAAATGCTGAGCGTACCCCGTGTCTATTTGGAAATGATGTCGCGGAAAACGGG
AGTCCCCTACTCCAGTATTCTTTAAATTCTAAGCAGAAGACTTCTTCGTCGGTCTTTTTT
TGTTGTTTGGTTTGCATGGAGTAAAACTGTACAACTGTTGAAGCATAAAACCAGCAAGAA
GGTAAAAAAGAAAGAAGCAGTTCTTTGGATTTTAGATATTACCGCAATTAGTTTCCTTTC
CTAAAATTTGTTTAAATTATTTGCAATATTAATATAAACGAGATATTAATGATGAGAAAT
CAAAAAGGCATAATGAATATATTTGTACAAAATATTTGCAGTATTTAAAAATGTTGGTT
CGTATATGAAAAGTTAAAAATGCCAAAATGTACAGTTGCTAAACTGTAAAACTGCTAAAG
CAACAAAACATAAAAAGGAATGCAAGGATGCGATCACTACATCTTTTTATTCCGAAGCGT
TTATGATTTTACGGTCAACTGCTACTCTATGTGCCTAGCTTTTCAGCTCCCTATTTTCGA
ATATTGGAGGAGGCATTTTCATCAGTGTCGTAATGCCGACCAAAACTCTCACAAACCATA
TTGGTTCTTGTGGCAGCAACACCTATCCGTTTGTTCAAGCGACCACAAGAGTAACATGAT
TGGCTGGTAGCATTGGCTTTAATCTCTTCGATATGAACTCCATTTTTAGCTGCACCTTCT
TTCAGCATATGCAGCAGTAGGGATGAGGCAACTATCTTCTGGTGGAGTTTGTTGACTTTA
ATCTGTATGCACTGTAGGTTGAGCAGATTCAATTTTTTGATACAGATTATCCGGCTTTGT
TCGGCAATTCTGTTTGCGAACGTATAGTAGAGCTGTCGTCTTGCAGCTTTCAATTTGCGG
TAGGTATTTTACCATTCAATGCGTAGCCGCTCGGTACGTTTGAGCCAAATGTTATCTTCG
CCATTTGTACCAATTTGTTTTTACATTAGGCTGTGTTTAGTAATCTATTGATTTCAATT
ATTTGCAAGGGAAAAGACAATTATTTTCCGGTTAGGAATAAACCTATCCTGTTGAATACC
TTAAAGCCAAATACGCCTATCAACACCATATTAAAACACAGCCTTTTTTAATATAGTAGA
CACAATCTTTCCCTATTTATGAAGGTGATCGTTTCTTTCAGATTCGTATTTTAATGCTTT
CTATTTCTATAAAAATTGACTAGAATAGCTCAATTATAAAAAATTGCGCGATTTTGGTAT
TTATCATGAAAATTTCCAGACCTCCGGAATTTACCCTGTTGCAACAGGAATATATGCAGC
ATCTCACTGAAAGAATGACGCAAATTGCCAAGCTGCTGAATTCTTCCGCAAACAATCCTG
ATATAGACATTCCCGATTTTCTTACTGAAATCAAAGATTATTCAGAATTTTCCGTGACAG
ATGAAAATGGAACCTACCTGCATTGGGACAAATTCCGCCGGATTCACACGGAAGATACGC
GGATGAAATGGCGCGCCGTTAAGGAAAGCCGCAAAAAAATCCAAAAACCAATTGATTTCC
CGTTTGAACATCAGTTTTGGTTCTGCATTCCCGACTCTTTGCAGGCACGGCTTCATTTGA
TTGACAAAAGCTGCGGCAGTTCTATCGGCACGTCTAGCTTGGGTGGCTTCGGCAGAAGCG
AGCAAAACAGATTCTTGCTCAAGTCTCTGATTATGGAAGAAGCGATTACATCCGCCCAAC
TGGAAGGTGCGGCTACCACGCGTAAAGTGGCCAAGGATATGCTCAAATCGCAGCGTAAAC
CCAAAACAAAGACGAAATCATGATAGTGAACAACTATCACTTGATGAAAAAGCGGTAG
AATTGAAAAATACGCCGTTAAGTGTTGAAATGATTTTGGATTTGCACCGCATTGCTACCA
GTAACGCTATTGAAAACAAGGCCGAGCCCGGACAATTCAGGCAGGATGACGAAATCTTTA
```

```
TCGCCGATATCAATGGTAACAGCCTGTATCAACCACCGCCGCACGGACAGGTTCATACGC
TGATGGAAGAGGTGTGTGCGTTTGCCAATAATACCTATGACGGCGTGGAAAATCCGTTTA
TCCATCCGGTTGTCCAAGCTATTATCTTGCATTTCCTCATCGGCTACATCCACCCATTTG
GTGATGGCAACGGGCGGACAGCGCGGGCTTTGTTCTATTGGTTTATGCTCAAAAACGGCT
ACTGGCTATTTGAATACATATCCATCAGCCGTCTTCTGAAAAACGCTCCTGCCCAATACG
CCAAATCCTATTTGTATGCGGAAACTGACGATTTAGATTTAACCTATTTCATCTATTACC
AATGCGATATTATCAAGCGGGCGGTTGCCGATTTGGAGCACTACATTTCCGACAAACAAA
AACACCAACAGGAATTCAAAGCAGCGATTGCCCAATATACTGAAAAGATAGGAAAGTTGA
ACCAACGGCAAATTGGTATCCTGCAAAAAGCAGTGGAAGAAAGCGGAAAAATCTTTACTG
CACAAGAAATTGCCAACCAATACGGCATCTCCCTGAATACTGCCCGTAGCGATTTGAGTA
AACTGGGAGAATATAGATTCCTAGTGCCGTTCAAATCAGGAAATGCTTTAGAGTATGTTG
CTCCTCAGGATTTATTGGAAAGGTTAGAAAAAAAATAGTTTGCTAGCCCAGAATGCAGCT
TTAACCGAGTCAAAATCAATACAGTCCGCACCTTCAAAAGAAGCTGCGGACTGCTTGCT
TTTTGCTCTACAAATGATCTTTGTAGCTGATTTAACCAAGATTGTAGCAATTTTGCTTTC
CAAGCAAGCAGGGTTAGAAAATTCGATACTTTTAATTATTGGCTGTGTTTTAATATGATG
TTGATAGGCGTGTTTGGCTTTAAGGTATTCAACAGGATAGGTTTATTCCTAACCGGAAAA
TAATTGTCTTTTCCCTTGCAAGTAATTGAAATCAACAGATTACTAAAACACAGCCTTACA
TTATTGGGGTGACTATCCTGTAAAAATATGTCCTAAAACGTGGAAACCACTTTTGCTCTGC
TAAATTTTAAGGAATCTTTATGTTACATATACCCCCCAACGGAACCTGTTCGATATGTTA
GCAGTATTGTAGCCTTAAACGTGCATAGTCCTAACGGTACAGGCGACTGGCATAGTGCAA
AGGCATTGAGTGATCGGGCTTACCCTGAAAAATTTTATATTTACGGTGAAAATCAAGAGC
GAAATACCAATCATTTATTTGGTGATAATGGCATTATTGATGGGACGGATCGACTGAACA
AAATGGGTTATTTCCCTGAAAACATCCCAGTTTGGCTCGCAGATCACCCCCGTGCTTGCG
TGGATTATCTTTACACAGCAGTGTTACAAACTGGCTCAATCGGTCGGGTGATTTTAGATG
ATTGGTTTCCAAGCGATGAAGACAAGCAATCAGTTTATGACTTACTTAACCAAATCGAAC
CGCACTTGAATACTCAAGAATGGGAGAATTTACAGCTATGGAAACGCAAAAACCCAATAA
TGTAATGCTAACCGAACGAGATAAAAGGCACGAGAAGCGGTATTACTGAATTTCATCCGC
AATACGCCATGTACAATTAAATCAGCAGATGTGTCTAAACGTACCGCTGTTCCCGTTTGA
AAGAATTTTTCATGATGAAGTCTATCCTCACCGTATCCGGAAATCGTATGCGTAAACCCA
GAATCACCTATTTGGATGTTTGGGCAAACGATGAAAGAATCGGTACTTTGGAAAAGGGGG
CCATGTATCGGTTCGCATACGACAATCCCAATTCTTCGTTGCTGGGCCTGCATTATCAAG
ACAGAAGCAAGGTATATATCAGCAACAATATGCCGCATATCTTTGCACAGTATTTTCCGG
AAGGCTTTTTGGATGCACACATCACAAGCAAATATGCTTTTCATGATGCGCCTTTTGAAG
ACAATGAGATGCTGCGCTTGGCAATTCTGTGCAGAGAGACTTTGGGTCGGATACATGTGC
GCTGTAATGACCCGCTTTTTAATGAATGGATTGACGGGTTGGAGATGAAAAATCCAAGAA
TATTGACTGAACGGGATTTGCTGGGCATAAATGCCCGACAGGTTTTTCAGCAATATATGG
CAGAAATCTTCCATCACGGCCGTTTCGTCAGTGTATCCGGGATACAGCAGAAGATGTCCT
TAGATGCCATCCGCAGAAATACCAAGCAAACTGCCTCATATATTGCCAAAGGTTTTGATG
CATCCGAATATCCTTGCTTGGCTGCCAATGAATTTTTATGCATGCAGACCATCAAACAAG
CCGGCATTGCCGTTGCACAGACCAGCCTGTCGGAAGATTCATCAGTCTTATTGGTACGTC
GGTTTGATGTCAGTGAACAGGGTTATTTTTTAGGGATGGAAGACTTTACCAGTCTGCGCC
AGTATTCGGTAGAAGATAAATATAAAGGCAGTTATGCGGCTATTGCACAGATTATCCGAC
AGATATCCGGCAGACCAGATGAAGATTTAATCCATTTCTTTAATCAGCTTGCTGCCAGTT
GCATATTGAAAAACGGCGATGCACACCTCAAAAATTTTTCAGTACTCTATCATGACGAAT
ACGATGTTCGTCTTGCACCTGTCTATGATGTATTGGATACATCAATATACAGGGTTGGAA
CACAAGGAATTTTTGATGCTTATGACGATACGCTGGCATTAAACCTGACTAACCACGGTA
AGAAAACATATCCTTCCAAGAATACATTGTTGGATTTTGCTGAGAAATATTGCGATTTGG
GAAGAGAAGATGCATCCTTTATGATAGATACAATCGTTCAAGCTAAAGAACAGGTTCTTG
TTAAATACTCGGATGTATTGCGTGAGAATGAATGGTTGGCGCAGAAGTGGCATTTTATCC
CGGATGAAAATGAAGAAGGTCTACCGTTTACATTCCGGTAGCTGCCGCTGTCAGAGATGG
CCGGTCTACTTTCACCCTGAAAATCACTTCATCTTATGGTGTTTGAAACCGAGAAATTAG
AAGAATCGTATTCGGTAGGAGATATACTGGGAAGATTGGAAAACTGGTAAATCACTCTAT
TGATTGAGTTGGCGGCCTATATGTTTAATGTAGGCAAACGAGAAGGAATCATGTATTTCA
TGATTCCTTCTTAAATTCCTGTGTCAATCTAATATCAAAACACAGCCATCTCTTACCATA
ATCATGATAGGTGTTTTATTATGAAAAGCTATATCTATAGTTACCGTTGATTTGACTATG
CCGTTTTAAAACGTATAGCCTACCTGAAAACCGCTTGCCCATTTCCTTGATTGGAAAAAT
TCGGGCTTTTTCAATGCGCGGCCGGTAAATATATCGTAATGCAGGTTGCCGCCAAGCTTT
ATCTGCCCGCGTATCCCAATTGCTGTGCCGACTAGAGTTTGGCCCGATAACCATTTGGCG
GATTGTCCTGAAACATGTCCTACATCAGCCCCAAGATAAAGCTGATGGCCTGGTTTAAAT
```

```
TGCCAGCTCAAATCGTTGCGCCAATACCATCCCCGCTCGGCAGACAAACTCATTTCACCG
TCGAAGCCACGTACGGTGTGGTGTCCGCCGATAGCCAGTTTGTCTTGCGATGTTAGCGGG
GTTTTGTTCCATTGTGCATGAACGGATGTGTCATAGGCAAATAGCTGTTTACCGATTTGA
AAAGGAGTATTTACATCAGCCGATGCCGTCCAAATTTTCATACGTGACGTGCCTTCGCCA
AAGGCTTCTTCAGGCGCGCGCAGAGCATCTTTCATGCCGGTGCCGCGTTTATATTTCAAC
TTAAAATCTGCCGTACTGCGACCGATATATTCTTTGTGGGAAAGTTCTGCCAACCAACCC
GCAGTTTTACGCCGTTGTACAGTCAGTTCGGCATCATCAATGTAACTTTTTGTTTCCCTC
ATCCACAGTTTTACACCGAGATAGGTTTTGCGTTTGGCATCACGATACAACAGGCGGTTG
AAGCCGAAATCAGTATTGTAACTTTTTCCATTATAGTCATAGACTTCCGATAATCCGGAA
ACTGCCTGATGGTAACGGTAGCCATTGTGATTGAATGCCCATGTCCATTTACCGAAAGGG
GCTGAATAATGTACGGCGTAATTGTTTGATCCGCCTTCTTTGCGATGGCCGTCAAAACTT
TCCTCATCGGGCGTACCGCCAATCGAACGTCCATAATTTACATAGAACATATCACTCAGT
CCCAAAGGATTGTCGGCAGAGAAAGTGATATTTCCTTGGTATTTTCCTGTCGCCTCACTA
CCCGAATTATCCATCCCCACACTCACACGGTAGGGCAGCAGACGTTGCCGCCATTGCACC
ACGACATCACTTTGGTTTGGTTCTCCCTCTACGGGAACGATTTGGAGATCGGCTTCCGCA
GTCGGGAGACGTTTGAGATTTTCCAGTCCTTGTTCCAAATCACGCAGATTCAACAGATCG
TTCGAGCGGGTGGGAAATTTGTTCTGGAATGCTGCAATACGTCCTGCATGGGTTTGATCA
TCGTTAGACCGATCGATTCGTATGGAGCGCAGATAGCTCGGTATCAGGGTTAATTGAAGC
TTGCCACTATTCAAATCCTGTGGCGCAGCCAAGATACGGGTCGTGGTATATCCCCTGCCG
ATCAAAGCATTTTGTGCTAAGGACATGATTTGATTAATGTTGCCCGCATGCAGACACTTG
CCAGCCTGAAAACCCGTTTCGCGCAAGGCACGTTTTAGGGCAAACTGAAACCGAGCATGG
TGTTCGCCTTCCAACACCACTTCGTTAATGGCAAAACACGGTTGGCTGCTGTCATCGCCC
ATCAACTGATTAACCGTTTCCCCCGTGTTTTTTTGATGCAAACGCACATCGCTTTCAGGC
TGCATGGTTTGGCGCAACTGCTCTTCGCGTTGGCGTTGCTGAATATCTTGCTGCATACGG
ATTTCGGCAGGGTTGGGGGAGGCCAACAAAGTAGCAGGAGCAATGATACCTGCCAATAAG
CAGCACCAAGACAAAAAGCGAATATTAGGCAAATAGGATAAAGGAAGTTTCATGGCATGG
TCGCAAAATCAATAAAATCATCAATGGGCATTCAATACACGATTGCATCAAGTTTTAAAA
GTTAAAATTCTCAAACCCTTATCGCTCCCTTTATGATACAAGGCGCGTACTGTCGTACTA
GGAAATAACTGGCGCACAGCTGAGCGCATTTGATGACTGTGTCCCAATGGCGCAAACCAT
TGAATCAGCCAAATATTGTCGCCACAGTTCCAATCGCTGTTGTCACGCAAATGGCGGTCA
GATTCTAAATAATGCGCCTGCGCCACTTCATCAAAATAAGCCCATGAGATATAACCGATT
GGTTGGGTACCCTTGCAAAACAAAGCGAACTGCCCGTTTTTTAACACAGGCAATATATAC
GTCATCATCTCCACAATAGGTACTTGGCGATGCGTAGGCGACTGATACCATAGCCAAGTG
ATGGCACCGAGTGCTTCGCTTTCGTTCCATTGTTCATTGGGGTAGAGTTTAGGAGAGATG
ATGTTTAAGGGTGGAGTGATGGGCATATTTTAAGTTAGGGTTCGTGTTGGTTAAAACAAA
AAATGGTTTCAGCCTGAAATGAAATATTTCACGTTAAAACATAGTTTTAGCACATGAGAC
TGAACTGCGTGGGCAACGAGTTGCCCACCCTACCATGTAACAGTTCGCATTAATTGCACA
GGCTACGCTGGTTATTGCACAAACAAATGACCATACTGCTTATCTTTACGAATATTGTAT
CCACCGCCATGGTGAATACACTGATAAGAAATATGTTGCCCAATTTCACTAAATGAGACT
TCGGTAATAGATTTATATCCTAATTGATTGCCTAATTCATGCAAAACAAAGGTGAGATTT
TCAGTTTCACATGTGTCAACGGCTTTCTCCCAGCGTGGATTAAGTTTGGAGCAATTCCAG
TCTGCACAACTACCCCAAAAAGGGCAAGCTGTTAGCATTGTTGAGCAGAATGATATTAGC
ACTAAATTAGAAAGGGTTTTCTTCATATCTCTCTCCTTTATAAGTTATTGTGTGTTACAA
CATAATTAGGATTTTTAATGCACTGATAGTAAATATCCATTACTGTTTTGTTTTTGTACT
TTTCTTCATCATTCTCAAAATAGATATTCAGTTTTACTAATGCCTTATCAAGGCAATTCA
TAATTTCTTGGTGTTCCTTATCAGTAGTTGTCCAGTTACTACTAGTACCGTACAAGGCTG
TACCGACTACGACAGTACCTAATAAGGTAGTAGCGCAAGCTGTTAGACAAAAAACAGATG
AAAGAAACAGAGAATATTTAGAAAGCTTCTTTTTCATATTTTTCATTATCTTTGTTTTG
TTTGGTTCTACCAGTATGGGTTTAGATTTGTTAATTGGCTTACCTTGAGCGTCATATTCA
ACTTCACCCCATATTTTTACATAGTCATCAAATTCTTTTGTACCTGCTTTTGGCACCTCC
GCAAAATAACTGCTATGCGAATAGCACAACCCCTTACATGTACCTTGTGTGGTGTCATTG
GTTCCTAGCAAGAAAGGTATCCATTTGTTCCCCACAAAATCTTTATCATGCACGATTGAG
TAGGATCCGCTGTTATAAGTTTTGCCGTCTGCACCCGTATAGGTATAGCCGTTTTTCTGT
AAAACATCGGCGTAATCATTCTGCACATTTGTGGCTGTACCATAGAAACGTGCTTTTCTG
ATTGGGGCAATGCCATTTTGTTTTTGATTGTTTACCCAATCTTTTAAGGAAACGCTTGCT
GTAATTCCCCCACGACTGTGATTACTGGTATCAACCGACCAGCCGTTACCCATTTTTTGA
ACCTCTCGATAAATATCTTGATTCAGTTTTTCTGAATTGGTTTTGGGTAAATAGCCTTGG
AACACTTTATTATTTAATTGGTCGTAACCGACATACATCAGTTCAGAAACAAGACTTGAA
CCGAGCCATAAAAAATCTTTTATTTTGTTATTAGAATCAGATTTATATTTCCCTGTTGGA
```

```
GGATTCATGACTGCAATAACACCACTACCGTTTGTACTATTACGATTTTGTTTTGCTGCG
TTGCTTAATGAATCTTCTCGATTATTGAAAATACCAGGATTAGACACAGTAATAACTTTG
CCATTTGTGTCTTGAATGCTTGCCAGTTCTTCCTTGCTTAAATCATTCAATGACCAAATT
TGTCTGGTATCAAAGGATACTTTACCTGTTTTTTCATCTATTATCTTCTTATGGAACCAC
ATTTCTTTAGGTGCAGTTGCAGACCTTACCGCTCTATCGGCTTGGGTTGTGGCAAACATA
CTCCAAGCCATATCAGAACTCCCTGCTCCCCAAACGAGTCCTAATCCTGAATCCTAGGCG
GTAATGACGAAGGATAGTTTTACAAAAGTTTCGGCCTACAATTTATAGGTTTATAATAAT
AAAAATATCCATCAAAAAAATGTGATTTTTCTTTTTTTAAAAGTTGCATCTTGCCATTCT
TGTAATCACATTCGTAATATTCAACATTTTTCAAATCTGAATCAAATAGATATTGAGGTA
AAACATTCCCTTCCTTATCTAGTTCTATTAATTCCTCAAAAACTATCTTACTTTTATGAT
AAAAAACAATTTTTTGGAAATCTGAATTGATTATATACAGTTTTACATAATCCCAATTAA
AATTCGTTATATCACTAATTAAGAATTCTTTTTTATTATAATTAAAACTTATTTTTCTTA
TTACATTCTTTTCAAATATAAAGAAAATAACAATAGTGATTAATAAAGAAAATATATAAA
GTATATTTTTATTCATCTTTTATCTTCTCCATTGTCTGGCTGAAATTTGTGCTCTGATTT
GTTTTCTCCTCTGCTGAATTTTAAATCCGGCACCAGTATTATCTAAGTGAATCAATATAT
TGCTTGTATTCTGGTAATCTTTTTCAGATAATCTTTTTCTTACAACATCATAATTTCCAT
TACTGTTTCTTTCTGCTTGATAAAAACCATTATTTTTATAAGTTTCCAGAATTAATCCAA
CTAACTCTTTTGTGTTTAACCTATTGGTATTTAATGCTATTTCTCTTCCTATTTCGTTAT
TTAGTTGATCAATCATTTCATCTGCTTTATCTAATGAAAGATTACGTCTTATAGAATAAT
TAATTTTTTCCCCACTTTCATGACTATTTCCTACTTTAACAGCAATATCTTTGCCAAATT
CTCGTGTGATGGTTGCTTGCCATAAAACGTGCCTGAATGCATTGCCAACTCCACCTTCAC
CACCAAATTCACTATTAGGAAATAAATTTAATTGAAAAGTTGAAGCAATTGTTGAAATAT
TAGGCTCTAATGTAGAGCCAGGATCTTTATGTACAGATCCAATTGCAATAGCAATTCTAG
GGTGCCTAAGAGCAAATTTCACTTGCTCTACAGTATCATTATTCTCCACCGCACTTTGCG
CATTCAGGCTGCCTTGCGCTGCATCTGTTGCGCTGTTGCCGACTGCCGCACCCGTAGCCG
TACCCAATACATTTGTAATCGCTGTTACAGTCTCTTTCTCTTCCGCCGTTAAGTCGCTTC
CTTTTTCTTTGCCGTATAACCATTTGCTGATGTAAGGCGCAGCCGCTTCCGACCCGCCCG
CACTCAATGCTCCTGCTAGAGCATTGTTGTCTCCTACTGCGGCAACCGCTGCTCCTAATA
CCGCGTGGGCAAGAACGTGTGCGGTTTCTTGACTGGCGGTTAGTTTACCATTCGCGTTTT
GACCGGCTAAATCTTTAAAGTGCTGTCCAATCGCATACGATACGGCTGGCGATGCGGTAG
CCGCAGCGATGCCCGCTCCGCTTTGGGTCGGCGCAGCTAAACCTGAGGCTAACATGTTGA
GAATGACTTTGCCTTGTTGCCAATTATCTGCTTTTGCTGCCGCATCTTGAGCTTCATGGG
CTTTGCGTTTGGCAGTTTCCATATCGCCATTGGCTAATGCCTCGGCTGCTGCTGTTTCGG
CTGCTTCTTTGTCTGCTTTGAGTTTGTCTAAATGTTGGTTAATCTCGGTATTGGCTTGTT
GAACATTTTTACTAAAATCTTGGCTGACGGTTCTTTGTAAATCCAGTTCACTTTGCACCG
CTTCTTTGTTGAAGGTGTTCTTCAAGCTGCCCGAATGTCGTTCGGCGGTGTCTGTGGTTA
CGTTTGTATCAATATCGGCTTTGGTTTGTGCCGCTGTTTTGCCTGTCAGCCGGATTTGTG
CGGCTTCGTCGGTGATTTGAATGTTGCGGGTGTTGATGCCGCTTTTTGTGATGCTGCTTT
GACTGTCGCTGTCGCTGCCATAACCCACTGATGAACTTGCGCTGTTTTTATCGGCTACGC
TTGTCAGGTGTTTGTTTTGAGGTTTATTTTGTGCGCCCTGTCCCAGTGTTTTGCCGCTTA
TGGACGCACTTGCGCCCAATCCAAAACTTTCGCCTTTGTATTGGCTGTGGTTTTTGATGT
CGCTATGGGTGAGGGTGGCCGTCTGAAAGCGGTTTTTACCCTTGTCTTCTGCGCTTTGGG
TACTGGTGATGATGCCGCCTTTGAGGTCTGTATGGTTTCCGACCTTGATTTGATAGCCGT
CTTCTCCGGCATAAATACCGCTTTGCTCGGTTACTGAAACATGGTCGGCTCGGATTTTGC
TTTGGCTGTAATCGCCACCGGCACTGAAGCCATAACCTACGGTAACTTGTGCACTGGCGT
TTTGTTGTTTGCTTTGATAGGTTTCTCTATCTTGTACGCTTTGAATACTTAGGTTTTTGG
CATTGACTTGTACGCCTTTGCCGCGTACTTGCGCGCCTTTGATGGTAGTGTCGCCACCGC
TTTGGATAAGGGTTTGGCTGCCTTTGTCGCCGATATGGCTATGGCGGTGGGTGATGCTGT
CGCCATTGCCGTAGCCTTTGCCGACATTGCCGCCTGCGGTAACGCCTAATGACCAGCCTC
CTTGTCCGAATGATACGGCAGCACCTGCGTTCCAGCCTGCCGATTTGTTTTGGCCGCGTT
CGGTATTGCTTTGCTCGGCTGATTGGAGTGTGATGTCGTTATCGGCAATCAGGATTGTGC
CTGCTTTGCCGGCAACATCTGAGCCTGCGATGTTGATATTGGATTGTTCTGCTGCGCCTG
TGGCGATTAATGTGGTTTTACCACCTGCTTGAATTTGACTCGCTTGGGCTTGATTGGCTT
GAACTTGGGTGGTTTGTCGGTTTTGCTGTTCGCCGTAGGTTATGGAGATGCTGACTTGTT
TGGCATTGGTTGTACCATTGGCTAAGTTTTGTGCACTCTTACCTGTTTGATAGGCTTGCC
AGCCTGCATTGGCAGCCGCCATGGCATTAACGCGGTCGTTTTTGCTTTGTCCGACTTGTT
TGCTGCTTTGTGCTACGGCAATCGCTTGTTGTGCCAAATCGGTAACGGGCGAACTGAATG
CCACCGTTAGGCCTTTTTGTTCATAGGTTTGGGTGGTATTACTGTTTAATTTGTTGTGTG
CCGCTTGAATGTCTATGCTTTGGGCATAGATGGTATTGTTGCCTTCCGGGCTGGAAACGG
```

```
TACTGCCGATTTGTTCGTAGTGTTTGCCTGCAACAATGGTGGTATCGCCTTTCAAGCTGC
CTACGGTACTGCCTGTATGTTCGTTGCTTTGGGATTGGTTTTCTTGTGTGTTTGTCTTGC
TGCCAATAGTGAAGCCGATACCTGCACTCATCAATCCTGATTTCTGGGTTTGATGATAGG
TTTCGCTTTGGCTTTGAGTTTGGGTTGTACCAATGCGAACATGATTGCCTGCTTGAATCT
GGGTGCCATTATCGGAAATAACATTGCTGCCAAGGATGTTGGCATCGTTTCCTGCCTGCA
ATACAACTTGCTTGCCTTCAAAGGTGCTGCTTTGGGCGGTTTCGTGATGACTTTGGGCTT
TATCGGTAATGACTAATTTATTGCCACCACCGCTTCTGCCTGTGTGTTTGGACGCATCAT
CAACATGGGTCGTGTTGATGCCTGCGCTGATGTTGATGTCATTTTTGGCAGACACAGCGA
GTGTACCGTTTGCGCTGCTGACTTCGGCAGCTTTGGCATTGAGGTTATTCCCTGACAATA
GGGTAACATCGCCTTTTGTTTGAATGCTGCTGCCGACTTCGTTCGTTGAACCGCGAATAA
CATGGTTATCGGCATCAAAATGGGTTGCTTGATGTTTGCTGGTTTGTACCGTATCTAGGT
TAATGTCGCGCCCTGCTTGCAGCCGGGTTTGCCCTTGCTCTGATTGATTGCTGATTTGAC
CGGCAATGATGTTGATGTCTTTTCCTGCCTGCGCTGCTAAAACACCTTTTTCTTTGCCTG
TGATATAAATACCTGCCATTCGGTCTAGGTAGGTGCTGCTGCCTTGTGTATTTTGACTGC
TGGCGGTGGTGCTTTGGCTGTTGATGTTGTTGCCTGCGTTGAGCAATAATGTCTGTTCGG
CAGAAAGCATGCCGCCAATATTATTGATGTCTTGTGTGGCCGTAACCGCTGATTTTTGCG
CATGAATACGCCCACCGATATTGTCTAGCGTATCGGTATTGATAATAAGCGCATTGCGCC
CTGCAATCGTGCCTGAGTTTTTCAGGCTGCCTGAAACATTGATTTGTGTATTGCTGCCTG
ACAACAATGCACCTTTACCGTCTATGTCGCCATTTTTAACGCGTACATAAACCTGTGGCA
CCAATACGGTTTGTGTGCCGCCATCAGGAAGCTTAACTTCTTTTTGTACCAACCAAACAA
TATCGCTGGTCAGTTGCGCTACTTGCTCGGCACTTAATGCAATGCCAACGCTGAGATTCA
TCGAACGTGCCGCAGTCGCGCCATTATCCATTAAGGCTTTAAATTGTTCTTCGTCGTTTT
GATAACCGTCTAAACGACGATGCCCTGTCAGCTCTGCGATTTGTTCATTGATTAAACGTT
GCTCGTAATAACCATCACCCAAACGTTTATGTAAATTGTTTGGGTCTAGTTTGAGGCTGT
CCAGCATATAGTCACTACCCAACCATTGACGGTAGTTGGCAAAGCGTGGATCGGTTTCAA
CAAGATAGCCTTTATTGACAGGATTGATAATGTATAAGCTGCTGCTGGGTAATGGGGTAA
AAGAATTGGACGTATAGGGTAGCGAAATACCGTTGCTTTGCGGCAACTCAGTGCCTTGGC
TGGGCGCATGATGGCTTAATGCTTTGCGATGCGATTCATAGGCAAATGAACCCAGTGAAA
TGTTGCGTGTGATTTCCTCCGGCAAAGTGTAATTTTGTTCGCTATGTCCCGTTGAGTCTC
GTCCTTTATGTTTCTCACGCCAATAGCTGTGTAATTGCCATTTTCACTGAATACTTTCT
TTTCGCCAAAGGTTTGCTCGTTATGCAAACCGTCTTTTTCTGTTTGTACAATGAGATTGC
CACCAGCAATGATTTGGCTATCGGTATTAAATACTTCTTTACCATCAATGGTTAAATCAT
TACCTGAAATGATTTTGGCTGGCGCAGTTTGGGTAACTTGGGTTTTTTGGGTGACTTTTT
CATAATCGTATTTATGCCAATTTTCATGCGCCGCTCCATCAGGGGTGCGTAAGTGGTCTG
ATTCATCGTTATAGACAGACCAGCCTAATTCATGTTGCGTGCCTTCTCGCAATAATTCGT
GTCGTCCAAATGCTTCGTAATCAACAATATGCTCGCGCCCTGTTTCTACCAACTGCGTTT
TCAAATGCTCATTGGTATTGTGCAGCTTTTCTACACCTAAACGCATTTTGCCTGCAGCTT
CAATGGTTGCGCCGGCATTGTGTATCCTTTGGGCTTTGCCTGTGGCTTGGCCATTGGTAT
CTAATGCGCCGCCAACCGCCATATCGTTACCGCTGTAAATCAGACTGTTTTCACGGTTGT
TTAATTGTCCGATGCCTAAATTCAGGTTTTCACGTGCCGCAATGGCGGCACCTGTACCGT
TTTCATCTTGATTGTCTAAGCGGGTAGCCGCAATAGCGATATTGTCGCCATAAATCCGAC
CTGTACCGATATTATTCATTTGCCCGGCTTGGATTTTGGTTTGTTGTCCGTCAATCAAGC
CTCTATTGGTTAAATTGTGCTGCGTGCCAATGTCTGTCGTACCGCCGGATTGAATGTTGC
CTTGTGCTGCATTATCAAGGTTATTTGCTTTAATCCGAATGCGTTTTCCTGCTTGCAAAG
TATGTGAATTTTTCAGGCTGCCTCGTGTACTGAGCGACAATTCATTGCCCGCCACGATAT
TGCGTTCTACATAAAAATCATCTTGTAACGCAATATCCAGTTTATTATCAGCGGCAAGTG
TGCCGTTGTTGGATAACGATTTTGCCTGAATAGCAACATCACGGCCTGATTGTATCGTGC
CATTCGTATTATCAATGACAGCGGTAGATTGCTGACCATCGTGAATAATCAGTTGTTGAT
TGGTCGCTATTTCGCCATTTTGATTGTTCAGGCTGCCTGAAACGGCTAAATCCGCTATTT
CTGCTGATAATAACTTGCCATGAGCGTTATCCAGTTGATCGGTTTCAATCTCTAACTGTT
GGCGTGTTGTGATGTTGCCATTTTGATTATTCAGGCTGCCGGCTTGAATGTGGACCGCAT
CACTGATAATTGTTCCATTGTGATTGTCAAACGCCGAACCTTTTGCATTTAACTGATGAA
TGTCTATTTGTCCTGCATTATTTAAACCTTGTTGCGCACTAACATCTGTTTGACCATTGG
CAATAATACTGCCTGAATTATCCAGTGCACCATGAGTGCGAATTGTCCCATCAGCAAAGG
TAGGCGCAGTTATGTTTGATATAGAAACGGTTGCAGTACCCGTACCTGTTGCCGTTGTTG
GTGTGGTAGTGGATGAATGGAAAGATGCATTGTAACTATTGCCGGTTTGATTGCTTGAAC
CATTTGACGCGGTTGGTGCGGTATCTTGTAAACCCATGCGGCCACGGTTATCCATTTTGC
CTTGTGCATCAATATGGAGTTTTTGTGAACCTGTTTGAGAGAGTTTGCCTTGATTATTAA
GTGTGTCGGTATCAATAGCCAAACGAGCGGCTTCAATGGTGCCTGATGTTTCATTTTTCA
```

GGCTGCCCGAATTGTGAATCAATATTTCGCCTGAGGACAATAATGTGCCAGTGTTTTGAA
TCGACTGACTGTGAATTTGAGTGCCTTGTTGCGATACCGCCGTACCGCTGTTTTCAACGC
CCTGACTGCGGATATTGACTTTGTGTTCCGCTGTATTATCCGTATCTTTCGCATTGGCGG
CAGCCATCGTGCCACTATTGACTAAACGGCCATTTGCATCAATCGCCACATTACCGGAAG
AAGCAAACAACTGCCCTTGATTACGAATGCCTGCTTGCTCGGCCGTACTGATCAAGGTGA
TTTTGTTGGCATACATACCTCCTAATTTGCCTGTATCAATCGCAAATAAAGGGATATGTG
TGCCGTTGTTGGCTGTATTGTTTGACGTATTGGCAGCAGCATTATTGAGAATAGGCGAAT
GTGCATTACCTGTTGCGACCACATCGTTTTGTCCCGCGACGACACGAACATCTTGTCCCC
ATACGGGTGCATCAATTTTGGAATGATAACTGAGAATACGTGTGAAATCGGTATCACGGG
CATCCAAACCGTGTCCGGCGATTACAACATTGCCTTGCCTTATCTTAAAGCCGCTAAGGT
CTCCTGCTTGATATTGCGGTTGGCCTGTCGTCAAAGTGGCACGGGAAGCATTGATAAAAC
CACCACCATTGACTGCAATCCCTGCCGGATTGGCAATAACGACTTCTGCACGTCGTCCGC
CCACTTCAATATAGCCATTCATTTGTGAAGAATGGCTGCTGTTGATTTGGTTTACAACCA
CACGTGCTTCGCCCCTTGCCAACCAAGGATTACCTTGAATCCAACCGCCTAGCTGTGTTT
GGGTGTTGCTGCGGCTGTTGTTTAAAATCGCCCCGCGATTACCCACATCAAACTGGGCGT
ATTGATTAACAGAAACCCCTGCCGAAGTAGGGGTTTGAATATTGACTTGCGGTATGCCGT
TACCTGTTTGCAGAATCGTGGCTTGTTGAGTTTTAGGAGCAGCTTTATCAGCAATAATGC
CATCAGCAAAAGCAATATTGGCCGTACCTACAGCCAAACATAAAGAAAAGCCCAATAAAG
AAAAAGAAAAGATATTTGAACGACAAACAGGTGCATGAGTAGTACCAAAAGGAACAGATT
TCACATGAGCGCTGCCTGAATCACTATCGGCACAGCTTTTACCTTCGCGCTTGGTAGTTT
CAGCAACGGCTACCACAGCCCCACGTTTGCGGTTGAAAATTACACGATAGAGAGTTTTAT
TCATGATTTCAGTTATTTGATTŤTTATAGAGTTATTAGAAAAAATTGGATAGTCTGACCA
TTCTAGATCAAGGATTTTGGCGAGTCAATTACCGCCATTTTACTGCCATTTGTTTATTAA
ATTAGGGACTTTACTAGATAACGGTTAAAAATCCCATTCGAACGAAATGGCAAGGTTTAT
ACCGTCGTTGTCCCTAATGCGCAATCAGCAACATTATTGCCGATTATCCGAGAGAAAGTT
AAGTCTGATGGCATTGTGTATACGGATACCTTTCGTAGTTATGATGTACTTGATGTCAGT
GAATTTAGCCATTTACGCAAGTTTTCCAGTATTTGACTGGCAATTTAAAACAGTCGGATT
TTGTCCCATTTGTTGGCCAAGTCTTTACTTGCTTGGCCGTTTGAATTTAAAAAGCAGTCT
TTCTACTTTCCGACCTTTTTTTCTGTTGTAAGGTCTATAATCCAATAGCATTCCCAAAGA
GCATTTTGGACGGTGGCGGATTCGCATTTGAAGTGCAACTTTCCCTAACAGAAAAAGGCC
AGTATGCGGTAGCATACGGCCTTTCCTGCAAGAAAGATTGCCATGAGCTACACGCAACTG
ACCCAAGGCGAACGATACCACATCCAATACCTGTCCCGCCACTGCACCGTCACCGAAATC
GCCAAACAGCTGAACCGCCACAAAAGCACCATCAGCCGCGAAATCAGACGGCACCGCACC
CAAGGGCAGCAATACAGCGCCGAAAAAGCCCAGCGGCAAAGCCGGACTATCAAACAGCGT
AAGCGACAACCCTATAAGCTCGATTCGCAGCTGATTCAGCACATCGACACCCTTATCCGC
CGCAAACTCAGTCCCGAACAAGTATGCGCCTACCTGTGCAAACACCACCGGATCACGCTC
CACCACAGCACCATTTACCGCTACCTTCGCCAAGACAAAAGCAACGGCAGCACGTTGTGG
CAACATCTCAGAATATGCAGCAAACCCTACCGCAAACGCTACGGCAGCACATGGACCAGA
GGCAAAGTACCCAACCGTGTCGGCATAGAAAACCGACCCGCTATCGTCGACCAGAAATCC
CGTATCGGCGATTGGGAAGCCGACACCATTGTCGGCAAAGGACAGAAAAGCGCATTATTG
ACCTTGGTCGAACGCGTTACCCGCTACACCATCATCTGCAAATTGGATAGCCTCAAAGCC
GAAGACACTGCCCGGGCAGCTGTTAGGGCATTAAAGGCACATAAAGACAGGGTGCACACC
ATTACCATGGATAACGGCAAAGAGTTCTACCAACACACCAAAATAACCAAAGCATTGAAA
GCGGAGACTTATTTTTGTCGCCCTTACCATTCTTGGGAGAAAGGGCTGAATGAGAACACC
AACGGACTCATCCGGCAATACTTCCCCAAACAAACCGATTTCCGTAACATCAGTGATCGG
GAGATACGCAGGGTTCAAGATGAGTTGAACCACCGACCAAGAAAAACACTTGGCTACGAA
ACGCCAAGTGTTTTATTCTTGAATCTGTTCCAACCACTAATACACTAGTGTTGCACTTGA
AATCCGAATCTAAGGTCATCTGAAATTAAATTTAGTTTTCAGACAATCTTTTTCTTCAAT
TGGAACGTGGAGTTACATTTTCACCTAAACTATGCACGCTAGATTTATAGATAAACCATT
CAGACAGTCCAATAAACATTATGGTTGGGATTACCAAATACCAAAAACTACCGACTCTTT
CAGATGAATTAAATAAAGAAAAGTACCCATATGTATAAAAAACAATGAAGGTTAATATGA
CAGATACAGCAAGTTGATTTTGAAATACCCATCTGAATAAAGTTGATAATATCACTGGAA
TTAGAAACCATAACATAACTATAAACCCACCCCCTACCATCCCAAATATAAAATCTATTA
CCCCTAAAAAAGATAGTTTAAAATCATTACCCCATAAACCTGAAAAAATTAAAAGGCCAA
AAAATACTCCACCTATTAAGAAAATAGATTTAATATTTTGAATAAGATAAAATAAATAAT
TTTTATTCATGGCTTGCATCCCTGTTTCTCAGAATATCCCATAAGCTTACAACCATATTT
AATTCTAGATTTGTAATCTAACATATTAATTCCATCCTCTATTTTTTCCTCTCATCTAA
AGGATTTGGAATTATTGAAAATATCTTATTTGATGTTACCCCTTTAATCAATGACAAATA
ATCCTTCTCATTACTCAAATATTTTTGGTGAATAGGCTGTAATAACTTTTGCTCGCTTTT

```
CAACTGTTGAATATCCCACTCCCTAGGATTAGTTTTTTTATTGAACAAGTCTCTAAAATT
ATAAAATCCATTTACTATCAGTGCATTGCCTGACGCAGCCCTCCATTCATAAATTGGAGG
ATTACCAACAACTTTACCTGCCGCAAAAGTTATATAAGAAGCTTCTCCGTCTGCCCCTAA
CCCAGTTATAGCAGCACGCGATACAAAATCAGCTCCACCAAACCATCGTGCTTTTGAACC
CAAATTTTGCTCATAAAGATTGCTGGCAGCAAAGAAATCTGCACGATTGTCAATGGTGTT
GAAATACTTGTCAAATCTTGTAGATGCCCCTTGTGAGTTATATAAATAGCCAAAAACTTC
TTTGGCAACCCGTGATACATCCGTAGGCATATACTTCCACGCAGCAGGCATGGCAATATA
TTTAATAGACATATTAATGCCGTTTCTGCAACCATCGCCCAATGGGTTCCTAGAACAGAC
TTTTTGAATTTCCGTATCAATTACTTTGCTAAATTGTTCATCCTTTTTGATGGCATTTAC
TTTTTCCATCGTAGTAGAACAAGTTTTACCGGAAAGGCATTTTGTCAATTTATCCATTCT
TTCCTTGCTAAGCGCATTACTCTCTACCGCCACAGCAGCCGCATTCGCCGCAGCATTCAC
ATCCCCCTTACTCAACGCCGCAACCGTCCCTGCTGCCAGCTTCGCCTTAGCAATGATTTT
TGCCCGGTCTTTCACATTCAGGCTGCCCGGGTCTCTGCCGTCCAGCAGGGCTTCGCCGAG
GATTTCACCGACCGCCGCTCCTATCGCGCCATCCTGACACTTGCCCTTATTCGCCGCCGC
AGCCGCACAGCCCGCTATGGCATGGGCAATCTTGTGGGTAATGTAGTGCTGATCCAACTG
TTTGATTTTACTGGCTGCTTCTCCATGCGCAGTATTCACCAAAGCCGCAAGGATATTCGC
TTCCAGATTGTCTTTCAGGCTGCCGCCGTTGACAGCGGTATTAATCAGTGCGGCACTGCC
CGCATTGGCCAGGTTGACGGTCAGGTTGTTGATCCACTGCTTATCGCTGACATTGTTCAG
TGCCGAAGCACCGATTTTGTCGGCTACGCCTGCGGTAGCGACGGCAACCATCAGATTTTT
CACCGTGCTGCTTCTGCCCAGCTCTTTCAGGGTGTTACCGATATTGCCTTTGTTGTTGAT
GAGCGATACGGAAGCCTGGCTGGCCAGCGAGGCGAATGCGGCATCGGTTGCCGCTGCGGC
CGCGCCGTTTAAGCCCAGTGCGGCTCCGGCTCCCGCGCCCGCAGTAACCACGGTAACAGC
CAGCGCAATAATCGCTGCTCCGGCTCCGGTTAAGCCTTCCTGTTTATAGTCCCATTTGTC
GTACGCCAGTTGTACCTGGTTCCAGTTGACGTCTTTGGTGACTTGGAGCTGTTTCAAATA
GCAAGCGTAGGGGGTGTCTTCAGCACGCACGCATCGGGCAGTATATAGGGAATCTGAAT
ATTTACTTGCATAACAAATGCCGTCTGAAAAATTGTGAGCTTTTCAGACGGCATTGAGCC
GTAAATCATGGAACGCGTGCGTGCTGAAGCACACACCTTACGCATGGATTTTAGGTTTCA
TGCAGGCTACAGCTTGCTGCTATTCATCAAATTGCGGCCATTGAAAGTCTGTTGTTTTAC
TTTCACCTCTCAACAGTCTAATCATATCGCTTTTGAGAAACTCAAAAAAATTTTTAATAT
TACCAACATAGAGCATAGCTTCACATAGTGAACTACATGCAGATTTAATGTCTTCATTGT
CAATAGCATATTGATATTCCTTCATATGCTGAAAAAAAGAATCAAAGTCTTCTTCTAATT
CATCATTCCAATCAGATGAATAGTTAGAAAGCCATTGTAAGTCAAGAGGATCTTCACTAT
TCAATTTTTCAGTTGTGGCTTTCTCATAAAGATCAAATCCTTGTTTAATTCCTAACTCTC
TTAAACTTTCTTTTACTACATTAAAATTTTTCATCTGAATCACCTTATTTAAGATTCAAT
TTTCGCCCTTGCCCTGCTAATGTCTTAGCTTAATTTTGAGCGAGTTTTAGGTTTCATGCA
GACTACAGCTTACTCAGCACACACGAGTCTAAACAGTATACAGGGAATCTAAATATTTAC
TTTCATAACAAATGCCGTCTGAAAAAATTGAGCTTTTCAGACGGCATATGGCCGTAAATC
ATGGAACGCGTATACTGAAGCCCACACCTTATGCATGGGTTTTAGATTTCATGCAGGCTA
CAACTTGCTTTCTATTCATCAAGAGATGGCCATGAAAAACTATTCTTTTTATACTCAGCA
CTCAATAATGTTGATATATCAGTTTTTATTGAATCAAATATAAGAGATAGATTACCTGCG
TAAATCATAGCCATAAATAAAGAATTACTGGCAATTTTGAAATTTTTATCGTTTAGGGCT
AATTGGCATACTTCCATATAATCTAAAAAGTTTTTTAAATCCTCCTTAAATTCATTATCC
CAATTCCCGTCTGAAGTATAATCTTTAATCCATTTCATATTAGCTGTTTCATGATTAACT
TCTTCTGATACTTTTGGATCTGTCAAATCAAACCCTTGATAAAGCCCCACATTAATCAAG
ATTTTTTTTATATCATTCAATGTTTCCATAAAATTTCCTATTTTAAGTTTAATTTACGAC
CTTTTGCTGCCCCAGTTTTCATTTGGTTAAGCGAACCATCCATATTTAGAACAAACTTAA
AGTTCCCATTTTTATCAAAAACCTCTAAATGATTTTTATGTTGGCCATCTAAATAAAACC
TATCACCGGTTTTTAATAACCCTTGGTTTCTTTTTACCAAGAAGACAGACTGCCCTTGCT
GCGTCGGAAGCGTTGTCTTTTCTGAAATTTGAGCCAGCTGTTTTCCAAAAGGATTATTTT
TCATGTATGTACTCATATTCGGTACAGCACCTTTATTAGGGATATAAGGACGATTTTTTT
CTAAAACTTCCTTGACCTTTTGTGCCGCTTCCCCTTATTAGCGCGATTCAGCTCTGTTC
CGACGACAATATCAATAACGGCTTTGGCATCGTTCCAATCCAATGTTTCGTCGAATAAGG
TGGTCAGGTTGTCGGCTAAATTATAACCTTCGTCTTTCAACGTCTGTTTTAAATCTCTAA
CGTTGATTTTCCCGTTTTTTAATCCTTTTCTGGCTACCTTATAAACCACTTTTGCAGCAG
TTACAACAGCTTTAACCGCATTATTTTCTACCGCGTTTTGTGCGGTTTGTGCAGCAGTAT
TGACATCTCCTCCCGTTACGCCTGCAACTGTACCTGCCGCAAGTTTGGCATAGGCGGTAA
TTTTCTTAACTTCCAGATCTAATTGTTCCGGGGTCATATCGCTAAAATCGGTATTTTTAA
CCAAAGCCTCCCCGACAATCTCACCCACAGCCGCACCGATCGCGCCGTCCTGACATTTGC
CCTTATTCGCCGCTGCAGCCGCACAGCCCGCTACGGCATGAGCGATTTTGTGGGCGACAT
```

AGTGCTGATCCAGTCCTTTGATCTTACTCGCCGCCTCCCCATGCGCGGTATTCACCAATG
CCGCCAGGATATTTGCCTCCAGATTGTCTTTCAGGCTGCCGCCGTTAACAGCGGTGTTGA
TCAGCGCGGCACTGCCCGCATTGGCCAGGTTAACGTTGAGGTTGTTTACCCAAGGGGTTT
CGCTCCAAGTGGCAAGGGAAGAGGCACCGAGTTTGTTGGATACGCCTGCCGTTGCCGCCG
CTACAACCAGATTTTTTACCGTGCGGCTTCTGCCCAGTTCCTTCAGGGTTTTGCCGACAT
CGCCTTTATTGTTGATGAGCGATACGGAAGCCTGAGAAGCGAGTGAGGCAAAGGCGGCAT
CGGCCGCTGCTGCGGCTGCGCCGTTTAAGCCTAGTGCGGCTCCGACTCCCGCGCCCGCAG
TAACCACGGTAACAGCCAGCGCGATAATCGCTGCACCGGCTCTGGTTAAGCCTTCCTGCT
TATAGTCCCATTTATCGTAAGCCAGTTGCACCTGGTTCCAGTTGACGTTTTTCGCTACTT
GGAGCTGTTTCAGATAGGCATACTCGGGCTGTTTGGCCAGCTTTTCGATTTCGGTTTTCA
GATTGCCTTTGGGGATGTCGACAATGTAGCCGCCGGGAGCAGAGAGTACGGGCGCAACGG
AGCCTGTGAAACTTGGCAGTTGCAAGGTTTCGATATTGCTGCCGCGTCCGGCCTGTTTCT
GCCAGAGGGCAGATTTGCTACTGCTTACTGTTTCAGTGCGCACACTACTTTTGATGCCTT
CAAGAATAATCTTGGCATCTGCTCGTGCCTGATCGCCTACACCTGCACGGATGGCTGCGC
CGCCCAGCGTGGTTTCAAACTGGGTGCCTTGCAGTTTGGCGTCCCAGCCTGATTGCAGGT
TGGCCGATTCTGCAACTACCCTTGAGGGCAGGGCGGTTTTCATGGTGTGGGTGGTGGTGT
CGTGCACCTTGTCGTAGGTAATGCCGATAAATTTGCGCTTGGTACGGGTGTCAAGTTTGT
CGTAGTTGAGATCTTCCACGGCATAGAGAACCAGCCCACGTCCGGCTTCGATTTTAACGG
AGCCGCGGGGTGCATCAAACAAGGTGGCGTGGGCACCGATATTGCCGCCGGATTTGATTT
CAATACCTTGTGACGCACTGAGGCTCACCGGGTCGGCTTTGGCGTTTTTATGCTCTTTGA
TTTCAGTAACATGTTTTAGTTTGTACCACTTACCGGTTTTATAGCTGCGTTTATCGAAGG
TGTAGAGCTCACCCTGTCCGGCGTAGTAGAACTGGTCGCCGTAGGATTGCAGTTTGATTT
TGCCGTTTTCCGAACTGATATCCGTGGTGCTCAGCAGGATGCGGCTGTTTTCATTGGCAT
ACGGCGCGCTAATGCTCACACCGGTTTTACCCGAAAGTTCTGCAGCAAGCGTAGGAGGTG
TCTTCAGCACGCACGCGTCTGAACAGTATACAGAGAATCTGAATATTTACTTGCATAACA
AATGCCGTCTGAAAAATTGTGAGCTTTTCAGACGGCATTGAGCCGTAAATCATGGAACGC
GTGCGCGCTGAAGCACACACCTTACGCATGGATTTTAGGTTTCATGCAGGCTACAGCTTG
CTTCCATAAATCATTTTTATCAGAGCTCGTAGGTACGGTTAGCCGCCTTTAGCGGCGTAA
CCGTACGAATGAAATGCCAAGTTGCAAGGCCGTCTGAAAAAGTTGAAAAACAGATTTCAG
ACGGCCTTGTTATTTTATAAAGTTTGCTGATATGCGTACGGTTACGCCGCTAAAGGCGGC
TAACCATACCTACGCTTGCTCATAAATATCAATATTCGGCAAATCGGCCAAATCTATTGG
ACACGCAATATCCCACCAAAGCCATTCTAAGTAATACCAAGGGTCTTCAGGCCATATTGC
TTGGGCATCTTCCAAAGTAGGCCATATGTCTTTCAATTTCTGCACTTGTTCTTTTGAAGT
TCCAGTTAGAGGAATTCCGATACCGTCGGTATAATCATGTAAACGGATTGAACCGTCATT
TAACAGTTCTTCCATAAAGAACAGAAATTGTTTTTTAAGTTTTCATCTTGAATATTAAT
ACCCATTTGATTTTTATAAGAGTTAAAAATTGAGGATAAATCGATTTGAAAATCAAGAAT
CTTAATTTTTTGTTTCTCATCCACGGTAAAATCCTTTGTAAATTATTGGAATTTAAGCTC
CAATTTAGTACCTTTAATAAATGATGGAGGATTCTGCAAATCTAATGTCCATCGTGCTTG
AGTTGAATTCTCTGTTTTTGAAAAATTTCTTAATGCAATTTTTGTTCCTGCCCATTCTCC
AGTACTGATAATGCCATTTGCTAATCTTCCGTCAGGCAAAACTCTAAAATTCGGATTCTG
GCCAGTCATCTGCCGATAAAGCGCAAAAATCTCCTGTTCGCTTACGCCGCTGTAAACGGG
TGCTCCCTTTAAGCTTATGGCTTGTACAGGTTTGATGGTTTTTCCGTTAATGGTTATCGG
AATATTACTTGCATCAAGCAAGCCTGCTCCTTTCCTTACTCTATTGTTAAATCCCGTCTT
CCATGCATCCAGTTGCGTATCGCGTTGGGCAATACGGAATAAAATCTGCTGTTCTGCTTT
GGCTAAATTTGCCAAATTGTTTATTGTTTCTTTAGGAGCAGCTTGCTTAGCCGCCTTCGC
TTTCGACAACGCCCCCACAGGCGCTTCCCAAGCGTTGCCTACCGTTACCGCACCCGTGGC
GATTCCCGCGCCCGCTTCGGCAGCCTGAGTGACCATGACAGTACAACCAGAAGGATTAGC
CATGCAGGTGCTGATAGCTAATTTACCCGCTGTACCGATCAGCGGAGCTGTCCAACCTGC
AGCATAAACCCCATAGCTGGTAATCACAATCGGGCCTGTGATGCCATTACGGATATTGCT
TATCCAAATGGCAGCATCCTTATCCTGCGGATTAGTCATCGCACCTGCTGCATGTGCAGG
CATAATACCTTGGATAATTTTTTCCAGTGCGGTTTTGTCGGGCTTCTGCGGTTGATGCTT
TTTCGCATTGGTAGGGGTACTGTCAAAATTCAAAGCATTATTCACTACCGCCACCTCAGC
CGCATTCGCCGCAGTATTCACATCGCCGCCGTTGAGTGCCGCCACGCTGCCGGCAATAAT
CTTCGAGTAACTGATAACCTTATGCTTTTCCGCATCGCTGAGTGTAGCAGGGTTTCTGCC
GCCAAGCATGGAGTCGGCTACGATTTCCCCAACTGCTGCGCCAATTGCCCCGTCTTTACA
TTTTCCTTGTACCAATCCGCTAACACACCAGCCAAAGCGTGGGCGAACTGTTTGGCAAC
ATAATCGTCGCTGAAGGTTGTTTTGATTTTGCTGGCGGCTTCTCCTTGGAAGCTATTAAC
CAATGCTCCTAATGCGGCATTGCCTAAGTTGTCTTTCAGGCTGCCGCCGTTGACGGCGGT
ATTGATACCAGCTGAGATACCTGCATTACTGAGATTGGTAGCCAGTCTGCCTCCAAGGTT

```
GGCAATAGTTTGATTGCCCGTACTGCTGAACAGTTCGGTTCTTACCTTGCTGTTCAATTG
GGCAATATCTGCGCCCATCTGATTTAATGCACCCGCCGTCAGGGCAGAAGTGACAATCTG
CTTGACCGTATCACTGGTGCCGAGATCTTTCAACGCTTTGCCGACATCACCTTTATTATT
GATGATGGATACAGCTGCTTGGCTATACAAGGAGGCTAAAGCAGCGGTTTGCATGGCAGT
CGCTGTAGAAACGGTAGTAGCTGCTGCTGTCGTTGTGGCGGCTGTTCCGGCAGCTGCGGC
TGTACTACTTCCTGAAGCGGCTACACCGCCCGCTGCGGTTGCGCCGTATCCATAAGTCAG
TGCGGTTACGATTATGGTAACAATCGCTGCACCGGCTCTGGTTAAGCCTTCCTGCTTATA
GTCCCATTTATCGTAAGCCAGTTGCACCTGGTTCCAGTTGACGTTTTTCGCTACTTGGAG
CTGTTTCAGATAGGCATACTCGGGCTGTTTGGCCAGCTTTTCGATTTCGGTTTTCAAATT
GCCTTTCGGAATGTCGACGATATAGCCACCGGGGGCGGTCAGTTTGGGCGGAGTAGGGCT
TTCGAAGCTGGGCAGTTTCAGCGTTTCGATAGTGCTGCCGCGTCCGGCCTGTTTCTGCCA
TACGGTTGAGTTGGTTTCTAATTTTTCTTCCGACTGGATACGGTTCACAATGCCTTTGAG
GATAATTTTCGCATCGGCACGGGCTTTTTCGCCTACACCTGCCTGAATGTCCGCACCGGC
CAGCGTGGTTTTGAATTCGGTACCTTCGAGCACGGTATCCCAGCCTGAACGGGTGGCTGC
AGTTTGGGCGACGACGCGGACAGGCAATTTGGTTTCGTTCAGTTCGTTTTTACTGTAATT
GCTCTTGCCTACCTTGATGCCGATAAAGCGGCGGCTTTTTTGGACATCCAACTCGTGCTT
GTGGATGCCTTCTTCTGCCAGCAGTTGCAGCTCTTCACCCGCAACCAGGGTAACTTTACC
TGCAGGGGCATTGAAGCGGGTGGTATTAGCTTCGATGTTGCCGCCTGCCTGAAGCGTTAT
GCCGTTGGCGGTCAGCTCGACGGGGGCTGGCATAATCAGGTGGTCGCGGGTGCTGGTAAA
CTTGGTTTTTCTGATGATTTTGCCGCTTTTACCTTTGGTTTTTAAGAAGGTATAGGCATC
GTTTTGTCCAGCCTCCAGTACAATATCACTATGGGCTTTGATGTCTATGCTGCCTGAGGG
AGCTTTGATTTCGGATGCACCGATAATAATACGTGCATCATCGAGTGCCGCAGCTGCATG
AATACTTACCCCTGTACGTCCGGTCAAACGTGAAGGCTTGTTCAGAGCAGCTTTGTCGTA
GTGACTCTTGTAGGTGGGCTTGCCAATTTCATATTGGTCGGTTATGCCGTCAATCAGAAT
AGCAGCCGCCTCTGAATCTGCTGCCTTTGGCAATACGCCTGCGGCGTGAAGGTTCAGTTT
TTTGGAAGCGGTAATATCGGAACCGCTGATTTCGATGCCTTGTGCGGAAATCAAGTCAAT
ATTTTGTGCAGAAAGCTTGGCTTGCAGGTATTCTTTGCCTTTGGGTTTTTTACCTTTAAC
TTCCTTGTTGATGGCTTGAATATAGAAAGCGAGACGGTCGCGTTCTTCTTGCAGGGTTGG
AATCAGCTTGCTTTTAGGCGAGCTTTTTTTCAACTGCGCAATCTGCTGTTCCAATTCTTT
GGATTTTGGTTGAGTTCAGCCGCTTTTTGTGTAGGAAATAATTGCTGAATGAGTTGTT
TACGGCTTCGATATTCAACTTGCCTTTGGTGGTGGCGACAACCAAGTTTTTACCGGCTGT
AATTTTAGAACCTCTTAAATCTGTTTCTCCTGTAACCAGACGGATATTGCCTTTTGCTTC
CAATGAGGAAACTTGAGCACTAGGCGCACCTGCATTCCTCCTTTTGCAGACAACAGCAA
TTTTCCGCCTGTTTTGATGCTCAGGTCGGTATGCGCACTGATGCGGTTGGCAGGTTCGAT
GGTTAATGTGCCGCTACCTGCTTCAATATTCAGCCGTCCGGCCAATGGTTTTAATTCGGC
ATTATCTTCCAAAGTTTTGGTCGAAACGGTACTCCAATTGATGTTGCCGCGCTTGACTAG
GGCGGTACCGGCAGTAAGGTTGATTGCACCCGCTCTCAGCGTGGTGTTGTCGGCAATTTG
GGAATAGCGCGCATTGAGTGCCAATACACCGTTAGCCACCAGCTTGTTGGCAGAAGGCAG
TTTGTCGTTTTGCCAAATCTGGCTGCCGGTAATGCTTAGATGACGGTGTGCGTAGGCATC
TACTTGGTTGAGCGTTACCCGCTCGTGTTGTGCATTAAGATGCGTATTATGGGTAGACTC
CAGCTTGGTATTTTCTATGCTCAATGCCCGGTCGGAATGAATGTTCAATGCCCCGCTTTT
GGCATGGACGTTAAGGTTTTTTAAGTCGGCATTACCACCGTTGTTTTTGATGCTGATGTG
TTTTCCGTTGATTGAATTGCGTTGTTTTCCGTCACCAAGCTGAATACCGTTGCCGGCAAC
CAACGTAATATCTCCTGAAGATGAAGTGATATTGGTATTGTCTGCTTTCAGACGGCCTTT
ACCAACCGATCCTGCATTGACATCGGCCTTGGCTGTCAGGGTATTGTGACCGGTAAAGTC
GGCATTACCGTTGGCCAATAAGGATACATGACCGTCTGCAGAAACAGCATGAAGGCCGTC
TGAAACGATATTGCCCTGCAATGCGGTGGTTTCGAGAGCCTTGGCTGCGTTCAGCTTGGT
ATTGCGAAGCTGAATATTGCCTTTGGCTGCCTGAATGTGCAGATTACCCGAGTTGGTACG
CAGATTGGTATTGGTAACATTCAGCGAGCCTGCCTCCACACCATGTCTTTTGAGGCAGT
GAGGGTTTTACTGGTGCCGGTAATATGGGCAGCGTTATCCGATTTCAAATGGATGCTGGC
GGCAGACAAATCTTTATCAACATTCAAATTCAGATCTTTACCTGTATGAACATACAGATT
GCCGGGAGTATTCAGATTGGTAGTTTTGGCAGTAATGTTATCGTCTGCCAGTAAAGCAAG
CTGCTTGCCGCCCTTGATACTGCCTCCGTTTAAGCGGATATCGGAGGTAACTGTTGAAGC
TTCCAAAGAAAGCGGTTTGCCTGCTTCGATGTGTGCGGTGTCTTTGGCATCTATTACGGC
GGAACTGCTGATGGTGCCGTTGGATAATACGGTAACATCTGCCCCGGTAATGCGTGTGTT
ATTGCCTAATTCGGCGTTGCCTTTGCTGGAACTGTATACGGTAGTGCCAGTCTGAATACT
GGCCTCCTTGATGACGGTACGGCCGTCGGCCGACAGAGTAGCCGGGCCTTTGGCATTGTT
CACATTAGTTTTGCTCTCAATCACCAAATTATGACCAGCATTTAATACCGTGGTAGCTGG
GCGACTGCCGTTATTCTGCACCACGGCTCCGTTACGCAAGCTGATATCTTCTCCCGTCTC
```

AATAACCAATAAGCCTTTGCTCTCGATCCGACCACCATTGGAGATAAATGTGCCTGCCGC
TCCTTTTTCGGTGGTTTCGATGGAGAGATAAGTCGGTGAAGCTTCGGTGCCGTCGGCAGT
GGTGGCGATGCGGCCGCTGTTTTCAATGCGGCCTGACGAAGTCACAATCAATTGCTTGGC
CGCTTCGAGTGTGCCGGCATTTTTGACGCCTACGCCTTTTTCATTGGCAATCAGTGTGAT
GCTGTCGGCGTACATACCGCCCAGTGCGGCAGTATCAAGGGCAATAGTCGGTTTCGTACC
CGCTGCCGTACCTGCACTGATTTCGCCGCTGGCGTAATCTACTTTCTGAGGACCGGTAGA
AACCGCCAGGTTTTTACCCTGTAATTTCCCCTGCAAAGCAACTGCACGAGCAAGTACCCC
GGTGTAGTCGGCTCCGCCTTTATCATTCCAACCTGCTGCTCCTACGGTCAATGTGCCTTG
ACGCACATCAAATCCTGTCAGTGCACCGTCTTTGCCGATTTGGGGCGCACCGGTAGTTAA
GATGCCCCGACCGACATTTTTAAAGCCGCCGCCATTAACGGTAATGCCGTTGGGGTTGGC
AATAATCACGTCGGCCTTTTGACCGCCTACGGTAACGATGCCGTTGAGTTTGCTAGCCGT
ACCGCGTACCTCGTTCAAAATCAATTGCGCACTGCCTTTGACCACAAACGGATTATTGTT
ACGGTCGTTGTTTAACACTGCCCCTTTGTTGTCAACATCAAACTGCGTATAGCGGTTGTG
GCTCAATCCGCGTCCATTCGGAGTTTGGATATTCACCAAGGGGGCACCAGTGTTGGTTTT
AAGGATAACGACCTGCTGGTTTTTAGGTGCTGATTGTCGGTGGTAATTTGGGCATGGGC
AGGCAATACCATACTCAGGGAAACCAAAGAGCAGACCAAAGTTTTAAGGGTGGTTTTGAG
TTTGCCGCAAAGGTCGCCTGAAGTTTTCAGTGAAACAGAAACCGAACTGCCTGCCTGTTT
ACCTTTGCCCTGGCTGTTGGCAGTTTCGGCTACTGCAACCATGGTGCTGTGCTTTTTACT
AAAGATAATGCGATGTAAACCTTTATTCATGTCTATTCCATTTTGAAGATGAACGTACTG
CGCGCCAAGTACGTAGGTAAAGTTTGACGGTCTGAGGATAAGGAAAGACCGTCTAAATAT
CAGTAAAAAATTCAGAGGTTAGAAACTGTAATTCAAGTTGAAGCCGTAAACGGTGTTGGT
CGTCTGAAAGCCTTTGGGTTTATGAAGCGGCTTGCCGGCAAACAGATCATAAGCAAACAT
ACCGCCTACTTTATGCCCTCCTCTGAAGCCGACCACTGCACCCATCAGCTGCTTGCCCGA
TACATATTGTGCACTTTCGCCAGATACGCGGCCATAGTCCGCACCGAGATAGAACTGATG
GTTCGGATGAAAATACCAAGTTAAAGTATTCTGCCAGTAGAAACCTCGCTCTCCGAAAAG
ACTCTGCTCCCCATCAAATCCGCGAACGGTGTAGCGGCTGCCGATTGACAATTTATCTTG
GGCAACCAACGGCGTTTTGTTCCATTGAGCTTGAATGGCGGTTGCGTAGAAAAACTGCTG
TTTGCCTAAAATAAATGGGGCGGCTGCGTCCAAACTGGCAGTAATGATTTTCATACGAGA
TGTACCTGGAAGAATATCGCCGCCGTTTTCTTCCGGTGCAGGCATACTTTGGCGCATGCC
GGTCCCGCGTTTGTAAGACAACTTGCCGTCAAGCTGCCAACGGTTGAGGTAAGCACGGTG
GCGCAATTCGGCTTCCCAGCCTGCAGAGCGGCGGCGTTGTACTTCGATTTCGGCATCGTC
GATGTATTTATAGGTTTGGCGTGTCCATAATTTCATTCCGACTGAAGTTTTATGAAGTCT
GTTACGCCAAAGCATGCGCTCGGCGGCCAGGCTGCTCTGATATTGTTTGCCGTTGTAATC
GTAATTGACGGAATAGCCTTCGGTTGCTTCGTGGTAACGATGTCCATTGTGATTAAAAGA
AAACAGCCATTTTTTTACGGGCACCGAATAATGCACGCTGTAACTTCTGGATCCGCTTTC
AGTTTCCGTACCGGTGGCATCAGTCAAGTCCGTTTTGTGCGCCAAACCGCGTCCATATGA
AACATAAAACAAATCGCTTAAGCCCAAAGGGTTATCGAACGATAAAGCGACATTTCCTTG
ATATTTGCCGGTCGTTTTGCCGCCCGCATCATCTATACCGATACTGAACCGTATGGGTTT
ATTCTGCTGCCATTTGATCTGTAAATCGCTTTTGCCTTCTTCTTCGGACGGTATAATCTG
AATATCTGTTTTAACACTCGGCAAACGACGCAGGTTTTCCAAGCCCTGCTCTACATCGCG
AAGATTGAGAATTTTGTTCCTATATAAGGGAAATTTGTTATTGAATGCACTAATACTGCC
CTCGGCAGACTTCCCATCCCGTTTTTCTTCATAGCGGATATCCCCTATTTCGCCTGCTGA
TACCCGTAATTTCAGAATTCCCGAATCCATATTCTGTGGTTGGATAATAGCTTGGGAAGT
GAGGTAGCCACGCACGATCAGTATCTGTTGCGCGGCTTTTTGTAGCCTGCTCAAATTATT
GGAACCTAAACACATCCCAGTTTTAAAAGCTGTTTCTTTCATGAGCACAGAAGGAAGAAA
AGAAAATTTGCGCACCGTCTTATCATCTAAACTAATGTAATTTACCCGAGTACACGGTGT
TTCATCTTCACTCAGGACATAATTGTTCTTCTCCAATGGTTGCTCGAAACGGACATTTGC
ATCAGTTAACAATTCAGCATCTATGTGCTGCTGACGCTGCATGGAACGGATAAGTTCTGC
ATCGTTTTCATCGGCAGCTAAGGTTTTAAGGGGTATGACAGCCAGGATAACCAACAGACA
TGGAGCAGGAAAAAATTTCATGACATCAATATTATTTTAGCAATATTTACTATTTTGTCA
TAAATTTAAAAGTATTTACAGTTATAGAATGAGACCTTTGCAAAATTCCCCAAAATTCCC
ACCAAGACATTTAGGGGATTTTGGGGAATTTTGCAAAGGTCTCGGACAGTATTTTGAACG
CAGTGCGCGTAAATTCGTATGGAAACCATGAAATCCCGCCACAGCCGCCAGACATGCCAA
GCCGCATTCTGATATTTCTGTTTGCAGGATAACAGGCAGCTTTTTCTTTAAGCCCAAAGA
CAGGTTTTGCAGATGGGGCATAGATTTCCTTTTTGAAAAATAGGGATTAGGAAGTTGGAT
GTATTTTAGAAAGGCCGCCTGAAAAGGTTTCAGACGACCTTTTGCGACTAGCTGCTATTT
TATTTAAAGCTTTTCTCTAACAAACGAGCTAATATTTTTCCTGTAATAAAACAGATAAAA
AACAGCATCCAATACGTCAGATTGGAAAAATCGGTCGTATAGAGAATCAACATATAAAGA
AGCAGCATGATGCCGAGTGCGATGAATTGATAATGTTTGGCAAACATCATGACCTCCTCA

ACTATTAAGGCAAACCGCCTGAATATTCTCGTTCAATCGTTTCGGCAATTTCCCTATAAC
GTCGATACCATGACCAGTCGAAATTTTCAATGGCATGGCTCGCAAACGTACCAAATTCAG
GCATCCCTATGCGGCTACCTGCTAAAGCTCCGATTGTAGCTCCCCAACCAGGCGGATTAC
TGAACGTATTGTTTGGCAATCCTAAAGATTTATCAGGATTTCCCGTATCGTTAAGCCCTG
CAGATTCGCAAATTTCGCAATAATATGAGCTTTGTTGCGCATTACCTGAGCCTCCGACCC
AAGTCATTTCATGAACACATATAGTGGATTAAATTTAAATCAGGACAAGGCGACGAAGCC
GCAGACAGTACAAATGGTACGGCAAGGCGAGGCAACGCTGTACTGGTTTAAATTTAATCC
ACTATAAAACTCTCATTTTGAAACTCCTTGTATCGTTAATCAAACAATCAAAAGGGCAGA
TGCCCTATCCTTGCTTTTACAAACGGAGTGCCTGTAAAAGGGGATGGTTTCAGGCAGTTT
TGAAGTTTGTGTTTTTATATATTGTCTTCTGGTCGTCTGAAAAGGTTTCAGACAACTTCT
TTATCTTTACAGCCTCAAGTCTTACAGTTTGCCCGACATACTATAAATCAGCTCCAATAC
CCATTCGTACAATCACCGTTTCTCGTGTAGGATGTCTGCTTCCAACGTCATGCCGATTTG
CAGCGGTTTTTCCTCACCGTATGCAGTGATGGTTGATTTGTCGGGTTTTATTTTCACAAG
ATAAACAGGTTCGTTGCTCTTCGCCAAATCGGAGGATACCATGCCCAATCCCGACAATTC
CTGTCTGCCCAGTGCCGTTTTTGCTACTGATACGACACTGCCGGAAGCAAGCCCGAATTT
TTGATAGGGATATGCCTGATAACGTAGGACAACCTTGTCTTTCGGCTTGATAAAGCCTGC
TGCACTGCTGGGGATATATAGATGGGCATATAGCTCGGTACGTTCGGGAACAATGCTCAA
GAGCAGTTTGGAAGGATCAACCTGCTGTCCGACTTCGACGTTCGGTATTGCTATATAACC
CGACCGTCCTGCACGGATGATTTGTTCAGAGCGCATTTCAAAATCCAAAACTTCTTGAGA
AATATCGGCAATGGTGCGTTCAAGCCAGCTTTGTTCTGTCTCATGCCGCTTGGGGGGAGGC
TGGCCAATGTCAGATTCTGCGTGCGGATTTCCTGAAGCAGCCCGACTTCTTCTCGGCGGT
AGGCATCAAGTTTGGCTTTCTGCTCTAAAAGCTCTGCCTTGACATTCATCATTTCTTGTT
TTGGCACTGCATCATTGGCGGATAGGAAACGATATTTCTGCAACATTTCTTCCGCAAGTC
TAATGCGCCTTTTCTGACCGTCTATCTGTTGCGAAATATGGAGTTCCTGGTTTTCCAAAC
GTTCGACAGTTGCTTTAAGGCTGCGCGTTTCATTCCCGTGTATCAGCTTCAGACGACCCA
GTTCCTGTTCTGCCAACGTTTTCTTCAAAACTGCCTCCGTTTTCAACTGCTGCTGCACGC
TACCTCCTGCGCCGAAACGTGAGGTCGAAAGCGCAAATAGCTTGTCGCCAGCCTTAACCT
TTTCTCCATCTTCCACGAATTTCGCTGTAATTGTCCCCGTATCCGGTGCATACACCCTGA
TTACGCCCGATGCAGGTAAAATTTGTCCCTCCACTGTTGTCTTTCGCGTATAGTTACCAA
ATATCAAAAACAGGATAATCAATAACGCAGATATCGATGCAAATGTCGTCCATAGGGAAA
ATGACAACGGTCGTGTCAGAATCACTTTACCCGTCAGGCTGGTTTGGCGGGCAACGGCGA
CTTCGGGACGGAAGAAGGGTTGCTTGGGTCTATTCATAAAATTGAAGTTAAGAAAGTTTC
AGACGACCCCTAGAGATTGTCTGGACGATGAGAAATATCAGCAGTAATCTGTACCGTCAG
TGTAGCCGTTTCCTGATTTATCTGCTTTTGTTGCGGGAGCAGTTAATCCATGTTCAATCT
CAAAGATTGGTCTTCCGTTATAAGGAGGTGCATTAACGGCATCATTTACCCAATTACGAG
TCACATTGTATACACCATTTGCACCAGCAGCACCGTAAGCATTTTTCGGCAGATAATAAA
CTGCCGCTGCGGCAGCAGGTATTGCAACCAAATCCCCCCATGTGGGACCTCCTTTGGTTG
TGGCAGCATTAGCTACATTTCCAGCTATATTGTCTGTTACAGGACCTCCCCCTGAAACCA
GCTTCAATTCATGAAGTTGAAGTTCAATCATTTTTATACTCCTTTTCTTGGTTGGTATTC
CTAAAAATTCGGCTAACAAAAACATATGGCAGATATATTGAAAAAAAATTCAAAGTACCC
TGAATAAAATTCAAATTCCAACTATATTTGTTAATGTAGTCGAGAAGAAACATATCTGAT
AAAAAATATAGCACTTGATAACAAGCTATTACTAATATTACGAAAAATGTAAATTGCTTC
CAGTTTTTCATAGAATCCCTCACAAAATTTCCAGAAAATCTAACTCTATCAACTGATAAA
TCAACTTCCTAACTTCTTCATATTTTCCCTGATTGAAGTTAACCAGTAGATTTTTCAACA
ATAACGGTTCATTCTTACCGATGTGTTCTAACACTTTTTTCCCCAACTCATCTACGCTTA
TCTTCATCCCATTCCCAATCAAATATCCCTTTTCCAACGTATCCAAATTATTGGCATTTA
ATCTCAACCTGACGTCGTCTGAAAGCGGAGTAGCGTTGGGATTCGCGAACTGTTCGAGAT
GAAAAGCGGTATCGGTACGTTCTTTGCCGAGAAAGTCTTCACTGAAGGCTTCATAATTGA
CGGGGTCGGCAATCATGGCAGCAATTTGTGCGGCAGTATCGTTGATACGCGTCCTATCTT
GCTCCCAGTCTGAGAAACTGTGGCGCAGACTTTCTATGGTGGGAAATTTCTTCATTAGCC
ACTCGAGGTAATTATAGCCGTTGGGTGGAAAGGTACCGACAGCGAAGTGGAAGGTTTCAC
AGCCGAGCGGGATAGGTCTGTGCCACCAACCGCGTGGGATGTAGAGGACATCACCTGCTT
CAAGGATAATATCCATATCGATATGTTCAGGAATGGAAATATCAGTATCTTTAGTCTGTT
GCATATACAATGGCATAGGGAAATCAGGGCAGTAAGTTGCCAACGTTTCTTGCCGAAAA
GCTGGATGGCATACACATCGCGGGGGTCCCAATGGTTTTTATAAGATTCGTCGCTGCCAA
AAGCAAGATATCCACTAACAATAGTATGTGCGCCGGCAAAGCGGGCGACTTGACGGGCGA
TATGGTCTGAAAACGGCTCGTTGTTAATATGGTTATAGACTAACGACGCACCATTCTTCA
TATGTTCGTAGATAACGGATTTAATAAAACGGTAGCGAGTTTGCCCAAATCGTCGAAAC
TTTCGACGTATTCTTCTTTAGGAACGATTGCGCCTTTTTTACGCAGATGAAACAGCGGTG

CGGTTGGGTCTGCTCGTTGGTATATCTCGTTGATATCTTTCCAAGATGCGGATTCGAGAT
TCCGAACCGCTCCTTTAAAGAGCTTGGGCTTTTGATACAGATAAGTCTGTCGGAACGTTT
TAGGACTAATGCCGAAGTCGAGATGGATGCTCATTACTTCCCCTTACTCAGAAAATATTT
AAAATTTATAATGTTACATATATTTACAAATATTAAAGTTTTTTTTGTGTGTGCGTCAA
GGAATTGTTGACAATTTTAGTTAAAAATTTGTCTCCAAACGGAAAAAAGCGGTTTGTTTT
TTGTTGTTAACATTTTTATTGTAATTAAATAAAAGGTCGTCTGAAAACGGTTTTCAGACG
ACCTTTTGCTATAATCGGGCTTCATCGCCCCGTTCGGTTTGGAACCTTATGAAAACCCTC
GTCCTCCTCCTGCTTTCCTTCTCCACGACCACCGCTTTCGCCGCATACGGTTTGGGTTTG
GGGCAGGCACCGAAATATCCTGCCGGCTTTCGCGCCTACGGTTATGTTTATTCCGGACGG
CAGGGCTAGGTTTTAAAAACAGAGGCGGATGCCATTAAATTAGACACGCTTTTCAAACGC
TTTGTGTACCGTCCTTCCGCCGCCAATCAAAACCCCGTCGGACAGCGTTCGGACGGCATA
CCCGCCAACCACACAAAGGAAAAACCATGAGTAAAAAAATCAAAGTCGGCATTGTCGGCG
CGACGGGCTACACCGGCGTGGAACTGCTGCGCCTGCTTGCCGCCCATCCCGATGTCGAAG
TCGCCGCCGTAACCAGCCGCAGCGAAGCGGGAACCGCAGTTGCCGATTACTTTCCGAGTT
TGCGCGGCGTGTACGGCCTCGCCTTCCAAACGCCCGACGAGGCAGGTTTGGAACAATGCG
ACATCGTCTTCTTCGCCACGCCCAACGGCATCGCCATGAAAGACGCGCCGCGCCTGATTG
AACAGGGCGTGCGCGTCATCGACCTTTCCGCCGACTTCCGCATACGGGACATTCCGACCT
GGGAACACTGGTACGGCATGACCCACGCCGCCCCCGACCTCGTTTCCCAAGCCGTGTACG
GATTGAGCGAACTCAACCGCGAAGCCGTCGCACAGGCGCGCCTCGTCGCCCAACCCCGGCT
GCTACCCGACCTGCGTATCCCTACCGCTCGTGCCGCTGTTGCGGCAATGCCGTCTGAAGC
CCGGTATGCCGCTGATTGCCGACTGCAAATCCGGTGTGTCCGGCGCGGGCAGGAAAGGCA
ATGTCGGTTCGCTGTTGTGCGAAGCCGGCGACAACTTCAAAGCCTACGGCATAGCCGGAC
ACCGCCACCTGCCCGAAATCAGGCAGACCATCGCCGGGCTTCAGGACGGCATCGCCGAAG
GATTCGTGTTCACGCCGCACCTCGCGCCAATGATACGCGGTATGCACGCCACCGTTTACC
TCCACCTTTCAGACGGCAGCGACCCCGAAACCGTCCTGCGCGACTACTACCGCGACAGCC
CGTTCGTGGACATCCTGCCGACCGGTTCCGCCCCCGAAACCCGCAGCGTGCGCGGCGCAA
ACCTCTGCCGCATCAGCATCCAACAGGCGGCGCAATCCGATGTGTGGGTCGTCCTTTCCG
TCATCGACAACCTCGTCAAAGGCGCGGCGGGTCAGGCAGTCCAAAATATGAACATTATGT
TCGGACTGGAGGAAACACACGGCTTGGACGCAATCCCCCTGCTCCCCTGAAGCGCAAACA
GCAAACCGCAGGCATCGTGCCTGCGGTTTTTGATGCCGTCTGAAAGCGACGTTTTTTTGG
GTTCGGACGGCTTTTGACCCATCCATTCACACGAAAACAAAAATCTAAAATACCGTCATT
CCCGCAAAAGCGGGAATCTAGTTTATCCAGCTTCAGCAATTTCCGACACATTTCCACACG
CTTCGATTCCGTCATTTCTCCGGTTTCAGTCATTGCCGATAACACCGTGGTTTTTCATTT
CTAGATTCCCGCCTGCGCGGGAATGACGGCGGAGGGCTTGCCGTTTTTCCCGGTAAATAC
CTGCAATTTAAAATCCCATCATTGCCGTGAAAACAAACCAAAAACCTAAAATCCCATCAT
TGCCGCGAAAACAAACCAAAAACCTAAAATCCCGTCATTCCCGCAAAAGCGGGAATCTAG
TTTATCCGGCTTCAGCGATTTCCGACACATTTCCGTACGCTTCAATTTCGTCATTTCTCC
GGTTTCAGTCATTGCCGATAACACCGTGGTTTTTCATTTCTAGATTCCCGCCTGCGCGGG
AATGACGGCGGAGGGCTTGCCGTTTTTCCCGGTAAATACCTGCAATTTAAAATCCCATCA
TTGCCGTGAAAACAAACCAAAAACCTAAAATCCCGTCATTCCCGCAAAAGCGGGAATCTA
GTTTATCCGGCTTCAGCGATTTCCGACACATTTCCGCACGCTTCAATTTCGTCATTTCTC
CGGTTTCAGTCATTGCCGATAACACCGTGGTTTTTTATTTCTAGATTCCCGCCTGCGCGG
GAATGACGGCGGAGGGCTTGCCGTTTTTCCTGGTAAGTCTCTGCGGCTTCTCATTGCCGG
TTTCCGCCTACTTGGGAATGACGTGATTTAAAATCATGAAAATGTGTCAAAAATAATATA
GTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTGTCGTACTATCTGTACTGTCTG
CGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATAAAAATCAGATTTCCGTTAC
ACTTTTTTCCAATATTTCAGACGGCATTTTGCTCACACGCCCAAATACCCTTCCCTGCCG
GAAAGCCACCTTGCCAAATGCGCTTCGACGATTTCGGGGTTTGTTCAATCAGCATCGGG
GCGGTTTCGCGCGCTTGTTCCAAGAGGTGCAGGTCTTCTTCGAGCTTGGCGAAACGCAGC
ATAGGCACGCCGCTTTGGCGCGCGCCGAGAAATTCGCCGGGGCCGCGGATGTTGAGGTCT
TGGCGGGCGATTTCAAAGCCGTCGGTGTGTTCGTAGATGACTTTCAGCCGCGCTTTGGCG
AGTTCGCCCAAGGGTTCGGCAAACAGGAGGACGCACACGCTTTCTGCCGCGCCGCGCCCG
ACCCGACCGCGTAATTGGTGCAGCTGCGCCAAGCCCATGCGCTCGGCGTGTTCGATGACC
ATCAGGGCGGCATTGGGCACATCTACGCCGACTTCGATGACGGTGGTGGCGACCAAGACG
TTCAGCCCCCCCGAAGAAAACCGCGCCATCACTTCGGCCTTTTCGGCGGCCTTCATGCGC
CCGTGTACCAGTCCGATATTGAGTTCGGGCAATGCCGTCTGAAGCCGGGCGAGGGTTTCG
GCGGCGGTTTGCAGTTGCAGGGTTTCGCTTTCTTCAATCAATGGGCAGACCCAATACGCC
TGCCGCCCTTTTCGGCAAGTGCCGAGGACGAAGCCTTCGACTTCGGCGCGGCGGACGTTG
TTGACGAGGCGCGTTTTAATCGGTGTGCGCCCGGGCGGCAATTCGTCGATGACGGACACG

```
TCCAAATCGGCGAAAAAACTCATCGCAAGCGTGCGCGGGATGGGCGTGGCGGACATCATC
AGCTGATGGACTTCGCGCCCTTTGTTTTTGAGGGCGAGGCGTTGGGCAACGCCGAAACGG
TGCTGTTCGTCCACAATGGTCAAGCCCAAATTGTGAAACGCCACGCCGTCTGAAAACAGG
GCGTGCGTGCCGACGGCGATTTTGACGCTGCCGTCGGCGAGTTTGGCTTTGGCTTCGTCT
TTGGCTTTTTTACGCAAACTGCCAAAAAGGCGGACAACTTCAATGCCCAAAGGTTCGAGC
CATTGTTTAAATTTAATAAAATGTTGTTCGGCAAGGATTTCAGTGGGCGCCATTACAGCC
ACCTGCGCACCGGATTCGATAGCCGTCAAAGCAGACAAAGCAGCCACAATGGTTTTGCCG
CTGCCGACATCGCCCTGCAGCAGGCGGTGCATCGGGTAGGTTTGCGCCATATCGCGGCAG
ATTTCGGAAACAACTTTTTCTTGCGCATCGGTCAGGGCAAACGGCAGGGCTTGGCGCAGG
GCTTGGGTCAATGTGCCGTCGCCGCCCAATGCCGCCGCCGTGCCGCCGATACGCTTCTGT
CGCGCCAAGCGCATCGAAAGCTGTTGCGCCAAAAGTTCATCGAATTTGAGCCGTTGCCAT
GCAGGCAGCGTGCCGTCTGAAAGCTGATGAATCGTGAAACTCGGCGGCGGCGAATGCAAA
AGACGCAGGCTTTCGGCGAGGTGTGGCAGCTTCAGACGGCACAGCAGGGCATCGGGCAGC
GTGTCGTGCAGCGGCCGTAACGTCCAACGCCGTCTGAATAATACGGCGCAAAGTGGGCTGG
TTCAAACCGTTTACGGTCGGGTAAACCGGCGTGAGGCTTTCCGCCAAACCGCCGCCCTCG
GCATCGCGGATTTTGGGATGAATCATCTCGTCGCCGTAAAAGCCGTGTTTGATTTCGCCC
ACGGCGCGGATGCGTTTGCCGACCGCCGTCTGTTTCTGATGGCTGGCGTAAAAGTGGATG
AAGCGCAGAAAAAGGACGCTGCCGGAGCCGTCGGCGATTTGGACAATCAGCTGCTTGCGC
GGTTTGAACGTTACTTCCTGATGGATAACCTCCCCCTCGACCTGACACGGCACGCCAATC
GGCGCGTCCTTAATCGGCATAATGTGCGTCTCGTCCTCGTAACGCAGCGGCAGGTGCAAC
ACCAAATCCCACGCGGTATGGAGGTTGAGTTTGTCGAGCTTCTTGGCGGAAACATCGGTG
ATTTTGAGCTGTTTTCGGGTTTCGGGCGACATCATAGGCAGATTCCTTTGGACGCGCCTA
TTTTATCCGAAAACAAAAATGCCGTCTGAAACGGATTCAGACGGCATCGACAGGCAGGAA
TCAAGCCCCGGCGGCTTCGGCTTCCTGCTGTTGTTGGTAAATCGCCTCAAAATTAATCGG
CGCGAGCAGGACGGGCGGGAAGCCGGCGCGCGTTACCGTACCGGAAACGGCTTCGCGCGC
GTAAGGGAAGAGGATGTTCGGACACGCCACGCCGAGCAGCAGGTCGGCATCTTCTTCGGG
GATGTTTTCCAAACGGAAAATACCGCTTTGGGTTACTTCGTTCAAAAACATCGTGCGCTC
GTTATCCAATTTGGCGGTTACGGTAACGGTTACATCCACGTTGTAGTAGCCGTCTTCCAG
CTTTTGGCTGCCGGTGGAAACGCGCATCTCCACTTCGGGCTCGCCCTGTTCCAAAAAGAT
TTGCGGCGCGTGCGGCACTTCCAAAGACAAGTCTTTGACATACAGTCGCTCGATGCTGAA
TACGGGTTGCAGTTCTTCGCTCATTTTGTTTTCCTAGTTGGGGGTTAAGGGTTCAGCAGT
CCGTCCAGCCCGCCTTCCTGCTGGAGGCGGTAGAGGTCGGTAAATCCGCCGACGTGCGTT
TCGCCGATGAAAATCTGCGGCACGCTGCGCTGTCCCGAAAGCTGCTGCATTTCGGCAAAG
GCTTCGGGGCTTGCATCGACACGGATTTCGTCGATATGTCCGACACCTGCCGCGTGCAGC
AGCCTTTTCGCCATCGCGCAGTAGGGGCAAAACGGACCTGTGTACATGGTAACGGTCTGC
ATATTGGGTTTCCGAAAGTTTTGCAATGATAATCAATATAGGGGCATTTCCCCTGTTTGG
CAAGTGCGGAACAGATGCACGTTCAAACGGCATGTGCGGAATGTGTCAAAGTTTCTTTTT
TAAAGTATGATAGACATTGTGAAAAATATTTTTGCACCCGCGCTGCGCGGCGGAACGGAT
GCAAAATATTTTTATTACATTTTCAGGAAAAACCATGTTGTCAGGACTCCCCATCCCCAA
AGACATCGCGCGCCCGCCCGAAACGATATTGGTCAACATCACGCCGCAGAAACGCGCGTA
GCGGTGTTGGAGGAAAACAATATCTGCGAGCTGCACATCGAGCGCAACAGCGAACACAGC
CTAGTCGGCAATATCTATTTGGGCGTGGTGCGCCGCGTGCTGCCTGGGATGCAGAGCGCG
TTTATCGACATCGGCTTGGAACGCGCGGCGTTTTTACACATCGTCGATGTCCTCGAACAA
CGCCGCAACCCCGAAGAAACCCAGCGCATCGAACATATGCTGTTTGAAGGGCAGTCTGTT
TTGGTGCAGGTCATCAAAGACCCGATCAACACCAAAGGCGCGCGGCTTTCCACCCAAATC
TCGCTGGCGGGGCGTTTCCTCGTCCATCTTCCGCAAGAAGACCACATCGGCGTGTCCCAA
CGCATCGAAGACGATGCCGAACGCAGCAGCCTGCGCGAACGCCTCGACAAGCTCCTGCCG
GAAAATGCCTGCCGGGGCTACATCATCCGCACCAACGCCGAAAACGCCACCGACGAACAG
CTCCAGTCCGACATCGACTACCTGACCAAAGTGTGGGAACACATCCAAGAACAGGCGAAA
ATCCGGCCGCCCGAAACCCTGCTTTATCAGGATTTGCCTTTAAGCCTGCGCGTGTTGCGC
GATATGGTCGGCTGCGACACGCAAAAAATCCTCGTCGATTCCACCGTAAACCACGGGCGC
ATGACGCGTTTTGCCGAACAATACGTCCACGGCGCATTGGGCAGGATAGAGCTGTTCAAA
GGCGAACGCCCGCTGTTTGAAACCCACAACGTCGAACAGGAAATCAGCCGCGCCCTGCAA
CCGCGCGTCAACCTCAACTTCGGCAGCTACCTGATTATCGAATCCACCGAAGCCATGACC
ACGATAGACGTGAACACCGGCGGCTTCGTCGGCGCACGCAACTTCGACGAAACCATCTTC
CGCACCAACCTCGAAGCCTGCCACACCATCGCCCGCGAATTGAGGCTACGCAACCTCGGC
GGCATCATCATCATCGACTTCATCGATATGGCACAGGAAAGCCACCGCGAAGCCGTGTTG
CAGGAGCTTGCCAAAGCCCTCGCCTTCGACCGTACCCGCGTTACCCTGCACGGTTTTACC
AGCCTAGGGCTGGTCGAGCTGACGCGCAAACGCTCGCGCGAAAACTTAAACCAAGTCCTC
```

-524-

TGCGAACCCTGCCCTTCCTGCCAAGGCAGAGGCCGTCTGAAAACGCCGCAAACCGTATGC
TACGAAATCCAGCGCGAAATCGTCCGCGAAGCGCGCCGTTACGATGCCGAAAGTTTCCGC
ATCCTCGCCGCCCCCAACGTCATCGATTTGTTTTTGGACGAAGAATCGCAATCCTTGGCA
ATGCTGATAGATTTCATCGGCAAACCGATTTCTCTGGCGGTCGAAACCGCTTACACGCAG
GAACAATACGACATCGTTTTGATGTAAAAAATGCCGTCTGAAGCCTTCAGACGGCATCTG
TCTATTTCAGGGTTTCCTTGTCCAACAACGCGCGTATCAGCAGACCGCGTCCGAAACGTC
GGCTGTCGGACAATTCCAAATATCCGCCGTATTTTTTGGCAAGCGTGTCGGCGATGGACA
GACCCAGCCCCGTCCCCTGCTGCTCCGTTCCCAAAATACGGTAAAACGGATCGAGGACAC
GGGCGCGTTCGGATTCGGGAATGCCTTTCCCGTTATCTTCCACCCACACGGCAAGATATT
TCCCTTCGTCCGTGAAACCCAAATCTATCCTGCCTTCGGGCGGCGTATAACGTACCGCGT
TGTCGGCAAAGGTTTTAATCAGCGTATAGATTTCCGTTTCGTCGGCAGACACTTCGACAT
CGCCTCCGACCGCCACGCCGATGTCCTGACATTTTTCCAAAGCCAGCGGCATCAGTTCCT
GCAACACTTGGCGGAAACGGCTTTGCAGACCGAATGTCGTTTTCGTCAGAGGGATTTCAT
CCGACTGCGAACGCGCCAATGCCAAAAGCTGTTCGAGCAGGTGTTTGTTACGCCGTATGC
TTTGCTGCAAAACGGCAGGCTGCCGCGCCGCATCGGGTGGGAGCGGCATATTGTTGAGCC
GTTCCGCCTGAAGGGGAAGGGCGGTCATCGGCGTACGCAATTCGTGTGCCGCGTCGGCGA
CAAACCGCTGACGGTGGCGGATGTCTTCATCCGCACGTTTCAAAAGCAGGTTGATGGCGG
TTACGAAACCTCTGATTTCACTGGGAATATTGTCCACACTCAAAGCAGACAGGTCATTGA
TTCGGCGTTGTTCGAGACTTTGCGACAATTTGCGGACGGGGCGCATGGCTTTGTGCGTAA
TCCACACGGTCAGCAAAATCATCAGCGGCAGTGCCGCCAACAGGGGCAACACGCTTTGCC
GTGCCGCATCCGCCGCCAAATCTTCACGGTATTCGTTTTCCTGCATAACGGCAATCCGTC
CCTGCTCGGTCGTGCGGATATAGACGCGGTAATAATCGTCGTCATCGTCCGCCTGAAGCG
TGTGCAGACCGTCCGCCAGATGCGCAGGCAGGCTGACAACAGGGTCTTCCTGCTGCGGCA
TCTGTACCAAAATACGCGTATCGCCGTCGCCCTCGGGCAAAGTTTCGGGTTTGGAATCGG
GGGCGACGTACAATGCCGCCTGACGGAGCAGGTCGTCCTGCAACGCTTCCGTTTCGTGGA
AGGTTTCGTAGTAGGAAAACATACCTGCAAGCATTGCCAGCGGAACAAACATCCAAACCG
TCCCGCCCCGGCAAACCCAAATCCAGCAGCATCAAGTCATAAGGCTGGGCAGCGGCAGCC
GCGCGCCGTTTTTGACCCAATCCACCGCATAGCCGCCGTCTTTCAAACTTGCCGACACCG
CCTCCGCAATCATCGCATCGTCTTCCACCAGCAAAACACGCATCAACTTTCCCTTCAAAA
TAAACCGTGCCTATTCTAACACCCCAAAATTAGCCGCAATTTAGCGGTCTTTACGCTTGC
CGGTATTTTTCAAAACTGCAGCACAAAAAAACCGCGCCGGCAACTGCCTTCAGACGGCAT
TGGGGCGCGATTGCAACACACGGGCAGGCAGGCAGAGCCTGCGACAGACCACAGGAACGA
TTCAGGCTTCAGACGGCTTCGCCGTTTACGGCAGAGGCACGATTCCTGCCGCTATCGAAC
TGGCCAATATCGCCAGCGACAAACCCCACGCCCAGAAAAACGAATAACGGATGTGTTTGC
CCATCGACAATTTCGCCAAACCCAAGCCCATCCACAAAGCCGGCGAAAGCGGCGTAACAA
AAGTGCCGACGATACTGCCGATCAACATCGCATAACCTGCTGCTTCGGGCGCCACGCCCG
CCTGCGAGGTAATCTGCTCCACAATCGGAAACAGTCCGAAATAATAAGCGTCCGTACTCA
AAACCAACTCAAGCGGAATGCCCAACACACCGATGGCAATATGCAGATAAGGCAGCAGCG
CGTCCGGCAGGATATGCACAATGTCTTTGGAAATCGCGTCCAACATCCCCGCACCCTTCA
AAATCCCCAAAAACGTACCTGCCGCCAAAATAATGGACGCCATCATCACCGCGCCGCCGG
CGTGGGCATAAATCCGCTCCATCTGTTCCTGCGGGCTGCGGTAATTCAAAAGCAACGCCG
CCGTTGCAGCCAGCATAAATACATAACCCGGTGGGAAGATGCCCGAAAAAAGCAGGCTCA
TCGCCGCCAAAAACAGCAGGACATTCCACCAAAACAGTTTCGGACGCGCCAATTTTTGTT
CTTCTTCCGACAAAGGCACCGGCTTTATCAAATCCGCCACGGCGGGCAACGCGCCCAACT
CCCGGACAATCCGCCTTTTTTCACGCACACCCAAAAGCAGGGACAGCGCAAGGATAAACA
CCACACCGATAATTTGCACCGTCAACAAAGGTTTATACAATTCGCCCACATCTGCGCCCA
ACACGCTTGCAACCCGCCCGGTCGGCCCGCCCCACGGCAGAAGGTTAATCAATCCCGCAC
TGGAAGTCAGCAGCAAAAACAGCAGGTAAGGATTCATATGCAGACGCTTGTAAAGCGGCA
AAAGGGCGGGGACGACCAATAAAAACGTCGTCGCACCCGCCCCGTCCAACTGCGCCACCA
CCGACACCAAGACCGTCCCCACACTCACTGCCACGATATTACCCCGAGTCAGCTTAATCA
AACCGCCTATCATCGGACGGAACAGCCCCACATCGTTCATGATTCCAAAAAACAAAATGG
AAAACATAAACATAATCACAATCTGCATCACCGATTTGGTGCCGCCCGAATAAAATTCTT
TTAATTGGGATACATCAAACCCCGCCAGCAACGCCCCAAACAGCGGCACCAAGATTAATG
CGATGATGGGCGACACTTTTTCCGTCAGCAGCAGCCATACGATGACCCCGATAATCAGCA
GTCCGATAAACGTCAGCATCATTTCTCCTTTATTTTATTTTAAACAGAAAACCGACCGTG
CAGGCAAAACCGCCCACAGACGCGGGATAAGCCCTGCATTCTACTTTTTTATTTTGAAAC
AAGTCAATCGGTCATTTCCTCCCATTTACGCCTGCCGCCATTCCTGCATCCGTCCGTCAT
TTCACAGCGGCAACCGATACGGAACAACCGGTAAATCGGTATCGGGACGGCGCGGGGGCA
TTCATCCCGGTGCGCCGATTCAAACGAAACCGCCCCTATCATTGCGGAGCGCGGGGGCGTG

```
CCGTACACGCGGGATTTTATAGTGGATGAACAAAAATCAGGACAAGGCGGCGAGCCGCAG
ACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCT
CTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCGCTATAAACACGCCG
GTCATTTGCCGCGCATTATCCGGCAAACGGCAAACCTTGACGCTGCCCAGCCCATATAAA
AAAGCCGCAAAACCCGAACCGGTTTTGCGGCCTTTCGACTTGGTTTGTTTATTTGGCATT
TCTTTCAATCAAACCGACAAACTGATTAATATATGACTGAACAAAATCCCTTGCCGAGTC
AATCAATTTGCCGTTTTCATCAAACAGCGTCGGCGAATTGCCCAAAAACACTTCCGGCTG
TCCGGTTACGGGCATATCGAAATAAGACAGCGCAAGGCGCAGGTTTTTTGGGAACTGTA
ACCGCCCATCTTGCCGACGGAATGGCTGATGATGCCTGCCGGTTTGTTTTTCCACGCCAC
GTCGGCATTCGGTTTCGAGCCGATGTCCACCGCATTTTTCAAACAGGCGGGAATGGTGCG
GTTATTTTCGGACGTAACGAACAAAATGCCGTCCGAAGCCTTAATCGTTTCGCGGAAAGC
CGTGTAGCTTTCGGGTAGCGGCACATCTTCCACCGCAGGGTCGTCATAATCGAAATTGTA
AAGCGGCAGATGTCCGATTTCAACGATTTCCGCCTGCCAGCCTTCGGGGAACATCTCCGC
CGCATTCAATGCCACTTTGCGCGCAAAAGAAGCACGGCGCAGGCTGCCCACCAAAATACT
GATTTTCTTAGCCATAATCATTCCTCCTGAATATTAAGTTTGTGCGTCTCAATCATTTCA
TAATGATAGCGATTATTATATATGTGATTTCCCCTGCAAACAAGCCGGCCCGCCGCCACA
GCGTTCCCACTTATCCGGCTTTGCCTTATAATTGCTTTTTTTATGTAACAGATTTACCTA
TGAATTTCCCCAAAACAGCGGCCTCCCTGCTGCTGCTTCTCGCCTCCCTCGCCGCACACG
CGCTCGATACCGGCCGCATTCCGCAAAACGAAATCGCCGTATATGTCCAAGAGCTTGACA
GCGGAAAAGTCATCATTGACCACCGCTCGGATGTCCCCGTCAACCCCGCCTCCACAATGA
AACTCGTTACCGCGTTTGCCGCCTTCAAAACCTTCGGCAGCAATTACCGCTGGGCGACCG
AGTTTAAAAGCAACGGTACGGTAAACGACGGCACGCTTGACGGAAACCTATATTGGGCGG
GCAGCGGCGACCCCGTTTTCAATCAGGAAAACCTGCTTGATGCTCAAAAACAGTTGCGCG
AACAAGGCATACTCAATATCACGGGACACCTGATGCTCGACCACAGCCTGTGGGGCGAAG
TCGGCAGCCCCGACGATTTCGAAGCCGACAGCGGTTCGCCGTTTATGACGCCCCCCAATC
CAACTATGCTGTCTGCCGGTATGGTTATGGTGCGCGCCGAACGCAATGCCGCCGGCAGTA
CCGACATCCTCACCGATCCGCCTTTGCCGCATATTTTCGCCCAAAACAACTTGAAAATTA
CCGCCTCCCAAGCTGCCTGCCCTTCGATCAAAAAACTGATGCGTGCATCTTTTTCGGACA
ATACGCTGAAATTGCGCGGCAATATTCCCGAGAGCTGTTTGGGCAAGCCTGTCGGTGTCC
GGATGTTCGCGCTTGACGAACTGATCCGGCAAAGTTTTACCAACCACTGGCTGCTCGGCG
GCGGACGGATTTCAGACGGTATCGGCATAGCCGACACGCCGGAAGGCGCGCAGACACTTG
CCGTTGCACACGCCAAACCGATGAAAGAAATTTTGACGGACATGAACAAGCGTTCGGACA
ATCTAATTGCGCGTTCCGTCTTCCTCAAACTCGGCGGCGACGGCAAACTGCCCGCCGTTT
CCGAACAGGCGGCGTCTGCCGTCCGGCGCGAACTTGCCGTATCGGGCATCGATGTTGCGG
ATTTGGTTTTGGAAAACGGTTCGGGCCTGTCCAGAAAGAAAGGGTAACGGCGAGAATGA
TGGCGCAAATGTTGGAAACGGCTTATTTCAGCCCGTTTGCACAAGATTTCATCGACACGC
TACCCATCGCCGGCACAGACGGAACTTTACGCAACCGCTTCAAACAAAGCGGCGGGCTGT
TGCGCTTAAAAACCGGCACGCTCAACAATGTCCGCGCCCTTGCAGGTTATTGGCTGGGCG
ACAAACCGATGGCGGTGGTCGTCATCATCAACAGCGGCCGCGCCGTTTCCCTGCTGCCAG
ACTTGGACAACTTCGTTGCCAACAACATCATCTCCGGCGGCGATGGCTGGCTGGATGCGA
AACTGATGTGCAAAGAACGCCGAGCCTGAAACAGGAAAATATAGTGGATTAAATTTAAGG
GGCTGTCCTAGATAACTAGGACAAACTCGATTTTACTAATTGTTTTAAAATGGAACAAGA
ACTTTTATCTCACTGTTGTTAAAACGCCATTCGCACTCCTTTAAATACAGCTCAAAATGC
GCTTTGGGAATGCCGTTAAACTTGCGTAAATGACGTTTTGCCTGATTCCAAAAGTTCTCA
ATTCCATTAATATGGTTTTGTCGTTCGGCAAAATGTGTGCTGTGATTGATACGAAAACGA
AGTTTCAGCGAAGCTAAAATGGCTAAATTCGCGCACATCTAATACATCATAGCTACGATA
ACAATCCGTATAAACAATACTGTCAGGTTTCACTTGTTCACGGATAATAGGAAATAAAGT
AGCGGTTTGAGTATTCGGTACTGTAACCGTATAAACCTTACCATTTCGCTTCAAAAGACC
GAATACGGCGACTTTACCGGCAGCACCGCGACCGCGTTTGCCTTTGCGTTGTCCGCCAAA
ATAACTTTCATCTGCTTCTACTTCGCCATCAAACATTTCCAAATGCGGACTGTTTTGATA
AATAAGTAATCGTAAACGATGAAAATAATAGGCTGCGGTATTTTTATTAACGCCTACTAA
CTCTGCTGCCGTTCTTGCAGTTACACCTGCGACAAACAGTTCAATGAGTTTATTTTGTTT
ATACCGGCTTAGACGACTTTTTCTCATAGGGGCAACTCTAACTTAATTTGAATTTCCCTA
GTTATCTAGGACAGCCCCAAATTTAAACCAGTACGGCGTTGCCTCACCTTAGCTCAAAGA
GAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATCTGTACTGTC
TGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATAAAAATGCCGTCTGAA
CTGTTCAGACGGCATTTTTGATTTTCAAACCGGAATTACAGCCCCGCTGCCGCCCTCAAT
GCAGCAGCTTTGTCGGTGCGCTCCCAAGTGAACTCAGGTTCTTCGCGGCCGAAATGTCCG
TAAGCGGCGGATTTACTGTAAATCGGGCGCAAGAGATCGAGCATTTGGACGATGCCTTTG
```

```
GGGCGCAGGTCGAAATGTTCGCGAACTAAGGCAATCAGTTTTTCTTCGCTGATTTTGCCG
GTGCCGAAAGTATCGATGGAAATCGAAGTCGGTTCGGCAACGCCGATGGCGTAGGAAACT
TGGATTTGGCATTGGGTTGCCAAACCTGCGGCGACGATGTTTTTTGCGACATAGCGGCAG
GCGTAAGCGGCGGAACGGTCCACTTTGGACGGGTCTTTGCCGGAGAATGCGCCGCCGCCG
TGCGGAGCCGCGCCGCCGTAGGTATCGACGATGATTTTACGGCCGGTCAAACCGCAGTCG
CCTTGCGGGCCGCCGATAACGAAGCGGCCGGTCGGGTTGATCAGGTATTTGGTTTCGTCG
GTCAGCAGTTCAGACGGCAGAACCGGTTTGATGATGTGTTCGATTACGGCGTTTTTCAGC
TCTTCGTAAGCGATGGACGGATCGTGCTGGGTAGACAGGACGACGGTGTCGATGCGTTTT
ACTTTGCCGGTTTCGCTGTCGTAAACCACGGTCAGTTGGGCTTTGGCATCAGGACGCAGC
CAAGGCAGGCGGCCGTCTTTGCGCAATTCGCTTTGACGCTGCATCAGGCGGTGGCTGTAA
TAGATGGCAAACGGCATCAGGGTAGGGGTTTCGTCACAGGCATAGCCGAACATCAAACCT
TGGTCGCCCGCGCCCTGGTTCAAGTCGATGCCTTCGCCTTCGTTCACGCCTTGGGCGATG
TCGGGGGATTGCTGGTCGTAGTACACGCCGACTGCGCAGCCGTTGGCATCAAAGCCCAGC
TCGGAGGAGTTGTAGCCGATGCGTTTGATGGTTTCGCGTGCGACTTTGATGTAGTCTACT
TGGGCGGTGGTGGTAATTTCGCCTGCCAATACGCACAAGCCTGTGTTGACCAAGGTTTCT
GCGGCGACACGTGCTTTTGGGTCTTGCGCCAAGATGGCATCCAAAATCGCATCGGATACT
TGGTCGGCAACTTTATCCGGATGGCCTTCGGATACCGATTCGGAAGTAAACAGATATTCG
CTCATTGAGATTTTCCTTGAAAAACAAACCATCTTCTTCAGACGGCATGTTGTATGAACA
TAATGTCGACAGCGGGAAATATAGCAAAATTTCCCTATTCATACCATTCAGTTGAGAAAT
ATTCCCATTTGAATAGCACTTTGGAATCTCTGCCCGTACGTTTCTTACAGGCAAAAAAAT
TCCCGCATCAAGCGGGTTTGGATTGCTCTGGTGAGCCACATCGGCTTTTCAACCGTCCAC
CTTACTTTTCCTTTTGAAAAGCAGGTTGGCATGGAATTCCCAACTCTTAATGCAGCACGC
ATCGTAGCAGAAAAGGCATATTGCCGCAATACTTCCCTTTTTCAGACGGCATGTTTCGTT
TACAATTCAGGCTGTTTCCCCCTTTGCGAACCGCCATGCACATCCTGTTGACCGCCCTGC
TCAAATGCCTCTCCCTGCTGCCGCTTTCCTGTCTGCACACGCTGGGAAACCGGCTCGGAC
ATCTGGCGTTTTACCTTTTAAAGGAAGACCGCGCGCGCATCGTCGCCAATATGCGGCAGG
CGGGTTTGAACCCCGACCCCAAAACGGTCAAAGCCGTTTTTGCGGAAACGGCAAAAGGCG
GTTTGGAACTTGCCCCCGCGTTTTTCAGAAAACCGGAAGACATAGAACAATGTTCAAAG
CGGTACACGGCTGGGAACATGTGCAGCAGGCTTTGGACAAACACGAAGGGCTGCTATTCA
TCACGCCGCACATCGGCAGCTACGATTTGGGCGGACGCTACATCAGCCAGCAGCTTCCGT
TCCCGCTGACCGCCATGTACAAACCGCCGAAAATCAAAGCGATAGACAAAATCATGCAGG
CGGGCAGGGTTCGCGGCAAAGGAAAAACCGCGCCTACCAGCATACAAGGGGTCAAACAAA
TCATCAAAGCCCTGCGTTCGGGCGAAGCAACCATCGTCCTGCCCGACCACGTCCCCTCCC
CTCAAGAAGGCGGGGAAGGCGTATGGGTGGATTTCTTCGGCAAACCTGCCTATACCATGA
CGCTGGCGGCAAAATTGGCACACGTCAAAGGCGTGAAAACCCTGTTTTTCTGCTGCGAAC
GCCTGCCTGGCGGACAAGGTTTCGATTTGCACATCCGCCCCGTCCAGGGGAATTGAACG
GCGACAAAGCCCATGATGCCGCCGTGTTCAACCGCAATGCCGAATATTGGATACGCCGTT
TTCCGACGCAGTATCTGTTTATGTACAACCGCTACAAAATGCCGTAACGAAAATAAAAAT
GCCGTCTGAACAATTTCAGACGGCATTTTGTCATCTGACGATTTCCGACAGCGGCCAGCG
CGGACGGACATTGAACGCACCGACCTCCCTGCCCTTGCCCAGGTGCATCGCACCGGCAAA
GGCAATCATGGCACCGTTGTCCGTGCAGTATGCCGTCGGCGGGAAAAACACGCTGACTTT
TTCGGACGGATGTTTCGGCTTGCCTTTGGGGGTCGGGATTTGCACCGTCATGTTGCCGAA
AGTTTCACGGAGCTTGCGGTTTGCACCGACCCCGCCGGCGACCACTACGGTTCTGAACCC
TGTCTGCAACAGGGCTTTTTTCACTTTCGCCGCCAACACATCGACTACCGCATCTTGAAA
CGCACGGCAGATGTCGTTGCGTGTCTGCTCAGGAATGTCATCCGCCCCGTTTTCCGCGCG
CACTTTCTCGACGGCGGTCAATACGGCGGTTTTCAAACCTGAAAAACTCATCTGCAAATC
GTCGGAATGAATCATCGGGCGCGGAAAAACAAACGCTTCGAACCTGCCCGATTCCGCAAG
TTCCGACAGTTTCGCACCGCCCGGATACAGCAAGCCCAGCAGTTTCGCCGTTTTGTCGAA
TGCCTCGCCCGCCGCATCATCGACGCTCTCGCCCAAAAGCGCGTAGTCGCCTATGCCCCT
GACCGCCATAATCTGCGTATGCCCGCCCGAAACCAACAGCGCGACAAAGGAAAGTCGGG
TTTTTCCTCCGCCAACAGCGGCGACAGCAGATGTCCTTCCAAATGATGGACGGGAATAAC
AGGCTTGTCCAACGCTAAAGCCAGCGCGTTGGCGTAGCTCGAACCCGCCAGCAGCGCGCC
GCCCAAACCGGGCCCCTGCGTAAAGGCAACCGCGTCAATGTCGCCATACGATGCGCCTGC
CTGCGCCAGACAGCCTTCCGTCAACGGAACAAGGCGGCGGATATGGTCGCGGCTTGCCAA
TTCCGGCACAACCCCGCCGTATTCGGCGTGCATTGCCATTTGAGTGTGCAGGCAGTGCGC
CCGCAATCCACGTTCCGTATCGTAAAGCGCAACACCTGTTTCGTCGCAAGAAGACTCGAT
TCCTAATACCAACATGGTCTGATGCCGTTAAAAACTGAAAAACGTATTTTAGCGGATTTC
GGCACGACTGCCGTATCCCAAAAACGGAACATGCCGTCTGAAGACCGTTCAGACGGCATC
GTCGCACCGTATCAAAGCGTTCCGTAAGAATGCAGCCCGCTCAAAAACATATTCACGCCG
```

```
ATAAAGGCAAATGCGGTTACGAACAAACCGATAATCGCCCACCACGCCAGCACTTTGCCG
CGCCAACCGGCAACCAGCCGCAAGTGCAGCCAAACGGCGTAATTGAGCCAGACGATGAAC
GCCCACGTCTCTTTCGGATCCCAACTCCAATAGCGTCCCCAAGCATCTGCCGCCCACAGC
GCACCCAAAATGGTGGCAATGGTAAAGAACAGAAAGCCGACGGCAATCGCCTTATACATC
ACCTCGTCGATCAATGCCGACGGCGGCAGCCACAGTTTTCCGCCTTTTCCTTCCGCACGC
AGGGAAACCAGTTCGGCAATACCGAGCATCGCGGAAATGCAAAACGCGCCGTAACCGATA
AAGTTTGCCGGAACGTGGATTTTCATCCACCAGGACTGGAGCGCGGGAATCAGCGGCTGG
ATGGTATGCGCCTCGCGGGACACGCTGTACCACAAGACAAATCCAACCACGACCGCCATA
AAGCCGAACACGAAGCCGCCCAATTTCTGTATGGCGAACTTACCTTCATAATAAAGATAC
ATCAGCGCGGTAATCACCAAAAACAGGATGAACACTTCATACAGGTTGGAAACCGGAATA
TGCCCCGCATCGGGACGGAGCAGATAGCTTTCGTGCCAACGTACCAGCAGACCGGTAAAG
CCTGCTACGGCAGACACCCATGCAAACACGGTTCCCATACCCAACAGCGTGTTGGTCGGC
ACATTTTTTACGCTTGCCAAAACCGCGCCCGAAATATAGGCGAACAGGGCGAAAAAGACA
AAGGCGCACTGCCACATGATCGCCGACTGGCTGCTGAGGAAATACCGCAACAGGAAAATC
TCTGCCGATTTGATGTCGCCTCCGTACAAACCGACGGCGGCATAGGCAAGCAATACGCTT
AAAGGAACAAACCAGCGCATCGGTTTGAAAAACCAACCCAAAAACACGGCAATACCGGCA
CTTGCCCACAACATGACCGTTTCGTAAATGTCCATATGCATACCGGAACGGGTCTGTACG
AAAACCGTAGCCGCAAAAACCAGCACGGCAAATACCCAATCCCAAAGATTCAGATTGCTG
ATCAAAGACTTCTGAATCAGCAGCTCGTGTTCCGGAAGGGTTTTATAGTGTTCAGTCATG
ATTCAAGTCCTTGCCGAGCCGTTGCAGACTCTCGACGTGTTTGGAAATTCCTTCTGCAA
ATCCCGTTCGCTGCGGGCCGAAGACATGGCAAAACGGATTTTGCCGTCTGAAAACAATAC
CCACGCCCGTTTTTCGCGCACATAAAACATCAATACCGTACCCAATACCAACAGCACCGA
GCCGAGATAGACCAAAAGCGCACCCGGGGAACGGGTCATCTGCAAACCCGACGAACGCAC
CTCGGAAAACCCATCAAGTTGCAGCAGCATAGGCGCGGGATATTCGGTCAAACCCGTGTA
CGCATCCATACTGTGCAGCAGGAAACGATTCCGCGCTTCATCCTGCTGCCATTCGGGCAA
GCCGTACCGGCGTATGGTTTCATCCAAAGCAGCGTTCATCACGCCGTAAAGCATTTCGTA
GAAATAGCCCTGCATCTTATCCTGCTGCTCTTTCGGGATATTGGACGTAATAAATTCGTC
CAATCCCAAATAGCCTTTTTGTGCAAAGATGTTCAGCGTGTTTTCCGCAGCCAGCATGAA
TTGTTCGCGGATTTCGGCAGGTGCGCCTTTGGTTGCGTCGGCAACCAGACGTTTGCGCCC
TTCCCCATCTTTCAAAAACTCACGCAATGCCATAAAGGTGTCCGCTTTCAACTGCTTGTC
CAAGGGGATACGCAGCCAGCGGTATTGCTGCTGCAAGCCGCTGCGCGTGCCGGTAATCCA
AAAATAATCCTGTTCCTGCAAAACCGGCAGCATATAGTTTTTATATTCGACCGCCTGCCC
TGCCGCATCACGGATACGGTAAACAATGGAAGGGCCGATATTGGTGTATTTTTTACCTTC
CTGAGTAACGGCGCGGACATCGTTCAGCGTGGATTTCAGGCTTTTTTCCCGTTCCGCGCC
CTCGCTCATGTCCTCCACATTCATAGAAGTGAACTGATCGAACTCAAGACGATATTTGTG
TTTGCCAATTTCCAACGGAAACTGGTGTATGGATGTTGCCTTCAACACGACAGGCTCGCG
CGAAGCATCACCCAAATTCCACGCCTTGAATGTCAAATCCGAACCGCCGTCGGCAAAACT
CGCCTGATAAATCGTGATGCCGTGCAAGGTCAAAGGATGGTTCACGCGGATGGTGCGCTC
GAGTTTCTCACCGGTTGCCTTGTCCGTCACTTCAATATCGCTGGCGAAATCACGCGGCAT
ACCCGTATTGTAAAAATCGATATGGAATTTTTTCAGTTTGACTTCAAAAGGCAAGTCCTG
AACCAATATCCCGTTGTCGGCATTCAGGAAAACCACATCCGCACTCTGCCCCTCGGAAAT
ATTGACGTTGCCCCTAAATGAGAGATTGGACGCACCCAAAATACTTTCGGGCTTGAAATC
CTTGGCATAAACCGCCTGATTGTCCGGAACAATCCGACCGGTCAGCATACCCAGTTTCAA
CAGCAGGTTACTGTCTATCAACCCGCCCAGGCAAATGACAATCAAAGCAACATGGGCAAA
GATATAGCCCCATTTGTTCATTGTGCCTTTTTTGGCGGCAATCAGAACCGACCCGTCTTC
ACGGTTAATGGTTTTTCCCTGAAAACCTTGTACTTCCAGATAACGTTTGGCAACCTCGGG
CGCAATTTTTACATCCAACAGCGAAGAATGGCGCATCGCCGCCAGAGATTTTTCTTTAAC
CTTTTCCCGAAAAGACTTCATTTCGCGCCAGAACGGCGGCACATTGCGAATCAGGCACAA
ACTGGTAGAAACCACCAAAAACATCATGATAACGACAAACCATGCCGAAGCATAGACGTC
ATACAGTCCCAGAAAACCAAAAATCTGCGCCCAAAACGATCCGAATTTGACCAAATAATC
CGTCTGCGGCTGGTTTTGCTGCAACACCGTACCGATAACCGATGCAATACCCAGCAGACT
GAGCAAAGCGACTGCAAAGCGCATGGAGCTGAAAAAAGCGAACCACGGACGGGAAAGAAG
TGGGGGAGATCTACGGGATTTACTCATTGTGTGTTTATTCCGCCATCAGGAATATGGGAA
AGCAGAATTGGGCAAACAGAAAACAACGTCCCGATTCTACTGTCTTGATGCTTTTTATTT
CAAGACAATGAAGACAGCCTGCATCGATTCCAACGGTTGCGATTGAAAAAACTTATCGCA
GAATTGCCTGAAGCCGTCTGAAAACTTTTCAGACGGCCTCTAAAACAGACTATTGCGGAA
TTAACGCAAACCTTGGATAAAGTTGGCGACCGCTTTCAAATCTTCTTCAGACATACGGTT
TGCAATATCTTCCATGATGGTATTTTTACGCTGACCGGACTTGTAGGCATTCATCTGTTC
AACAATATATGCCTGATGCTGACCGCCCAAACGCGGATAAGCCTGAATTTCGCTTCCGCC
```

```
TCCCGGCATACCCGCACCGCTCGGACCGTGGCAGGACATACACGCCGGCACTTTTTTATC
GCTCAAACCGCCGCGATAGATTTTCGCACCCAATTCGGGATTTTCCTTAGGATTGGCTTC
ACCGGATTTGGGCTGCTGTTTGGCATAGAATGCGGATACGTTCAAAATATCCTGATCGCT
CAAATTCATTACCACCGGTTTCATCACAGCTGCCGAACCGTGGGTGCGTTTACCGTCGCG
GATGCCGATAGTTTGATGATAGATGTAAGCAGTATGCTGTGCCGCCAAACGCGGATACAT
CGCAATGCCGCTGTTACCGTCTGCTGCATGGCAAGCCGCACAAACCGTTGCGGCAACCTG
TTTGCCTTTTTCCACGTCTGCTTTGGGAGAGGCGGAAACCGCACCGGCAGCCAAAACAAA
GGCCAATAAAGTCAATCGTTTCATGGAGTGCTCCTGATTACAGCATTGGATAACGCAACA
ATGCTCTTTTATATTCAAATACGGGATTTTTGACCCGATTAAAACCGATGATTCTGTAA
ACGTGTTATTCTATACTAAATTTACATTAAATTACCACTGTGTTTCACATAAAACCAACC
GCATATTTTTGCTGTCGGACAAACGGCGGCGGAAAACAAGGATATGCCCATGAACCTTTT
TCAAAACGCCAAATTCTTCACGACGATCAACCACCTTAAAGACCTGCCCGACACCCCTCT
CGAAATTGCCTTTGTCGGCAGGAGCAATGCCGGAAATCCAGTGCCATCAATACCCTGAC
CAACCATGTCCGTCTTGCCTACGTTTCAAAAACACCCGGACGGACGCAGCATATCAACTT
CTTCGAGCTGCAGAACGGCAATTTTATGGTCGATTTGCCCGGCTACGGTTATGCCCAAGT
CCCCGAAGCAGTACGCGCACATTGGGTCAATCTGCTCGGCGACTATCTGCAACAGCGCAA
ACAGCTTATCGGGCTGGTTTTGATTATGGATGCCCGCCATCCTTTAAAAGAACTCGACAT
CCGTATGCTGGATTTTTTCCACACGACCGGCAGACCGGTTCACATCCTGCTGTCAAAAGC
CGACAAATTATCCAAAAACGAACAGATAAAAACCCTGTCCCAAGTCAAAAAACTGCTCAA
ACCTTATTCCGACAGGCAAAACATCAGCGTACAGCTGTTTTCCAGCCTGAAAAAACAAGG
TATTGACGAGGCCAACCGAACTGTCGGAAGCTGGTTGGACGCAGCAGATGCCGCCGCTTC
CTCTCCAGAGGAAAACTGACCCCAATTATACGGAAACCGTATTCCCCCCACTTGACCGAC
CGCAAACATTTAAAAAATTGCCACTGCCAAATCTAAAATGCCGTCTGAAAAGTCTTTCAG
ACGGCATTTTGCGGAGTCTTTAAAACAGAGAATCCAACTGCTGCTGTTTGGAACCAGTAT
TACTCGGAAGCACCGGCGTTTCCTGCATATCTTGGCGGACTTCGTCATCCGCCGCCTGCC
GTCCGCCTTCTGCCGCGCCCCCGTCATCTTCTTTTGCCCGTCGGGAAGGTTGCGGCGCAA
TACCGCTGTTGTCCAGCGTCAAGCCCGGATCGGTTACCATACGTTCCTTCATATAGTATT
CGCCATTGCTGCTGACCACACCTTCAGGCATTTTCATCCCCTTGCCCTGCTTTCCTTTCA
ACGCAAAACGCATATAGTCCACCCAAACCGGCACCGCAATCGTACCGCCGTAGCCGACAC
GCCCCATACTCTTAGGTTTGTCGAAGCCGATATATACGGCAGTAACCACATCAGGGTTAA
AACCGACAAACCACGCATCCTTATTGTCATTGGTCGTACCCGTTTTACCGGCAATATCCG
TTCTTCCCAACGCAGCTGCCCCCCTTGCCGTACCAACACGGACCACATCCTGCATAATCT
TATACATAATATAGGCATTGCGCGGATCGATTGCCTGAGGCGCATTTTGCCCAGCCACCA
AAGGTTGCATTTGGGCGCGCAACCTGCCGTCTCTGTCATAAATCTTATCGATTACGTGCG
AAGAAACCCTATATCCGCCGTTCGCAAATACGCTATATGCCTCCGCCACTTTCAACGGCG
TTGTCTCGCCCGTACCTAAAGCCATAGACAGGCTTGCCGGCAGCTCGGACGACCTGAAGC
CGAAACGCCGGATATACTGTTGCGCGTAACCGACACCGATAGACATCAAAATACGGATGG
AAACCATATTCTTGGAAGCCGTCAGAGCCTGTCTCAAAGTAATGTAGCCGGAATATCTGC
CGTCTGAATTTTTAGGTGTCCAAACCGAACCGTTCGGCCCTTTCCCCGGCAGGGAAATCG
GCGCATCGTTAACCACTGTGGACGCGGTCATCCCCTTAGATAATGCCGCCGAATAGACAA
ACGGCTTAAAGGTCGAACCCGGCTGCCGCATTGCCTGAACGGCACGATTGAATGTTTTGC
TGTGAAAATCATAACCGCCGACCAGCGCGCGCACAGCTCCGGTTTTTGCATCCAGCGAAA
CCAAAGCCCCCTGCAGCAACGGCTCTTGAACCACCGCCCAACGCCCGCCGTTGTTTTTGA
CACGGATGACCGCGCCCCTGCGGATACGGTCCTCCCCCATTTTTTCATTATTGACCGCGC
GGGCCGCAAAACCCAAGGCGCGCCTGTCAAGCGTAACCCGCCTGCCGCCGGGCAGCTGTA
TGACGACATTTTTCTTTTTAGTCACATCCAACACAACGGCGGGAACCATTTTATCGACGG
TATAGAGTCCCGACAGATACTGGCTGACAGTCTCCTCGACATCTTCACTCTTACTCAAAT
CGATATAGTTTTCCGCACCGCGGTAGCTGCTGCCGCGATCGAAATTCCGTAGAGCCTTGC
GCAATGCCTCGGTTGCCACCTTCTGATGATCGGCGCGGACCGTGGTATAAACCTTAAAAC
CCTGCGTATAGGCATCTTCACCGTATTTCTCATACAGTTCCTGACGCACCATTTCCGCCA
CATATAACGCACTCTGATCGATTTTCCGAACAAACCGCTCGTAATGCAGTTCCTCATTCA
ACGCCTGATCGCGCTGTTGCACGGTAATCATCTTCTCCTCGAGCATATTGTTCAAAATAT
ACTTCTGGCGCAACTTGGCACGTTCTGGATTAACAATCGGATTATAGGCAGACGGAGCCT
TGGGCAGTCCCGCAAGCATGGCGGCTTCCGCCAAAGTCAAATCTCGGACATTCTTATTGA
AATAGATTTGCGCGGCAGATGCAAAACCATAGGCGCGCTGACCGAGGTAAATCTGATTGA
AATACAACTCGAGGATTTTGTCTTTGCTTAAAGACTGCTCGATTTTATAGGCAAGCAACA
CCTCATTGAATTTGCGTGTGAACGTTTTTTCACTGCTCAAATAAAAATTTTTCGCCACCT
GCTGCGTAATCGTACTCGCACCCGACTGCACGCTGCCGGACACGACATTGCCGACGGCAG
CGCGGGCAACACCCCAAACATCCACCCCCCAATGCCGGTAAAAGCGTTTATCCTCGGCGG
```

```
CGATAACCGCATTCCGCAACACCTCTGGGAAATCGCCGATTTTTGTAAATTCGCGCCGCT
GCTCCCCATACATACCGATGACTTCCCCATCCGCCGAATAAATAGTCAACGGCATTTTAG
GCTGGTAATGCTGCAAAGAATCCAAAGACGGCAGTTTCGGATACGTTACCAAAATAGCAA
TGGCAACCAAACCCACTCCAAATACACAAAACCCAAAAACCAAACCAAAACAAGTCGTTA
AAATCTTTTTAATCATAGCTGAATAATAATTTACCATTATTGGTATTAAATAAAGTAAAA
TAGCAACCGATTTCTACAAAGCACGGTTTCAATGTGCAAAGAACAAGGAATCCATTACGG
ATACCGAAACGGTTACTCACTGTACAAATAAAGCAGGAACTTTCATCATGCGCTTGTTTA
AAAGCTTGAAAAACCCTAAAAAAACAGATGCCAAGCTCCCTAAAAAATCTTCGGGACTCA
ATAACCGCGCGGCAATCGGCATCGATATCGACCAGCATTCCATCAAAATGGTCCAATTGT
CAGGACGTAGTTTAAACCAAATTCAATTGGAAAAATACGTCATTGCCAAATTACCAAAGA
ATATCATTCAAGGCAATAAAGTCCAAAATTACGATCAACTTGTTACATATTTGCAACAAG
CCTATGCCAAACTGGGTACTTCGTGCAAAAACATCATCGCGTCCGTCCCGCAAAATTTGG
CAACCATCGAACAATTGACCTACACAGACAAAGATGCAGAATTAGACCTGCAGGGGTTCG
TGGAGTCCTCCATCTCCGAAGTCAGCTCGATATCGCTCGAAGAAGCCAATTACGACTATC
AGGTCTTGTCCCAATCGGCCGCCGGCGAAGCTGTGTTGGCCGTCGCATCGAGAAAGGATG
AAATCGAACCCCTGATTGACGCATTCAACGCCGCCGGTATGAAATTATCCGCGCTTGATG
TGGACATTTTCGGACAATACAACGCCTACGCGCTATGGATAAACCATTTCGCCCCCGAGC
TTGCAGCCGAAAAAGTCGCCATTTTCGGCGTATATGCCGCACAGACCTACGCCTTGGTCA
TCCAAGACGGAAAAAATCCTATACAAACAGGAAACCTCCGTCAGCGAAGAACAGCTCAACC
AACTCATCCAGCGCACCTATCAGGTAACAGAAGAAAAAGCGGAAGAAATCATCAACTCCC
CGCAAAAACCTTCCGATTACCAAGAAAGCGTGGCAAACTATTTCAACCAGCAGATTACCC
AAGAAATACAAAGGGTCTTGCAGTTTTATTACACCACGCAGACCGCAGACGATATGACCG
ACATCAAGCATATCCTGCTGACCGGGGAAGCGGCGCGCCAGGAAGGCATCGCCCAAACCG
TCGCCTCACAAACCAATGCAGATGTACAATGCGTCCATCCCGCGCGTTATTTTGCGGACA
ACCTCAAAACAGACAAACAACAATTCGAACTTGATGCGCCGACACTGACCAGGGCGTTCG
GTTTGGCGGTACGGGGATTATAATTATGAACAATTTAATCAAAATCAACCTCCTCCCCTA
CAGGGAAGAGATGAACAAGCGCAAACAGCAGCAGTTTAAAACGCTGATGTACGGTGCCGT
GCTGACGGGCGTTGCCGCCGTTGCGGCAACCTACCTGTTTATCGACAATATGATCAATAA
CCAGTCGGAAAGAAACACGCTGCTGGAAACCTCCATCGCACACTTGGATACCGAGCTGTC
GGAAATACAAAAGCTCAAACAGGAAAAAGATGCCTTCCTGATTAAGAAAACAAAATCGA
GGAGCTCCAGCTCAAACGCCTCCAAGCCGCAAAAATCCTCGACAGCCTGAATGAGGCCGT
CCCCGGAAGCACCTACCTGACCTCGCTGGATGCCGTTACCGCCGACTCTTATCGGCTCAG
CGGCAGGACATCCAGCGACAACCGCGTTGCCGCCATGATGAGGGCGATGCCCAATACCGG
CATATTCAAGCAACCCGAATTGTTAAGCATCAAGAAAAACAATTCGCATCAAGAATTTAC
CCTTCAGGCAACATTACAACCCATCGTAAAGGCGGCCGAATCCAAAGAGAATCCGGCTTC
GGGAAACGCACAGGAGGCAAACTGAATGGCTTCTAAATCATCTAAAACCAACTTGGATCT
CAACAACCTTCACCTGCTCAACCTTCCTGCCAGGCTTTTTATCGCCCTGCTGGCCGTTGC
CGCCGTGCTGGGGCTCGGTTATGCCGGATTGTTCAAAAGCCAGATGGAATCCCTTGAGGA
ATACGAAGCAAAAGAAACCGAACTGAAAAACACCTACAAACAGAAAAGTATCGACGCGGC
CAGCCTGAACAACCTGAGGGACGAACTTGCCTCAATCCGCTCTGCCTTCGATATCATGTT
GAAACAGCTGCCGACAGATGCAGAAATTCCCAATCTGGTTCAAGAGCTTCATCAGGCAGG
TTCGAGCAACGGTCTGCGCTTGGACAGCGTTATGCCCCAACCTCCCGTAGATGACGGCCC
CATCAAAAGATTACCCTATTCCATTTCCATTACCGGAAATTACGAACAGATCAGCCAATT
TACCCGCGATGTCGGCAGCCTCTCCCGAATCATTACCCTTGAGTCGCTGAAAATCGCCCA
ATCTCCGGAAAACGGCGGCAATCCTGACGGCAAGAGCAGCATCCTGAACCTCAGCGCCAT
TGCCACCACCTACCAAGCAAAATCCGTAGAAGAGCTTGCCGCAGAAGCGGCACAAAATGC
CGAGCAAAAATAACTTACGTTAGGGAAACCATGAAACACTATGCCTTACTCATCAGCTTT
CTGGCTCTCTCCGCGTGTTCCCAAGGTTCTGAGGACCTAAACGAATGGATGGCACAAACG
CGACGCGAAGCCAAAGCAGAAATCATACCTTTCCAAGCACCTACCCTGCCGGTTGCGCCG
GTATACAGCCCGCCGCAGCTTACAGGGCCGAACGCATTCGACTTCCGCCGCATGGAAACC
GACAAAAAAGGGGAAAATGCCCCCGACACCAAGCGTATTAAAGAAACGCTGGAAAAATTC
AGTTTGGAAAATATGCGTTATGTCGGCATTTTGAAGTCCGGACAGAAAGTCTCCGGCTTC
ATCGAGGCTGAAGGTTATGTCTACACTGTCGGTGTCGGCAACTATTTGGACAAAACTAC
GGTAGAATCGAAAGCATTACCGACGACAGCATCGTCCTGAACGAGCTAATAGAAGACAGC
ACGGGCAACTGGGTTTCCCGTAAAGCAGAACTGCTGTTGAATTCTTCCGACAAAAACACC
GAACAAGCGGCAGCACCTGCCGCAGAACAAAATTAAGAAGAGGATTACTCCATTATGAAT
ACCAAACTGACAAAAATCATTTCCGGTCTCTTTGTCGCAACCGCCGCCTTTCAGACAGCA
TCGGCAGGAAACATTACAGACATCAAAGTTTCCTCCCTGCCCAACAAACAGAAAATCGTC
AAAGTCAGCTTTGACAAAGAGATTGTCAACCCGACCGGCTTCGTAACCTCCTCACCGGCC
```

```
CGCATCGCCTTGGACTTTGAACAAACCGGCATTTCCATGGATCAACAGGTACTCGAATAT
GCCGATCCTCTGTTGAGCAAAATCAGTGCCGCACAAAACAGCAGCCGTGCGCGTCTGGTT
CTGAATCTGAACAAACCGGGCCAATACAATACCGAAGTACGCGGGAACAAAGTTTGGATA
TTCATTAACGAATCGGACGATACCGTGTCCGCCCCCGCACGCCCCGCCGTAAAAGCCGCG
CCTGCCGCACCGGCAAAACAACAGGCTGCCGCACCGTCTACCAAGTCCGCAGTATCCGTA
TCCGAACCCTTTACCCCGGCAAAACAACAGGCTGCCGCACCGTTTACCGAGTCCGTAGTA
TCCGTATCCGCACCGTTCAGCCCGGCAAAACAACAGGCGGCGGCATCAGCAAAACAACAG
GCGGCAGCACCAGCAAAACAACAGGCGGCAGCACCAGCAAAACAACAGGCGGCAGCACCA
GCAAAACAAACCAATATCGATTTCCGCAAAGACGGCAAAAATGCCGGCATTATCGAATTG
GCTGCATTGGGCTTTGCCGGGCAGCCCGACATCAGCCAACAGCACGACCACATCATCGTT
ACGCTGAAAAACCATACCCTGCCGACCACGCTCCAACGCAGTTTGGATGTGGCAGACTTT
AAAACACCGGTTCAAAAGGTTACGCTGAAACGCCTCAATAACGACACCCAGCTGATTATC
ACAACAGCCGGCAACTGGGAACTCGTCAACAAATCCGCCGCGCCCGGATACTTTACCTTC
CAAGTCCTGCCGAAAAAACAAAACCTCGAGTCAGGCGGCGTGAACAATGCGCCCAAAACC
TTCACAGGCCGGAAATCTCCCTTGACTTCCAAGATGTCGAAATCCGCACCATCCTGCAAT
TTTGGCAAAAGAATCCGGAATGAACATTGTTGCCAGCGACTCCGTCAACGGCAAAATGAC
CCTCTCCCTCAAGGATGTGCCTTGGGATCAGGCTTTGGATTTGGTTATGCAGGCGCGCAA
CCTCGATATGCGCCAGCAAGGGAATATCGTCAACATCGCGCCCCGCGACGAGCTGCTTGC
CAAAGACAAAGCCCTCTTACAGGCAGAAAAAGACATTGCCGATTTGGGTGCGCTGTATTC
CCAAAACTTCCAGTTGAAATACAAAAATGTGGAAGAATTCCGCAGCATCCTGCGTTTGGA
CAATGCCGACACGACCGGAAACCGCAACACGCTTATCAGCGGCAGGGGCAGCGTGCTGAT
CGATCCCGCCACCAACACCCTGATTGTTACCGACACCCGCAGCGTCATCGAAAAATTCCG
CAAACTGATTGACGAATTGGACGTACCCGCGCAACAAGTGATGATTGAGGCGCGTATCGT
CGAAGCGGCAGACGGCTTCTCGCGCGATTTGGGCGTTAAATTCGGCGCGACAGGCAAGAA
AAAGCTGAAAAATGATACAAGCGCATTCGGCTGGGGGGTAAACTCCGGCTTCGGCGGCGA
CGATAAATGGGGGGGCCGAAACCAAAATCAACCTGCCGATTACCGCTGCCGCAAACAGCAT
TTCGCTGGTGCGCGCGATTTCCTCCGGTGCCTTGAATTTGGAATTGTCCGCATCCGAATC
GCTTTCAAAAACCAAAACGCTTGCCAATCCGCGCGTGCTGACCCAAAACCGCAAAGAGGC
CAAAATCGAATCCGGTTACGAAATTCCTTTCACCGTAACCTCAATCGCGAACGGCGGCAG
CAGCACGAACACGGAACTCAAAAAAGCCGTCTTGGGGCTGACCGTTACGCCGAACATCAC
GCCCGACGGCCAAATCATTATGACCGTCAAAATCAACAAGGACTCGCCTGCGCAATGTGC
CTCCGGTAATCAGACGATCCTGTGTATTTCGACCAAAAACCTGAATACGCAGGCTATGGT
TGAAAACGGCGGCACATTGATTGTCGGCGGTATTTATGAAGAAGACAACGGCAATACGCT
GACCAAAGTCCCCCTGTTGGGCGACATCCCCGTTATCGGCAACCTCTTTAAAAACACGCGG
GAAAAAAACCGACCGCCGCGAACTGCTGATTTTCATTACCCCGAGGATTATGGGTACGGC
CGGCAACAGCCTGCGCTATTGATGCGTCAAAATAAGGGCATATGTTTACGGCATATGCC
CTTTCTTTATGCTTTTTGCCGCGACCGAAATGCCGTCATTCCCGCGCAGGCGGGAATCCA
GTCCGTTCAGTTTCGGTCAGTTTCGGTCATTTCCGATAAATTCCTGTTGCTTTTCATTTC
TGGATTCCCACTTTTGTGGGAATGACGGCGGAAGGGGTAAATCCTCACAACCCAAAGCCT
CGTCATTTCCACAAAAAACAGCAACCCGAAACAGCAACTTAAAACCCCGTCATTCCCGCG
CAGGCGGGAATCTAGGTCTGTCGGTTCAGGAACTTATCGGATAAAACGGTTTCTCCAACC
CTGCGTTCTAGATTCCCACTTTCGTGGGAATGACGGGATATGGGTTTCCGTGCGGACGTG
TTCGGATTTCCGCCTGCGCGGGAATGACGGCGACAGATGCCCAACGGTCTTTATAGTGGA
TTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGAT
TCACTTGGTGTTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCCAAGGCGAGGCAACGCC
GTACTGGTTTTTGTTAATCCACTATAGTATTGATAAACATATTATCTTCAATATATTCAA
TTGGATAATTGTTTACCTAAGCAAAGATAATTGCCTTTTCCTGACAAATAAGTGAAATCA
ACGGATTGTCAAAACACAGCCTGAAATAAAAAACCTCCCTGATTTCTTTTATTTGTCCTT
AAAATCAGAAAGGTTCGGGATGGTCGGGTTATTTTTCCAAACGTACCGCCGCCCTGCCGA
TTTCGTATAAAATTCCGCCGTAACCCGACAAGCCCGAACCCTGTCGCCCCGAAAGGCGGG
GTGTCAAACATTAAGGAATTGTGATGAAAAACTTTAACGGCAAACTCATCCTCATCGGAC
TGATGGGCGCGGGCAAAACCACGCTGGGCCGGCAAATGGCGCAGCGGCTGGATTACCGTT
TTTACGACAGCGATCACGAAATCGCCGCAGCCGCCGGCGTTCCCATCCCCACCATATTTG
AAATGGAAGGCGAACAGGGATTCCGTTCGCGCGAAACCGCCATACTCAAAAAGCTGGTTA
TCCTGCCCCATATCGTCCTGTCCACCGGCGGCGGCGCGGTGTTAAAAGAAGAAAACCGCG
CCCTTATCCGCAAAAGCGGCACGGTCGTCTATCTGCACGCCCCGCCCGAAACCCTGCTCG
AACGCACGCGCTGCGACAACAGCCGTCCTTTGCTGCAAGTTGCCGATCCTTTGGCGAAAT
TACGTGAACTCTACGCCGCACGCGACCCCGTTTACCGCCAAACCGCCGACTTTACCGTAG
AATCGGCAAACTGCCGGGAAACCGTGCAAACCCTGCTCAAACGCTTATCCCGATAAACCG
```

GCATATGCGCCGCGCCCAGAAAACCAAACCGCGCCCCGCCCGGCGGGCCGGCGGTTCAAA
CTTTAAGGAACAACAATGAAAACACTGACCGTACACACCCCGTCCCACAGCTACCCCATC
TTTATCGGCAACGGACTGCTGCCGCAGGCAGGAAGCCTGCTCAAACCGCATTTGGGCAAA
CGCGCCGCCATCATCGCCAACGAAACCGTCGCCCCGCTCTACCTCGGCACGCTTCAGACG
GCATTGGATGCGGCAGGCGTATCCCATTTCAGCATCATCCTGCCCGACGGCGAGGCGCAC
AAAAACTGGCAGACGCTCAACCTCATCTTTGACGGGCTGATGCAAAACCGCGCCGAACGC
AAAAACCACATTAATCGCACTGGGCGGCGGCGTGATCGGCGACATGGTCGGCTTTGCCGCT
GCCACCTACCAGCGCGGCGCACCGTTCGTTCAAATACCGACCACGCTGTTGAGTCAGGTC
GACTCATCGGTGGGCGGCAAAACCGCCATCAACCACCCGCTCGGCAAAAATATGATTGGC
GCGTTTTACCAGCCGCAGGCGGTGCTTGCCGACTTGGACACGCTGCACACCCTGCCCGCC
CGCGAATTGTCCGCCGGTATGGCGGAAGTCATCAAATACGGCGCGCTCGGCGACATCGGC
TTTTTTGAATGGCTGGAACAGCATATGCCCGAACTGATGACGCTCGATCGGGAAAAACTC
GCCCAAGCCGTGTACCGCTGCTGCCAAATGAAGGCAGACATCGTCGCCCAAGACGAAACC
GAACAGGGCATACGCGCATGGCTCAACCTCGGACACACCTTCGGACACGCCATTGAAACC
GAGATGGGTTACGGCACTTGGCTGCATGGAGAAGCCATCGCCGCCGGCTGCGTGTTGGCG
GCGCGTTTGTCCGAACAACTGGGCAAAACCTCCGCCGCAGATACCGCGCGGCTCGCCGCC
CTGCTCGAAGCCGCCGGACTGCCCGTCCGCGCCACCCGTGTTTGCCTTTGAAAAATGGCTG
GAACACATGAGCCACGATAAAAAAGTCAGCGGCGGCATCATGCGCTTTATCGGTCTGAAC
CGGCTGGGCGAAGCCAACATCACCGAAATTACCGACACGGACATCCTCCGCCGCACCCTG
CAACCGTATCTCTGATTTCCTCTGCCGATGTGCTGCCGCGCGGGTTTGACGCACGATGAT
GATTTTCCATCATCTTTCTCCGCAAAAGCGGGAATCCAGTCCGTTCGGTTTCGGTCGTTT
CCGATAAGTTCCCGTTGCTTTTCATTTCTAGATTCCCACTTTCGTGGGAATGACGGCGGA
GAGGTTTTTGTTGTTTCGGAGAAGTTTCTGCAACCCTAGAATCTCGTTATTTCCACAAAA
AACAGAAAACCAAAACAGCAACTTAAAACCTCGTCATTCCCGCAAAAGCGGGAATCCGGT
CCGTTCGGTTTCGGTCGTTTCCGATAAATTCCTGCTGCTTTTCATTTCTAGATTCCCACT
TTTGTGGGAATGACGGCGGAAGGGTTTTGGTTTTTTCCGATAAATTCTTGAGGCATTGAA
ATTCTATAGTGGATTCACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAGATG
GTACGGAACCGATTCACTCGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGG
CGAGACAACGCCGTACCGGTTTTTGTTCATCCACTATAACAGCAACCCTGTCGCCGTCAT
TCCCGCAAAAGCGGGAATCCAGTCCGTTCGGTTTCGGTCGTTTCCGATAAGTTCCCGTTG
CTTTTCATTTCTAGATTCCCACTTTCGTGGGAATGACGGCGGAAGGGTTTTGGTTTTTTC
CGATAAATTCTTGAGGCATTGAAATTCCAGATTCCCGCCTGCGCGGGAATGACGGCTCAA
AAGTTACGGAACGAAAAACAACCAAAACCGGACAAGTCGGATTCCCGCCTGCGCGGGAAT
GACGGAATCTTAAGTTTCCGTCTTTGTTTTCTGTTTTCTGTTTTCGAGGGAATAATGGGG
AACAAGCCGTATTTCAGACGGCATTTTCAGTTCGGGGTATAATCCGAATACTTGCGACCA
TCTGAATCATTGGGACAAACCATGTGTCAACTGCTGGGCATGAACTGCAATACGCCGACC
GATATTATGTTTTCCTTTGAAGGCTTCCGCCGCAGGGGCGGCATTACCGACCACCATGCC
GACGGTTTCGGTATCGGCTTTTTCGAAGGCAAAGGCGTGCGCCTGTTCCACGACGACAAG
CCGAGCGTAAATTCCCCCGTCGCCGACCTCGTGCGTGCCTACCAAATCAAATCGGAAAAC
GTCATCGCACATATCCGCAAAGCATCGCAAGGACAAACCTCGCTGGCGAACACCCATCCC
TTTATGCGTGAAATGTGGGGCGGCTACTGGCTGTTTGCCCACAACGGACATTTGATTGAT
TTTTTCCCCGAACAGGGCGAATTTTTCCACCCCGTCGGCACAACCGATTCCGAACGCGCG
TTCTGCCACATCCTCAACCGCCTGCGCACCCGCTTTGCCGCCCGTCCCGACGACGACACG
CTGTTTGACGCGATTGCGGGGCTGACGCACGAAATCCGCAAGTTCGGGCTGTTTAACTTT
ATGCTTTCAGACGGCATTGCCCTGTTTGCCCACGCCAGCACGCTGCTGCACTACATCGTC
CGCCAAGCCCCGTTCGGCAAGGCGCGCCTGCTCGACGACGACGTGATGGTCGATTTTGCC
GAAGTAACCACGCCCTCCGACCGCGTCGCCGTTATCGCCACCCTGCCACTGACCCGCGAC
GAATCATGGTCCCAACTTGCCGTGGACGAACTGGTCATGTTCCGCGAAGGCAACATCGTC
CGACACGACCGTCCCGAAAACCCCGTCTATATGAGTGCCGAAGAAGGTCTGGAAATCGCC
CGCGCCGCCGGCGTCGCCGTCTGAACTTCAGACGACATAGGAGGACGAACCCGATGAAAT
GCCCGTTTTGCGCCCACCCCGACACCCGCGTTGCCGATTCGCGTCTGATGGAAGAACGCA
ACGCCGTGCGCCGCCGCCGCCACTGCCCCAACTGCGGCAAACGCTTCGGCACGCTCGAAA
CCGCCGAACTCAAAATGCCCGCCGTCATCGGTCCGGACAAAAAACGCTCGCCCTTTAATG
CACAACGCCTCCGCAACGACCTGACCGCCGCCGCCCGAAAATCCGCCCTGACACCCGAAC
AGATCGACGAAACCGTCCGCCTGACGGAACACAGGCTCTACACTTCGGGTCAGCGCGACA
TCCCCTCTGCCGCACTTGCCGACATGGTGCTAAAAGAACTGCTCCGACAAGATACGGAAG
CCGCCGTCCGTTTCGCCGCCCTGCACAAACGCTTCGACAATCCGGCAGACTTTGCCTCGT
GGCTGGCGCAAGCCGTCAAAACAGGCGGCAAAGCCTGATTCCCCCAACCCATACTGATAC
GGTATCCCTATGTTTTCGGACACAGATATATCCATGATGGAAAACGCCCTCCGACTTGCC

GCTTTGGGGCGTTTTTCCACTTCGCCCAATCCGCGCGTCGGCTGCGTTATCGCACACGGC
AGCCAAATTGTCGGGCAAGGCTTCCACGTCAAAGCGGGCGAACCCCATGCCGAAGTCCAC
GCCCTGCGTCAGGCGGGCGAAATGGCACAAGGCGCGACCGCCTTTGTTACCCTCGAACCG
TGCAGCCATTACGGGCGCACACCGCCCTGTGCCGAAGCACTGGTGCGGGCGGGCGTGTCC
CGCGTCGTTGCCGCCATGCGCGACCCCAACCCGCTGGTTGCAGGCAAAGGGCTTGCCCTG
CTCGAAGCAGCAGGCATCAAGACGGAATGCGGTTTACTCGAACATCAGGCAAGGGAACTC
AACCGAGGCTTCCTGTCGCGCATCGAACGCCGCCGCCCCTTTGTCCGCCTCAAATGCGCC
GTTTCGCTGGACGGCAAAAACCGCCCTTTCAGACGGCAGCAGCTTTTGGATTACCGGCGAA
GACGCGCGTGCCGACGTACAGGTTTTGCGTGCCGAAAGCTGCGCGGTGCTGACCGGCATC
GGCACGGTGTTGGCGGACAATCCCCGGCTCAACGTCCGCGCTTTTCCAACTTTGCGCCAA
CCCGCACGCATCGTTTTAGACAGCCGCCTGCGCCTGCCCCCGAACAGCCATTTGGTTACC
GACGGACAATCTCCGACCTACATCGCCACACTCGAACGCAACGAAGACAGACTGCACCCC
TATCGGGAACACGCACACGTCCGCATCCTGATGCCGTCTGAAACGGCAGACAGCAAAATC
GACCTGCACCACCTGATGCGCCTCCTTGCTGACGAAGGTTTCGGCGAAATCATGGTCGAA
GCAGGCTCCGAACTCACATCCGCATTTTTGGCAGAAAATCTGGCAGACGAAATCGTCCTG
TACCGTTCGCCCAAAATCCTCGGCAGCGGCAAAGACCTGTTTTCCCTGCTCGAAAACCGC
GCCGCCCTTTCCGCACCGCCCTTGTGGACACCCGTTTCAAGCGAAATCCTCGGACACAAC
ATCAAAACCGTGTTCCGAAAAAAACGGCAACGCCTTTTAAAGGGTTTGCGCCGTTTCACTA
TATAATAACGCCGATAAAAAACGGCCCCGTTCAGACCGCCGCCCGCCCGAAAAAACGCAA
CCCGGACTGCCGCACCCCGCCGGCAGCCGCGACGGTCTGAAAGCCGTCAAATTCCGATCA
AGAAAGGCTTCAGACGGCACAGGCAGCATCCCGCCGCCGCCCGGACATCAAAAATGGACA
CAAAAGAAATCCTCGGCTACGCGGCAGGCTCGATCGGCAGCGCGGTTTTAGCCGTCATCA
TCCTGCCGCTGCTGTCGTGGTATTTCCCCGCCGACGACATCGGGCGGCATCGTGCTGATGC
AGACGGCGGCGGGGCTGACGGTGTCGGTGTTGTGCCTCGGGCTGGATCAGGCATACGTCC
GCGAATACTATGCCACCGCCGACAAAGACACCTTGTTCAAAACCCTGTTCCTGCCGCCGC
TGCTGTCTGCCGCCGCGATAGCCGCCCTGCTGCTTTCCCGCCCGTCCCTGCCGTCTGAAA
TCCTGTTTTCACTCGACGATGCCGCCGCCGGCATCGGGCTGGTGCTGTTTGAACTGAGCT
TCCTGCCCATCCGCTTTCTCTTACTGGTTTTGCGTATGGAAGGACGCGCCCTTGCCTTTT
CGTCCGCGCAACTCGTGCCCAAGCTCGCCATCCTGCTGCTGCTGCCGCTGACGGTCGGGC
TGCTGCACTTTCCAGCGAACACCGCCGTCCTGACCGCCGTTTACGCGCTGGCAAACCTTG
CCGCCGCCGCCTTTTTGCTGTTTCAAAACCGATGCCGTCTGAAGGCCGTCCGGCACGCAC
CGTTTTCGCCCGCCGTCCTGCACCGGGGGCTGCGCTACGGCATACCGATCGCACTGAGCA
GCATCGCCTATTGGGGGCTGGCATCCGCCGACCGTTTGTTCCTGAAAAAAATATGCCGGCC
TGGAACAGCTCGGCGTTTATTCGATGGGTATTTCGTTCGGCGGGGCGGCATTATTGTTCC
AAAGCATCTTTTCAACGGTCTGGACACCGTATATTTTCCGCGCAATCGAAGAAAACGCCC
CGCCCGCCCGCCTCTCGGCAACGGCAGAATCCGCCGCCGCCCTGCTTGCCTCCGCCCTCT
GCCTGACCGGCATTTTCTCGCCCCTTGCCTCCCTCCTGCTGCCGGAAAACTACGCCGCCG
TCCGGTTTATCGTCGTATCGTGTATGCTGCCGCCGCTGTTTTGCACGCTGGCGGAAATCA
GCGGCATCGGTTTGAACGTCGTCCGCAAAACGCGCCCGATCGCGCTCGCCACCTTGGGCG
CGCTGGCGGCAAACCTGCTGCTGCTGGGGGCTTGCCGTGCCGTCCGGCGGCGCGCGCGGCG
CGGCGGTTGCCTGTGCCGCCTCATTCTGGCTGTTTTTTGCCTTCAAGACCGAAAGCTCCT
GCCGCCTGTGGCAGCCGCTCAAACGCCTGCCGCTTTATCTGCACACATTGTTCTGCCTGA
CCTCCTCGGCGGCCTACACCTGCTTCGGCACGCCGGCAAACTATCCCCTGTTTGCCGGCG
TATGGGCGGCATATCTGGCAGGCTGCATCCTGCGCCACCGGAAAGATTTGCACAAACTGT
TTCATTATTTGAAAAAAACAAGGTTTCCCATTATGAAAATCGTTTTGACCACATCTATGGC
AGGCTTGGGCGGCACGGGCACGATATCATCGATTGCCAAATGGCGTGCAAAAACGACCCC
GTTCAGTCCGACGAAATCGTCCGCCGCTTCAGGCGCGACATTTCCTATCGGAAAATCGTC
AACCTGATTGAAAGATTGGCAAATGAGTAAATTCTTCAAACGCCTGTTTGACATTGTTGC
CTCCGCCTCGGGACTGATTTTCCTCTCGCCAGTATTTTTGATTTTGATATACCTCATCCG
CAAGAATCTAGGTTCGCCCGTCTTCTTCTTTCAGGAACGCCCCGGAAAGGACGGAAAACC
TTTTAAAATGGTCAAATTCCGTTCCATGCGCGACGCGCTTGATTCAGACGGCATTCCGCT
GCCCGACGGAGAACGCCTGACACCGTTCGGCAAAAAACTGCGTGCCGCCAGTTTGGACGA
ACTGCCTGAATTATGGAATATCTTAAAAGGCGAGATGAGCCTGGTCGGCCCCCGCCCGCT
GCTGATGCAATATCTGCCGCTGTACGACAACTTCCAAAACCGCCGCCACGAAATGAAACC
CGGCATTACCGGCTGGGCGCAGGTCAACGGGCGCAACGCGCTTTCGTGGGACGAAAAATT
CGCCTGCGATGTTTGGTATATCGACCACTTCAGCCTGTGCCTCGACATCAAAATCCTACT
GCTGACGGTTAAAAAAGTATTAATCAAGGAAGGGATTTCCGCACAGGGCGAAGCCACCAT
GCCCCCTTTCACAGGAAAACGCAAACTCGCCGTCGTCGGTGCGGGCGGACACGGAAAAGT
CGTTGCCGACCTTGCCGCCGCACTCGGCCGGTACAGGGAAATCGTTTTTCTGGACGACCG

CGCACAAGGCAGCGTCAACGGCTTTTCCGTCATCGGCACGACGCTGCTGCTTGAAAACAG
TTTATCGCCCGAACAATACGACGTCGCCGTCGCCGTCGGCAACAACCGCATCCGCCGCCA
AATCGCCGAAAAAGCCGCCGCGCTCGGCTTCGCCCTGCCCGTTCTGGTTCATCCGGACGC
GACCGTCTCGCCTTCTGCAACAGTCGGACAAGGCAGCGTCGTTATGGCGAAAGCCGTCGT
ACAGGCAGGCAGCGTATTGAAAGACGGCGTGATTGTGAACACTGCCGCCACCGTCGATCA
CGACTGCCTGCTTAACGCTTTCGTCCACATCAGCCCAGGCGCGCACCTGTCGGGCAACAC
GCATATCGGCGAAGAAAGCTGGATAGGCACGGGCGCGTGCAGCCGCCAGCAGATCCGTAT
CGGCAGCCGCGCAACCATTGGAGCGGGCGCAGTCGTCGTACGCGACGTTTCAGACGGCAT
GACCGTCGCGGGCAATCCGGCAAAGCCGCTGCCGCGCAAAAACCCCGAGACCTCGACAGC
ATAAGCGATTAAAATACACCCCCGTACAGACCGATTTTGACAACACCTGCGGCGCGCGCC
CGATTCTTCGGAACACGCCCCCCTTCAGACGGCATAGGGTCGGAAATGCCGTCTGAAAAC
CGACGGACAAACCATCATGCTGAACACTTTCCTTTCCCCGTGGCCCTGCTTCACCCAAGA
AGAAGCCGATGCCGTTTCCAAAGTCCTGCTGTCCAACAAAGTCAACTACTGGACGGGCAA
CGAATGCCGCGAATTTGAAAAAGAATTTGCCGCCTTTGCCGGCACGCGGTACGCCGTCGC
CCTTGCCAACGGCACGCTGGCACTCGATGTCGCGCTCAAAGCAATGGGCATAGGCGCGGG
CGACGATGTGATTGTTACCTCGCGCACCTTCCTCGCTTCCGCGTCCTGCATTGTGAACGC
GGGCGCAAACCCCGTGTTTGCCGATGTGGATTTGAACAGCCAAAACATCAGCGCGGAAAC
CGTCAAAGCCGCGCTGACACCGACTACCAAAGCCGTCATCGTCGTCCACCTCGCCGGTAT
GCCCGCCGAAATGGACGGCATTATGGCTTTGGCAAAAGAACATAATCTTTGGGTAATCGA
AGACTGCGCCCAAGCGCACGGCGCAAAATACAAAGGCAAATCCGTCGGCTCTATCGGACA
CGTCGGCGCGTGGTCGTTCTGCCAAGACAAAATCATGACCACCGGCGGCGAAGGCGGTAT
GGTTACGACCAACGACAAAACCCTGTGGGAAAAAATGTGGTCGTACAAGACCACGGCAA
AAGCTACGATGCCGTGTACAACCACGAACACGCGCCCGGTTTCCGCTGGCTGCACGAAAG
TTTCGGCACAAACTGGCGTATGATGGAAATGCAGGCGGTCATCGGACGCATCCAGCTCAA
ACGCCTGCCCGAATGGACGGCGCGCCGCCGAGAAAACGCCGCCAAGCTGGCGGAAAGTTT
GGGCAAATTCAGCAGCATCCGCTTGGTTGAAGTCGCCGACTACATCGGACACGCGCAATA
TAAGTTCTACGCCTTCGTCAAACCCGAACACCTCAAAGACGGCTGGACGCGCGACCGCAT
CGTCGGCGAACTGAACGCGCGCAAAGTCCCCTGCTATCAAGGCAGCTGCTCCGAAGTCTA
TTTGGAAAAAGCCTTCGACAACACGCCGTGGCGACCGAAAGAGCGTTTGACAAATGCTGT
CGAGTTGGGCGACACCAGCCTGATGTTCTTGGTGCACCCGACGCTGACCGACGACGAAAT
TGCGTTTTGCAAAAAACACATCGAAGCCGTCTTGACCGAAGCCGCACGATAACCCTTCAG
ACGGCATATGCCGCCTGAAAACACATACCGCCCCACGATATGAATCTGGAAACTCTGATC
GCCCTGCCGCGCAACATCAAGAAAATCTGTTTCCTCATACACGATTTTCTGATGATTTTC
ATTGCCTTTTGGTTCACCCAAAGCCTAAAGGCCGACTACTCGGACGAATGGTTCGATTTT
GCCAACTGGCAGTCTTTTTTGCTGACTGCCTTGCTGACCATCACATTATTTATCCGAATG
GGGCTTTACCACGCCGTTACACGCTTCGTCAGCTTCCGCATCCTCACCACCGCACTGGCG
GGCAGCCTCGCCTCCGCCGTGTTGTTTTTCCTCAATACGCTGATATTTGAAGAAAGGCTG
CGCCTCGCCCTGCCGATTGTCTATTTCTTACTGCTGTTTGTTTCCGTGACCGGCTCGCGT
ATGGTTTTGCGCGGACTGTTGTCCGAACACCCCAAAAAACAGATGATCCCTGTCATCATT
TACGGCGCGGGACGGTCGGGCAGACAACTGCTTGAGGCCGTCAAACAAATGCGCGAATAT
TCCGCCGCCGCCTTTGTAGACGACGACCCCAAACTGTGGCACACCGTCATCTACGACCTT
GCCGTTTACCAGCCCGATGCCATCGCCTTCCTCATCGAACGCTACGGCGTGGAAAAAATC
CTGCTCGCCATCCCCGGCGCGACCCAGGAACAACGCCGCCGAATCATCAACAAACTGGAA
GCCTATCCGTGCGAAGTGTTGACCATTCCCGGAATGAAAGACCTGATGGACGGAAAAATC
AGCATCGGCACGCTCAAAAAAAATCTCTGTGTCCGACCTGCTCGGGCGTGATTCCGTCGCG
CCCGACGACCGCCTGATGAGTGCCGACATCGAAGGCAAAACCGTCATGGTAACCGGCGCG
GGCGGCTCCATCGGTTCGGAACTCTGCCGCCAGATTATCCGCCGCCGCCCCGAAAAGCTG
CTGCTGTTCGAGTTATCCGAATTCGCCCTGTACGCCATCGAAAAAGAATTGCGCGAAACC
TGCATCCAAAAACGCCTCGACACCGAAATCCTGCCCTTTCTCGGTTCGGTGCAAAACCGC
ACGCTGCTCGAACACGTCATGACCGCCTTTTCCGTTGCGACCGTCTATCACGCCGCTGCC
TACAAACACGTCCCCATGGTCGAGTTCAACACCGTCGAAGGCATACGCAACAACATCTTC
GGCACACTCGAGTGCGCGCTTGCCGCCACGACATCGGGCGTAAGAACTTTCGTCCTCATC
TCCACCGACAAAGCCGTCCGCCCCACCAACACCATGGGTGCCAGCAAACGCATGGCGGAA
CTCTGCCTTCAGGCACTCGCCGCCGAACCCGGACAAAAAACCCGCTTCAGCATGGTACGT
TTCGGCAATGTTTTAGGTTCGTCCGGCTCCGTTGTCCCGCTGTTTGAAAAACAGATTGCA
GAAGGCGGCCCGCTTACCCTGACCCACCCCGAAATCACACGTTATTTCATGACCATACCC
GAAGCCGCCCAACTCGTCATACAGGCAGGCGCGATGGGTACGGGCGGCGACGTATTCGTC
CTCGACATGGGTGAATCCGTCAAAATCATCGACCTTGCCCGCCAAATGATTACCCTAAGC
GGCCTCAAACCCAACACACCCGAACAACCCGACGGCGACATCGAAATCCTCATTACCGGA

```
CTGCGTCCCGGAGAAAAACTCTACGAAGAGCTGCTCATCGGCGACAACGTCCGCAAAACC
GGCCATCCGCGCATCATGACCGCCAACGAGACCATGCTGCCGTGGCACGAGCTCTCCGCC
CTGCTCGACCGCATCCGTGCGGCCTGCGACCGTTACGACCAGCAGGCAATCCGCACCCTG
CTCATCAACGCCCCGACCGGCTTTGCCCCGAGCGACGGCATCTGCGACCTGCTTTGGGTA
CGAGAAACACACAGAAAAAATGCCGTCTGAACCTTCAGACGGCATAACGTACAAACCAAC
CTACCTTACACACACGGAGTTTGACATGCAGTTCTCAGCATTCGGCGAAAAATTCACGCA
ACACAGCGGCATCCTCCAACTGATGGACGACCTCGGCGACGCGCTCAAAAGCGACAAGCC
CGTCAACATGCTCGGCGGCGGCAACCCGGCGCGCATTCCGGAAATCGATCAGGCGTTCGC
CGACATATTCTCCAAACTGGCGGCAGAACACGCCGTCGAAAACATCGGCAACTACTCCAA
TCCCCAAGGCGATGCCGTGCTGATTGACGCGCTGACCGCCTTCCTCAACCGCGAATACAG
CTGGAATCTGACCGCCGACAATATCGCGCTGACCAACGGTTCGCAAAACGCGTTTTTCTA
TCTTTTCAACCTCTTCGGCGGCAAATTCAACCTTTCAGACGGCACATCCGCAGAAAAAGC
CATTTTGTTGCCGCTCGCGCCCGAATACATCGGCTATGCCGACGTGCATGTCGAAGGGCA
GCACTTCGTTTCCGTCAAGCCCAAAATCGAAAACGTCGAACACGAAGGCGAAGCCGGCTT
CTTCAAATACCGCGTGGACTTTGACGCACTGGAAAACCTGCCCGAACTCAAAGCGGGCAA
AATCGGCGCGATTTGCTGTTCGCGCCCGACCAACCCGACCGGCAATGTGTTGACCGACGG
CGAAATGGCGCGTTTGGACGCTTTGGCGCGTGAACACGGCATTCCGCTGATTATCGACAA
CGCCTACGGAATGCCGTTCCCCAACATCATTTACAGCGACGTAACGCTGAATTGGCACGA
AAACATCATCCTCTGCTTCAGCCTGTCCAAAGTCGGCCTGCCGGGCGTGCGCACCGGCAT
CATCGTCGCCGCGCCCGAAGTCGTCAAAGCCGTCAGCAGCCTGAACGCGATTGTGAACCT
TGCCCCCACGCGCTTCGGCGCGGCCATCGCAACGCCGCTGCTGGAAAGCGGCGAGATGAA
ACGGCTTGCCGACCAAGTCATCCGGCCGTTTTACCGCAATCAGGCGCAAACCGCCGTCTC
GCTGCTCAAGCGGGAGCTGGGCGCGTACCCGATGAAAATCCACAAACCCGAAGGCGCGAT
TTTCCTGTGGCTCTGGTTTGAAAACCTGCCCGTTTCTTCGCAAACCCTGTACGAAATGCT
CAAAGCCGAAGGCACACTGATTATTCCGGGCGAACATTTCTTCGTCGGCATCGACACGCA
GGATTACCCGCATGCGGGCGAGTGCATCCGCATGAGCATCGCGCAGGACGCTCAAACGCT
GGAAAAAGGCATTGCCGCCATCGGTAAAACCGTCCGAAAACTGTACGACAACGTTTAAAA
CGCAAAAAATGCCGTCTGAAAAGTTTTCAGACGGCATTTTTATCTGCATTCAATATCGGG
AAAAATGTTCCCAAACCGGTTTGCAGTTTTCCGGCAGCTCGGGACACGCGCCGAGGATGC
CGCCGCTGAAGTCGTTTAAGCGGTGGAAGTCGCTGCCCGCGCTGGCGAGCATACCGAAGC
GTTCTGCCAAAAGCGCGTAGTTGAGGCGGTCGTTTTTGCAGCAGTTTCCGCTGTGGACTT
CGATGCCTGCGCCGCCGAGGTTTTTAAATTCTTCAAACAAATTGCGCTTGGCGGTGGCGG
ACAAATCGTAGCGCATGGGGTGGGCGATGACTGCCATGCCGCCCGCTCCGTTGACGGCGG
AGACGCAGTCTTCCAGCGTCGCCCATTCGTGGCGGACGGCGCAGGATTTGCCGTCGCCCA
AGTATTTGGTGAACGCCTGCTGCTTGTTTTTGACGTGTCCCGCTTGGATGAGGAACTCGG
CGACGTGGGTGCGGCTGACCATTTCTTTGTTTGCCGCCAGTGCCAGCGCGCCGTCGTATG
CGCCGCCGATGCCTTTCTTTTCGAGCTTGGCGGCGATGGCTTCAAGACGTTTCAGACGGC
CTTTCCGCACTTGCGCCAACAGGTTTTGCAGGTTTTCGTCCTGCTCGTCGAAATCCAAAC
CGACAACGTGTATGGTGCGCCCGCGCCACGTTACGGAGATTTCCACACCGTTAATCAGGC
GCAAACCGAGCTTGTCGGCTTCGGCGCGCGCTTCGGCGATGCCGCCGGTGTGGTCGTGGT
CGGTCAACGCCAGCAGCGTGCAGCCGTTTTGATGCGCGAGGCGCACGACTTCGGCGGGGG
AGAGCATACCGTCGGAAACGGTGGAATGGCAGTGCAGGTCTATCATGGGGTGTTATGTGT
GTTGTGAATGAAGGTCGGGGGGTTAATATTATCGGTTGGTGTGGATACAGCGGTGATTTCA
ACAAACAGGTGTATGGCAAATGCAAAGGAAAAGTCCCTATGCCGTCATTCCCGCGCAGGC
GGGAATCCAGACCTTGATTTGTCAAAAATATTTAAGGTTAACCGCTATTTCGAACTTCCG
GATTCCCGCCTGCGCGGGAATGACGATATGGACGTTTTCAGTTTTAATCTACTATAAAAG
ACTGTCTGAAAACGTGGTTTTATAGTGAATTAAATTTAAACCGGTACAGCGTTGGCTCGC
CTTGGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTAC
TATTTGTACTGTCTGCGGCTCGCCGCCTTGTCCTGATTTTTGTTAATTCACTATATCAAG
CCGAACCGTTTCAGACGGCATCGTCCGACCAACCCGCTTCTTTCAATTTCTGCCGTTGCA
CGTCGTATTTGGCTTTATCCGCCCAGTAAATCGTCTGAATGCACGCCTCGCCGCAGTCGC
TGCCGCAGCATTCCCACGACTCGGGTCGGACGGGTTCGTCTAAAAGCGGCTCGCCCAAAA
GGGCTTCGGCTTTATACTTCAGGGTCGTATCCATCGGCGATTTCCAAGCGAGCGCCGTCA
AACTCGATGACTTCGCCGCCGCGTATTTTGGCGGTTTTACGGGTTTCGGTTTCGCCGTTG
CGCAACACCAGCCCTTCGGCGATAAACGCTTTCGCCTGTCCGCCGCTTTCGGCAAGTCCG
ACCAATTTCAAGAGGTCGCACAAGGCGATGTATTCGTTGTCTTCGAGATAGACAGTGGCT
TCCATAATGTTCCCTTGCAGAAAGAGGCCGTTATTGTAGCACCTGCCGCCGCCGTACCCA
AAATTACCGAAAAACCGGCGATGTATCCGCACCGCCTGTTCCGTAAAAGTAAAAATGCCG
TCTGAAACCCATATGCCGCCATCCGTTCAAAGAAATCCTGCCCAACGGCAGACTGCAAA
```

```
TCCTGTTCCCCGACGAATCCGCATTGACGCTGATGCACATCCTCAAACGCGAACTGCCCG
ATACACCGGCAATCGGCATCAAAACGAAATCAAAAACCTGTTTGAACGTAAAATTAATTT
AACTGCTTGCCATCCGTCCGAATAAGGCATATAGTTCTTTATAACTAGTTTGATAGTCCT
TTATATCTATCAATACTCCTTGGGAAGCCTCCGCCATACGGCAGGAGGCATTTTTTGCC
GTAGTAAAAGCTCAAAAACATTTGCAGGTCATGCCGTCTGAACCCGAAACGGCATTACCT
ACACCGCCATCTAAAGACAACCCTGCTACAATACGCCTTTTATTGTCCACGCCGATTTTG
CCATGACCGAGCCGACCTACATTCCCCTGCGCCTGCATACCGAATTTTCGATTACCGACG
GTATGGTGCGGATTAAAAAACTGATTGCCAAAGCGCAGGAATACGGTTTGCCTGCTTTGG
GCATCAGCGATTTGATGAACGAATTCGGTTTGGTGAAATTTTATAAAGCCTGCCGCAGCG
CGGGGATTAAGCCTATCGGCGCGGCGGATGTGCGGATAGGCAATCCGGATGCGCCCGACA
AGCCGTTCCGCGCTATGCTGATTATCCGTAACGATGCGGGCTATCTGCGCTTGAGCGAGC
TTCTGACGGCGGCTTATGTCGGCAAAGACCGCAATGTCCATCATGCGGAACTCAATCCCG
AATGGCTGGAAAACGGCGACAACAGCGGCTTGATTTGTTTGAGCGGCGCACATTACGGCG
AAGTGGGCGTGAATCTGTTGAACGGCAATGAAGACGCGGCGCGTACGGCGGCGTTGAAGT
ATGCGGCGTGGTTCCCCGATGCGTTCTATATGGAGCTGCAACGCCTACCCGAACGCCCCG
AATGGGAGGCTTGCGTTTCGGGCAGCGTGAAGCTGGCGGAGGAATTGGGTTTGCCGGTGG
TGGCGACGCATCCGACACAGTTTATGAGCCGCGACGATTTCAACGCGCACGAGGCGCGAG
TGTGTATCGCAGGCGGCTGGGTATTGACGGACAAGAAACGTCCGCGCGATTTCACGCCGG
GCCAGTTTTTCATTCCGCCGGAAACCATGGCCGAACGTTTCGCCGATTTGCCTGAAGCCT
TGGAAAACACGGTAGAAATTGCCAAACGCTGCAACCTGCACATCACATTGGGCAAAAACT
TCCTGCCCCTTTTCCCCACGCCCGACGGTTTATCACTCGATGACTATCTCATCAAACTCT
CCAACGAGGGTTTGCAGGAACGTATGGTTCAGCTTTATCCCGACGAGGCGGAGCGGGCGG
CAAAAATGCCGGAATATCAGGAACGTTTGGATTTTGAGCTGAACATCATCATCCAAATGA
AATTCCCCGGCTATTTCCTTATCGTACAAGACTTTATCAACTGGGCGAAAACACACGGCT
GTCCGGTCGGGCCGGGCCGTGGTTCGGGCGCGGGTTCGCTGGTGGCGTATTCATTGAAGA
TTACCGACCTTGATCCGCTCAAATACGCGCTGCTGTTCGAGCGTTTCCTAAACCCCGAAC
GCGTTTCTATGCCCGACTTCGACGTGGACTTTTGCCAAAGCAACCGCGGCCGCGTGATTG
AATATGTGCGCGAGAAATACGGCGCGGAGGCGGTCAGCCAGATTGTTACCTTCGGCACGA
TGTCGTCCAAAGCGGTCATCCGCGACGTCGGGCGCGTGTTAGAGCTGCCGTTTATGCTGT
GCGACAAACTGTCCAAGCTGATTCCGTTGGAAGCCAACAAACCCCTGAGTTTGGAAAAAG
CCATGGAGACCGAGCCACAGATTCAGGAATTAATCGAAGCGGAAGAAGCGGACGAACTGA
TTACGCTGGCGAAAAAGCTGGAAGATTTAACGCGCGGTTTGGGTATGCACGCAGGCGGCG
TGTTGATTGCGCCGGGCAAGATTTCCGATTACAGCCCCGTGTATCAGGCGGACGAATCCG
CCTCGCCCGTATCCATGTACGACAAGGGCGACGTGGAAGATGTGGGTTTGGTGAAATTCG
ACTTTTTGGGTCTGCGCAACCTGACCATTATCGAAATGGCGCAGAACAACATCAAAAACA
CTACCGGCGACATCATCGATGTCGGCAAAATCCCGCTTGACGACCAGGTCGCCTACCAAA
TCTTCCGCGATGCGAACACCACCGCCGTCTTCCAGTTTGAGTCGACCGGCATGAAAAAAA
TGCTGAAAACGGCGCACACGACCAAGTTTGAAGAACTCATCGCCTTCGTATCGCTCTACC
GCCCCGGCCCGATGGACAACATTCCCGACTTCGTCGCACGTATGAAGGGGCAAGAATTCC
AATACATCCATCCGCTACTCGAAGGCATCCTCGCGCCGACCTACGGGATTATGGTGTATC
AGGAACAAGTGATGCAGGCGGCGCAAATTATCGGCGGCTACTCGCTCGGCGGCGCGGACC
TGCTGCGTCGCGCCATGGGTAAGAAAAAACCCGAAGAAATGGTGAAACACCGCGAAATCT
TCGCCGAAGGCGCGGCAAAACAAGGCATTTCGCGCGAAAAATCCGACGAAATCTTCAACT
ACATGGAAAAATTCGCCGGCTACGGTTTCAACAAATCCCACGCCGCCGCCTACGCCCTGA
TTTCCTACCAGACCGCATGGCTTAAAGCGCACTACCCCGCCGAATTTATGGCGGCGACCA
TGTCGTCCGAATTGGACAACACCGACCAGCTCAAGCATTTCTACGACGACTGCCGCGCCA
ACGGCATTGAGTTCCTGCCGCCCGACATCAACGAATCCGACTACCGCTTCACGCCGTATC
CGGACATGAAAATCCGCTACGCGCTCGGCGCGATTAAAGGCACGGGCGAAGCCGCCGTCG
AATCCATCACCGCCGCGCGGCAAAGCGGCGGCAAGTTTACCGGTCTGTTGGACTTCTGCG
AGCGCGTCGGCAAAGAACACATGAACCGCCGCACCCTCGAGGCCCTGATACGCGGCGGCG
CGTTCGACAGCATCGAACCCAACCGCGCCATGCTCTTGGCGAACATCGACCTCGCTATGG
ACAACGCCGACCAAAAAGCCGCCAACGCCAATCAGGGCGGGCTTTTCGACATGATGGAAG
ACGCCATCGAACCGGTGCGGCTCATCGACGCGCCGATGTGGAGCGAATCGGAAAAACTCG
CCGAAGAAAAAACCGTCATCGGCTTTTACCTGTCCGGCCACCCGTTCGGCCCCGTATGCCC
AAGAAGTCCGCCAAATCGCACCGACCAAATTAGACCGTCTGAAGCCGCAAGACAGCGTGC
GCCTCGCCGGATTCGTTACCGCCGTGCGTACGATGATGGGCAAACGCGGCAAAATCGCCT
TCGTCAGCCTCGAAGATTTGAGCGGACAGGTTGAAATCATGGTCGGCGGTCAGACGTTGG
AAAACTGCGCCGACTGCCTCAAAGCCGACCAAGTGCTGATTATCGAATCCAAAGTCAGCC
GCGACGACTACGGCGGCGGCGACGGGCTGCGTATTCTGGCAAACCAAGTCATGACCCTGC
```

```
AAACGGCGCGCGAACGCTACGCCCGCAGCCTCAGCCTCGCCCTCGCCCCGCATCACGACA
TCGGCGGACTGGTACGGCTGCTCGCCGCCCACCAACTGCCCGACACGCCGCGCATCCCGC
TGCAACTGTCGTATGCCAACGAAAAAGCGTCGGGCAGGCTTCAAGTGCCGCCGAAATGGA
CGGTTACACCGAGCTCCGCATTGTTCGGCGAACTGGAAACATTGCTCGGCAGCCGGTCGG
TGCGCGTCAACTGGTAACCCAAAATATAAATGCCGTCTGAAGCCCAAAAACCGGTTTCAT
TCGTACTTTATTCGAATGATTGAATAAAAGTAACTGCCAAGAAAAACGTATTTTTTGGTT
ATTTCGCCAGTCTAAATAGAGCAACCGGGACGATTGATATCCGTGTGCATGACACAGACA
GCACCAAAGGGAAAAACGGCATTTTCCAAAGTATCGGTATCAAAACCGCCCTTTCACTCC
AAAAATACCAAATCGACAAACCGGGCAAAGAAATCAGACCGTGCCGCCTGAAAAAACGCC
CACCCGTCCGTTAAATTAACCTATCCCTGTTTCAGACGGCCTGAAGCAGGGATTTTTATA
TCAAAATAAAATGAGAAAGGGAGCAATAACCCTTAGGTAGCTCTTGTTATTTTCCGATGC
AAAACAAAGCAGTCATATATTTAATTCCCCCTACCTCTGCCAAGCCTTCCTCAAATATTC
GACGCAATCGGTCAGCGAGTAGAACGGGACATTGCCGTGGTCGGCATTCGGATATTCCCG
GAAAAAGACGGCGGCCCCGTGCCTGTCTAACTCTGCCGCCATTTGTTCGGCCTGCCCTGC
CATATCGCGTTCTTCCCTGCGTTTACAATCGCTACCCCGTTCTAGCGCGCCGATGTTGAG
GCAGACATCGATGCCGTTTAGCCGGTTTTCAGACGGCATAAAGTCGAGTATCCGCCTGTT
GTGCCACCAAATCGATGGGGATACGAGCCAATGCCGTCTGAAACGGCGGTGGGAAAGCAG
GGAATACAGTCCGAACAGTGCGCCGAACGAGTGTCCGAATACGGCGGTTTCATTGCGGTT
GAGGGTGTAGCGGCTTTCTAAAAAGGCGGTCAGCTCGCTGTCGATAAAGGCGGCGAAGCG
GTCTGCCTGTCCGAACTGCTGCCGTTCGTCTGCTGTGGCGTTGTCTCCAAGCGGCGGCGT
GTAGTCGGCGGCACGTTGTGCCAAATCGCGCACACTGCCTGTCGTGTAGCCGATACCGAC
AATCAGGCAGGGGGCGTTGCTTCGGGTAACGGGGTTGTTCATCAGCGACTGCATGATGTT
GAAAAGTGCGGGGAAAAAGGCTTCGCCGTCGAGGACAAAGAGGACGGGATAGCCTTCAGA
CGGTATTTCGCCGAGTGTTGCCGTCTGAATCCGATAGATTCGCCCCGTGCAGGTGGATTT
GATTTCGGTTTCAAAGGCTTGGGGCAGTATGGCAGGTTGGAATGTGTCGGTCGGTATGGG
TTTCATGATGTTCGGCTTGTGGGTCAGACTGGCGGCAAGCGGTAAAACCGAACCGGCAAA
GCGGTCTGCCTGCCGGTTCGGTCTATTTTCCTTCGCAATGCCATACTCCAGTTGTGAGAG
CATAGGGTATGCCGCGCAGCTTGTTGTAGTTTGATGATGCTGCGGCTGCCGTTTCAGACG
GCATATTGGTCTTTAAAAACTGTAACGCAGGTTTGCCGTCAGGCTGCGCTCCGAACCGGG
AATGTTAAAGGTGCTCTCGCTGCCGACGCGGGCGTAGTAATGGCGGTTGAAGATGTTGTC
GGCGTTGATTTGCAGCTTCAGTTTGGGCGTGAAGCGGTATGCCGCCATCGCATCGAACGT
GGCATAACCGCCTGCATGTATCCCTGCAGATGAAGTAATGCCGCTCATCGCGTTCACGCC
GCCGCCGATGGTCAGCCCGGACGTAACTTGGTAAGTCGTCCACAGGTTTGCGCTGTGTTT
GGGCATCAGCAGGAAGATGCCTTCGTCGCGCGAATTGGAGGCGGTTTTGATTTGGCTGTG
CAGGTAGCTGTAACCTGCATGGATTTGCCATTTCGGTGTCATCGCGCCGCTGATTTCGGT
CTCAACACCTTCCATCACGCGTTTGCCCAATGCGGCGTAACGGGTTTTTTTGTTGTTTGA
GTCCAGCGGTGCGGCGGCGTTTTTATCCTTCATGCGGTAGAACGAAACCCGGGTATTGAG
GCGGTCGTCCATGTAGCTGCCTTTGTAGCCGATTTCAAACTGGTTGCCTTCGCGCGGTTT
GAGCAGCTTGCCGTCGGTGCCGATGCTGGTTTGCGGTGTGTAGAGTTGGGAGGCGGAAGC
GTACAGGCTGTTGCTGCCGTCTATATCGTAAACCGCGCCGGCGTAGCTTGTAAATTTGGT
TTTCGAAGCTTTATGCAGGGTTTTGCCGTCGCCCGACTCGATTTTGTGATGTCCTACACG
TCCGCCTGCAATCAACGACAAACCTTCCAGAGGACGGAACACCGTCTTGGCATACAAACC
GGTTTCGTCGAGGTTTTCTTCGGTAACGGAGTGATTGAAACCTTTGTTTCCGGCGCGGGC
GTTCTGAAGTATGCCGTTATAAGGCAAAGCGCGGAAACCATCTAAAGCGACGCTTTTTGA
CAAAGTCGAACGCCCTTGTTCATTAGTACTGCGCAAGCGGTTGTAGTCTGCACCAATCAC
AAAATTCGTTGGCGGTGTTGCCCAAGGCAAACGGACGGCTGTAACTTGCGTCAACCGCAAA
GGCTTTTTGTTTAATGTCCGTACCCAAACCCGCTACGTCGGCTTGTCCGGTATTGTTGAG
TTTGCTGCCCGCAAACGTATAATTGGAATCGGCTTTCCGATCGGAATAGCGCATACCGAC
TTTGCCGTAGCCGCCGTTGCCGAAGTAATGTTTCAAATCGGCGAACACGTCGTGGCTGTG
CATTTTAAATTTGTTCCAATCCGCGCCGACAAATACGTGTTGCGGCAGGGACGGTAATTT
GTTATTGGCATCGGCAGGCAGGCCGTTGTACGGCGCGAGGCGGCGTTGCTGGTAAAGATA
GCCCGCGCCCAAAACCGTATCGGGGTTGATGTCCCAATCCGCCGCCGCGTAGAAGGTTTC
GCGCCGGTTGTTTTTCTCGGCGGGACGCGGAGACGCGCCGACGGTCTGCGCCATCACGCG
GCCGCGCACGCTGCCGTCTGAATTGAGGCTGCCCGATACGTCCGCCTCGGCTTTATATTG
TTTGTGCGTACCGAACCCTGCCGCCGCATGACCTTGGAACGCTTTGGTCGGGCGTTTGCG
CACCAGATTCACGATGCCGCCCATCTCGCCGCTGCTGTCGAACAGTCCGCTCGGCCCGCG
CATCACTTCCACGCGGTCGAAGGCGAACAGGTTGGGCAGCGTGCCGTTGATACTCTGCAT
CTGCGCGGGCAGGCCGTCGATGTTGTATTCGCTGTATTCGTAACCGCGCGCGTAAACCGA
AGAGCGTCCGTCGTCGTTGCTCAACACGCGCAGGCCGGGCGTTTTGCGTGCCAACTGGTC
```

```
AAACGTATCAACATTGCGGTCTTTGACCTGCTGGTTGGTAATGATGCTGACGGATTGCGG
AATTTCGCGCAAAGAAGCGGGGATTTTTGTACCGACGGTGGCGGCAAACGAGCTGTAATC
GCCGTTTTTCTCGGTGGCAATCGCGTTGTAAGAACGCTGACCCTTAATATGGACGGTTTC
CAAACCTTCCGTTTGTGCGGCAAAAACCGAAGACGAGAGTGCTGCCAAAACCGTGGCGGC
GGTCATATTGATGCGGAAAACTGACATAAACTGTCCCATTCACATAATGATAATGGTTC
TATTTTAATAAAGCGCAACGCGGCTTGTTCGGAAAAACATATCGCGCAGCCGACAAATTT
TGTCGAAAATGCGACACGTCTGCGTTTTCCGCATAAAATTTGCTTTTTTACTGCAACCAA
CCTGCTATGACCACGCCCAAACTCATCATCTTCGACTGGGACGGCACGCTTGCCGATACG
ACCCAACCCATCATCGACACCATGCGCCGCAGCTTCGCCGAATGCGGTTTTCCGCCGCCC
GAAGCGGAACGCGTCCGCAGCCTGATTGGCTACAGCCTGCCCGAAATCATCCGCACCCTG
CTCGAAATGCCGTCTGAAACCGCCGTTGCCGACATCACACGCACTTATTCCGCACATTAC
CTCAATCCCAACAACCGCAATATGTCCTTATTTCCCGATGCCCTGCCCTGTCTGGACAAG
CTCAAAGCACAAGGATACTGGCTTGCCGTCGCCACGGGCAAAGGGCGGGCGGGTTTGGAC
AACGCCATCAGTCAAACCGCCACCGGCGGCTATTGGCTCGCCACCGCCTGCGCGGGGGAA
TATCCCTCCAAACCCTCGCCCGAAATGGTATTCGGAATCTGCGGCGAACTGGGACTCGAC
CCGAAAGAGGCATTGGTCGTCGGCGATACGGCGCACGACCTGCATATGGCGGCAAACGCA
GGCGCGGCGGCAGTCGGCGTGGCCACCGGCGCACATTCGCGCGAACAGCTCCTTAGCGCA
CCGCATCTCGCCGTATTGGACGGTTTGTCCGAACTGCCCGGTTTTCTTGCACAACATTAC
GCCTGATTGGTTTCCGCATCCGGCACACGGCAAAAATGCCGTCTGAAGCCTGTTCAGACG
GCATTTGTGTTGCCCAAACATTCAACGCCTGCGTCAACGTTTGCACAAATCGGGTTTGGT
TTCGCCCTCGCGGCGCAACTCTTTGGGCAGGACGAACACAATGCTTTCTTCCGCACCCTC
GCCTTCGCGTACGGTTTCGTGCCCCCATCCGCGTATGGTTGCCAGTACTTCCCGCACCAA
CACTTCGGGCGCGGACGCGCCTGCCGTTACGCCGACTTTGTTTTTGCCCTCAAACCATGC
GCGTTGCAGGTAGCCTGCATTATCCACCATATACGCATCGATTCCGCGCGATGCCGCCAC
TTCGCGCAAGCGGTTGCTGTTGGACGAATTGGGCGAACCGACCACAATCACGATGTCGCA
CTGTTCTGCCAACTCTTTGACGGCGGTTTGCCGGTTGGTCGTCGCATAGCAGATATCTTC
CTTGTGCGGATTGCGGATATTGGGGAAACGCGCGTTCAGCGCGGCGATGATGTCTTTGGT
TTCATCGACCGAGAGCGTGGTTTGGCTGACATAGGCGAGTTTGTCGGGGTTTCTGACTTC
GAGTTTTGCCACATCTCCGACCGTTTCGACCAAAAGCATTTTGCCCGGCGCAAGCTGCCC
CATCGTTCCTTCGACCTCGACGTGCCCCTTATGCCCGATCATGATGATTTCACAGTCTTG
GGCATCCAGTCGGGCGACTTCCTTATGCACTTTCGTCACCAGCGGGCAAGTCGCATCAAA
CACGCGGAAACCGCGCTCCGCCGCTTCTTGCCGCACCGCCTTCGATACGCCGTGTGCCGA
ATAAACCAGTGTCGCGCCCGGCGGCACTTCCCGCCAAGTCTTCAATAAACACCGCACCTTT
TTCACGCAGGTTGTCCACGACGAATTTGTTGTGAACGACTTCGTGGCGCACATAAATCGG
CGCGCCGAACTCTTCCAAAGCACGTTCGACAATACTGATTGCCCGATCCACACCAGCGCA
GAAGCCGCGCGGATTGGCAAGGATGATGGTTTTCTCGTTCATAAGCCCGGTATTTCGTTT
TCAGACGGCATCAATATTTTTCTTCTTGGGTTTTACGGTGGACGATGTTGTCCAACACCG
CCAACACCGCACCGACGCAGATAAAGCTGTCGGCAATATTAAAGGCGGGATAAAACCAAT
TTTGCCAATAAAACAATAAGAAATCGACGACATGACCGTGTATCAGGCGGTCGATGACAT
TGCCTAACGCACCGCCGATAATCATTGCCGCACCCGTTTTGCCGAGGGTTGCAAACTCAT
CGCGCAAGATGGCGCGTACCAAATACGCGCTCACCGCCACCGCCAGCACCAAAAAAAAGT
ATTTTTGCCAGCCGCCCTGATCGGCAAGGAAGCTGAACGCCGCACCCGGGTTGTACACCA
GCGTCAGATCGAAAAAGGAAGGAATGACATTGACGCGTTCCCGATACTGAAACGACGACA
GCACCGCCCACTTCGACCACTGGTCCAGCACGATGGCGGCAAGTGCCAATACCCAATAGC
GCGTTTTACTTGAAACAGATGAAGACATATTTTTTCAACAGCCGGTAAAAGAGTACCATTT
TACCCGAAAACCCCCTTTCCTGTACCCGAAACGGCAAATGCCGTAATCTTAAAACCCGTC
ATTCCCGACAACACCGTAATCTCGAAACCCGTCATTCCCGCGTAGGCGGGAATCCAGACC
TGTCCGCACAGAAACTTATCGGATAAAAACAGTTGCCCAAACCCCGCGTTCTATAGTGGA
TTAAATTCAAACCAGTACGGCATTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGC
TTCGTTGCCTTGTCCTGATTTAAATTTAATCCACTATAGATTCCCACTTCCGTGGGAATG
ACGGTTCAGTTGCATTCCGACAACACCGTAATCTTGAAATCCGTCATTCCCGCGCAGGCG
GGAATCTATCGGAAATGACTGAAACCTCGAGATTCTAGATTCCCACTTTCGTGGGAATGA
CGGTTCAGTTGCGTTCCAACAACACCGCAATCTCGAAATCCGTCATTCCCGCGCAGGCGG
GAATCCAGACCTCCGACGCGGCGGGAATCTATCGGAAATGACTGAAACCTCGAGATTCTA
GATTCCCACTTTCGTGGGAATGACGGTTCAGTTGCGTTCCAACAACACCGCAATCTCGAA
ATCCGTCATTCCCACACAGGCGGGAATCCAGACCCCTGACGCGGCGGGAATCTATCGGAA
ATGACTGAAACCCCGAGATTCTAGATTCCCACTTTCGTGGGAATGACGGTTCAGTTGCGT
TCCGACAACACCGCAATCTCGAAATCCGTCATTCCCGCACAGGCGGGAATCCAGACCCCT
GACGCGGCGGGAATCTATCGGAAATGACTGAAACCCCGAGATTCTAGATTCCCACTTTCG
```

-538-

TGGGAATGGCGGTTCAGTTGCATTCCGACAACACCGTAATCTTGAAATCCGTCATTCCCG
ATAACAGCGCAATCTTGAAACCCGTCATTCCCGCGCAGGCGGGAATCCAGACCTCCGACG
CGGCGGGAATCTATCGGAAATGACTGAAACCCCGAGATTCTAGATTCCCACTTTCGTGGG
AATGACGGTTCAGTTGCGTTCCGACAACACCGTAATCTCGAAATCCGTCATTCCCGCACA
GGCGGGAATCTATCGGAAATGACTGAAACCTCGAGATTCTAGATTCCCACTTTCGTGGGA
ATGACGGTTCAGTTGCATTCCGACAACACCGCAATCTTGAAACCCCTCCGCCGTTATAAA
GACAAATCGCGGCACAAAAAATGCCGTCTGAAATGCTGTTCGGCGGTTTCAGACGGCATT
TGCTCAAACTTTATCAGGCGTAATGGCGCGTTTCGCCTTCTCCGCCGACATTCTCTGCAC
AGCGTTTGCAGACGGTTTCATAGCCTGCAACCGCGCCCACATCGCGGGTGTAGTGCCAGC
AGCGTTCGCATTTTTCACCATCACTGGCTTTAGCGGCAACGGCAAGTTCGCTGCCTACTT
TCACTTCTGCTTTAGACACCAGCAAAGCAAAGCGCAATTCTTCGCCCAAAGCATTCAGAT
AGCCGGCCATTTCTTCCGGCGCGGTAATTTCGGCTTCGGCTTGCAAGGACGAACCGACGG
TTTTGTCGGCGCGCAAAGGCTCGATGGCGGCGGTTACCGCTTCGCGGGCTTCGCGGATTG
CCGTCCATTTTTTCACCAGTTCGGCTTCGGTTTTTTCGTTGATGGTCGGGAACTCGTGCC
AAGTATGGAAGAGGACGCTGTCTTCTTCGCCGCCGCCGATGATGTCCCACGCTTCTTCGC
CGGTGAAGCACAAATCGGTGCAATCAAGAGAACCAAACTGCGTGTGATGTGATACAGGG
CAGTTTGTGCGCTGCGGCGTGCATGGCTGTCTGCTTTGGTGGTGTAGAGGCGGTCTTTCA
GGATGTCGAGGTAGAACGCACCCAAGTCTTCCGAGCAGAAAGAAACAATGTCTTTTACGG
CAAAGTGGAAGGCATAACGCGGATAGTAATCGCCTGCCAGACACTCTTGCAGCTGACGTG
CCAATACCACGGCGTAGCGGTCGATTTCCACCATATCCGCCTGTTGCACGGCATCTTCAA
TCGGATTAAAGTCGCTCAAGTTGGCAAACAAAAGCTCAAGGTATTGCGGATACGGCGGT
AGCTTTCGGTTACGCGTTTGAGGATTTCTTTGGAAATCGCCAATTCGCCGCTGTAATCGG
TAGATGCCGCCCACAGGCGCAGGATGTCTGCGCCGAATTCGTTATAAACCTCTTGCGGTG
CAACGACGTTGCCGATGGATTTCGACATTTTTTTGCCTTCGCCGTCGACAACGAAACCAT
GGGTCAGCAGCTGTTTATACGGCGCGCGACCCATTGATGAGGCGCAGCCGGTCAGCATGG
ACGATTGAAACCAGCCGCGGTGTTGGTCGCTGCCTTCGAGATACAAATCAGCCGGCCATT
CCAATTCTTCGCGTTGTTTCACAACGGAATAATGGGTCGAGCCGGAGTCGAACCATACGT
CCATTGTGTCAGAAAGTTTATCGTAATTTTCGCAATCTTCCGCGCTCAAGAGTTCGCTCT
TATCGAGGGAGAACCACGCTTCGATGCCTTTTTCTTCGATTTTCAGGGCAACTTTTTCCA
AAAGTTCGGCAGAGTTCGGATGCAGCTCGCCCGTTTCTTTGTGAACAAAGAAAGTCATCG
GCGTGCCCCAATAGCGTTGGCGTGAAACCACCCAGTCAGGACGACCTTCAATCATGGCTT
CCAAACGCGCGCGACCCCAAGACGGGAAGAATTCGGTGTCGTCCACGGCCTTGATGGCTT
TGTCGCGCAGGGTTTTGCCGTCGGCACCGGCTTTGTCCATACCGACAAACCATTGACCTG
TCGCGCGGTAAATCAGCGGCGTTTTGTGCCGCCAGCAGTGGGCGTAGCTGTGTTCGATTT
TACTGCTTGCCAAAAGGTTGCCGGTTCTTCCAACCATTGCAGGATGACGGGGTTCGCCT
CCCAAACGCGCATACCGGCGACACGCGGCGTTTCGCCGATGTATCGGCCTTCGGCGTTGA
CGGGGTTGTAAAGCTCGATGCCGTATTTATTGCAGACGGCGTAGTCTTCCAAACCGTGCG
CGGGGGCGGTGTGTACCAAGCCGGTACCGGCATCGGTGGTAACGTGTTCGCCGTTGAGCA
TGGGAATATCGCGTTCGAGGAACGGATGGTTCATGTGCAGATTTTCCAGCTTGTCGCCGG
TGGTTTCGGCGAGAATAGCAATGCCGTCTGAAAAACCGTAACGTTTGAGCGCGTCTTCTG
CCAAATCTTTCGCCAATACCAATTTGCCTTTCGGCGTATCAATCAGTTGATACACCACGT
CTGCACCCGCAGACACGGCTTGGCTCGCCGGTAGCGTCCAAGGCGTAGTCGTCCAAATGA
CGGCAAACGCTTTGCCTTCGAAACCAGCCAAACCGAATGCGGCGGCAAGCGCGGCAGTGT
CTTTAAACAGATAGGCAACGTCAATCGCGGGCGAGATTTTGTCTTTGTATTCCACTTCCG
CTTCGGCCAGCGAAGAACCGCAGTCCAAGCAGAATTGAACCGGTTTCGCACCCCGGTAGA
GATAGCCGGATTTGTAGATTTCGCCGAGCATACGCACGGTATCGGCTTCGGTTTTGAAAT
CCATAGTCAGGTAAGGATGGTCCCAGTCGCCCAACACGCCCAAGCGGATAAAGTCTTTTT
TCTGACGGGCAATCTGTTCGGCGGCGTATTCGCGGCACAATTCGCGGAAACGTGCTTTGG
GCATATCTTTGCCGTGCAGTTTTTCTACCATCACTTCGATGGGCAGGCCGTGGCAGTCCC
AACCCGGCACATAAGGCGCGTCAAAACCGGCTTGGGTTTTGCTGCGGATAATGATGTCTT
TGAGAATTTTATTGACGGCATGACCGATGTGGATGTCGCCGTTGGCATACGGCGGGCCGT
CGTGCAGAATAAATTTCGGACGGCCTTTGGCGATTTCGCGCAGTTTTTGGTAGCGTTTTT
GCTCGTACCAGCTTTTCAGCCATGCAGGCTCGCGCTTGGCAAGATTGCCGCGCATCGGAA
ACGGGCTCTCGAGCAGGTTTACGGTTTTACTGTAATCGGTCATTTTTTAATCTCTATTGT
TACAATATTTCGGTCTCAGACGGCATTGCGCCCCAAACAGCATTTCACAACGGGAAAACC
CTGTGCCGTCTGAACAGTTAAAAGATTGATTGTAGCCCAATCGGATGGTTTGTATAAGGT
TTTTCTACCAACGCCTTGCGGCTTCCATATCGGCTTCAATCTGCCTTTTCAGTTCTTCCA
TACCGTCAAACTTTTCCTCATCGCGCAGTTGTGCAGGAAGCGGACGTTCAGCCCTTGTC
CGTACAGGTCGCCTTGAAAGTCGAACAGGTGGACTTCAAGCTTTTTGAGAACAGCCGCTAT

-539-

```
CAACGGTGGGATTGAAGCCGAAACTCGCCACGCCGCGCCGCGTGCCGAATGCGCCGTCTG
CTTCGACGACAAACACGCCGCCGAGTGCATAACGGTGGCGGGGCAGGCGGATGTTGGCAG
TCGGGGCGTTTAAGGTGCGTCCGAGTTTTCTGCCGTGCACCACCCTGCCGCTCAAGACGT
AGTCGTGTCCCAAAAGTTTTTTCGCATAGGCAAGGTTGCCGTCTGAAAGGGCTTGTCGCA
CGGCGGTACTGCTGGTGCGGATGTCTTCGACGATGACGGAAGGCGTACGCTCGGTCTGCA
TATCGGGCTGTTGTGCCAAAAGTTCAAAACAGCCTTCCCGCCCCGCACCGAAACGGAAAT
CATCGCCGACGAGCAAATAACGCGTATTCAAGGTTTGACGCAGCAGGCGGTCGATAAACC
CTTGCGCGGATATTTCGGAAAAATTTTGATCGAAACGCAAAACCCAGACGGCATCGACAC
AGCCTGTGCCTTCCAATAATTCGAGCTTGGTGCGCAGGGGGCTGATCCGACACGGTGGCA
TCCTGCCGGTGCGGAGTGCGAAAAATTCTTTGGGTTGGGGTTCGAAAACGACGGTCACGA
CGGGCAGTCCGCGCGCGTCGGCTTCGAGGCGGAGTTTTTGGAGGATGTGTTTGTGTCCGA
GGTGTACGCCGTCGAAATTGCCTATGGTTACGGCGGCACCCTGTGGAAAGTCGGGCGCGT
TGTGCCGCCCCAGCCTGATTCTCATTGTTGCATTCGGGTATGTGGTGAAACAGGCGGTCA
TTGTAAACGGTATTGCGGTTTATAGACAGTGTGCCGCCCGTTACGCCCGCCCGACGCGGG
AAAAGTAGGCAAATTTCCCGCCGCCGAACGCGCCAAACGCACAAAAACGCGCAGCAGGCG
CGGTGCTATGTGTTGAAACATCGCCCCAAACCTGATGCAACATCAGTGAAAATCGTTCTT
TTTTAACCAGGTAAACCGAGACAAACAACCCTCCGCCGTCATTCCCGCGCAGGCGGGAAT
CCGGACCTGTCCGCACAGAAACTTATCGGATAAAAACAGTTGCTCAAACCCCGAGATTCT
AGATTCCCACTTTCGTGGGAATGACGGTTCAGTTGCGTTCCGACAACACCGTAATCTTGA
AACTCGTCATTCCCGCTCAGGCGGGAATCTAGAACGTGGAATCTAAGAAACCGTTTTGCC
CGATAAGTTTCCGTGCGGACAGGTCCGGATTCCCGCCTGCGCGGGAATGACGGCATTTCT
GCGGCAATCGGATTATTTCCAAACCAAAAGCGCGTGGTTGCGTTTGCCGCGCCGAAGGAT
AGTGTATTTGCCGAAACGTTTGTGTTCGCCGTTCAGCAGGCAGGCATCGTCGGGGCGTTC
GGCGGCGTGGTTGGGGTTGTTGGCTTCGGCAGGTTTGCCGTTGAGCAAAACCGCTTTGCT
GTTCACAAAGCCGCGCGCTTCTTTATTGGAGGATGCCAAACCGGTTTTTACCAAGGCTTC
GACGACATTGATGCCGTCTGAAACTTCAAATGCAGGCAGGCCGTCGAGGGCGAGCTGCTC
GAAGTCGCTTTCGGTCAGGCTGCTTTGGTCTTCGGCAAACAGGCTTTCGGAAATGCGTTG
CGCGGCGGCAAGGGCTTCTTCGCCGTGAATCAGGCGGGTCATTTCTTCGGCGAGGATGCG
TTGCGCTTCGGGCTTGCTGCCGCTTGCCTTGTCTTTGGCTTCGATGGCATCGATTTCTTC
GATGGACAGGAAGGTAAAGTATTTCAGGAATTTATACACATCGGCATCGGCGACTTTCAG
CCAGAATTGGTAGAACTGATAGGGCGAGGTTTTTTTCGCGTTCAGCCATACCGCGCCGCC
TTCGGTTTTGCCGAATTTGGTACCGTCTGATTTGGTTACCAAAGGCAGGGTCAGACCGAA
TACTTGTTTTTGGTGCAGGCGGCGGGTCAGGTCGATACCGGCGGTGATATTGCCCCATTG
GTCGGAGCCGCCGATTTCCAAAACCGCGCCGTGGCGTTTGTTCAACTCGGCGAAGTCGTA
ACCTTGCAGCAGGGAATAGGCGAACTCGGTGAAGGAAATGCCTGCGCCGTCGCGGTCGAT
GCGCTGTTTGACGGATTCTTTGTTCAGCATGGCGTTGACGGAGAAATGCTTGCCGATGTC
GCGCAGGAAGTCAAGGCAGTTCATGCTGCCGAACCAGTCGGCATTGTTCGCCATAATGGC
GGCATTTCCGCCTTCAAAGCTCAAGAAAGGGGTTAATTGGTTGCGGATACTTTCCACCCA
GCCGGCAACAGTTTCGGCGGAATTCAAGCTGCGTTCGGCGGCTTTGAAGCTGGGGTCGCC
GATCATACCGGTCGCGCCGCCCACCAAAGCAATCGGCGTATGCCCCGCCTGTTGGAAGCG
GCGCAATGCCAATACGGGCAGCAGGTGTCCGATGTGCAGGCTGTCGGCGGTCGGGTCGAA
GCCGCAATAAAGGGCAATTTTTTGTTCGTTCAACAAAGCGTCTAAGGCTTCGATGTCGGT
GGTTTGCGCGATAAGGCCGCGCGATTGCAGGTCTTGGATGACGCTCATCGGTCTCTTTCA
AAAAAAATTAGCGTTTTTGCAAACCGCCGATTGTAACAAATTTAAGCGAATCAATGGTTA
TGGCGCGTATCGAGAAACCGTTGTTTTTCGGAAAAACGCTTTGCCAATTCCGTGCCGCCG
TAAGGGTTGATGTGGTCTTTGTCCGAGTAAACCGGCAATCCGCCGATTTGAAAATCTGCG
GGGATATAGGCGGCGGCATCAATAATATAGACGTTGGGGTATTTGGCTGCCAATTCCCTG
ATGCGTGCATTGGCTTTCAGGGTGCTTTCGTCGTCCGGGCGCAGGGCTTGGCGGTAACCC
GGTATGCGTGAAGACAAGATATAGGCGCGCTGGACGTTGTAAGACGAGGCAAGGTTGTCC
GCCATCAGGTAAACGGCTTGTTTTTCGGACGAGAGTTTATGCAGCATACGGTCGAATTTT
TGGAAAAAACCGGCATCATAGGCAAGGGAGCGGCTGTTTTCGGGCATTTGGCTGCCCCAG
CGCATCGCCAAAACCACTTTTGAATACCGGGGCAGGTGTTCTTCGGCATAGCGATAAACG
GCGCGGCAGGCTGCCCAGTTTTGGAACACACGGGACGCGTAGCCTTCCACATAGGCGCAA
GCGTCGGCGGAAACCATAGTGGCGGACCATTTTTCTTTTTTGCCCACGGCATCGAAGAAT
GTTTTGTAATGGTCGGCGTGGGAGTCGCCCAAAACCAGCAGTTCCGGCTGTTTTTCCGTA
TCCCCCCATAGGCATTGTTTGCCGGTATTGTTGTGGCAGGAGGTGTTGGAACGCGTCAGC
CCCAAGCGGTCGTATTGCGCCATAAACGGCAGTCTCATCGCAAAAAACGAGCCCGCCCCC
AAAATGAGCATAGGCAAGGCATAAATCCATAAAACGGATTGTGCGAACGAACCTTGCCAT
TTTTTAAACGGTTTTTCGATGCAGTGGTAAGAAAACAGGGAAAGCAGCAATATCAGGACG
```

-540-

```
ACCGCCGCCGCCGGCGAATAAGGCGGCAGGTTGTCCGGGCCGATATAGCGCATAAAGGCC
AATATCGGCCAATGCCACAGATAAAGCGAATAGGAAATCAAACCGGCGGCAACAGTGATT
TTCGATTGGAAAAATTTTTTAAGCGGGTGTTCGTAATGATTGAAATAAATCAGCGCGGCA
ACAGCCAGACAGGGAATCAAAGCGGCGGGGCCCGGGAAATAGGCGGTTTGTTCCGAATAG
GAAAACAGGCAGGTTGACAATATGCACACGGCAAACAATGCGCCGACGGCGGCACAGCGT
CTGCCGACGGCAGGTTGCCGGCAGCGCATCCACACGGCGGTCAGCGATCCTATCAGTAAT
TCGCAGGCGCGCAGGTGGGGCAGGTAATATTTATCGAGCGCGGAAGGTATAAAGGAGGCG
GCAAGGCTTAAGGCACACAGTGCGGCAAGGAAGCCGAACTGTACGCGCAGGCTTTTGCGG
GCGACAAGCAGCAGCAGTATCGGAAAGACAAAGTAAAATTGTTCTTCGACCGACAAAGAC
CAGATGTGCAGCAGGGGCTTTTCTTCCTGCGCGGGATCGAAATAATCCTTCCCCCTTGCA
AAATACAGGTTAGAGGCGAAACCCAAGGCGGTCAGCGCGGATTTCCACAAAAGAAAGAAA
TCATCTTTGGTGAATAAAAAGAAGCCGCCTGCCAGCGTTGCCGCCAATACGGCGAAAAT
GCGGGCAGAATCCGCTTGATGCGGCGGATATAAAATGCCTTCAGGGAAAACCTCCCCCCC
CCCCCCGACATTTCGCGGTGAAGAATCGTCGTCATCAAAAAGCCTGAAATCACAAAGAAT
ATATCGACACCGAGAAACCCGCCCGGCAGCCAATCCTTTTCGATATGGAACACGATGACG
GACAAGACGGCGGCGGCGCGCAATGTGTCGATGTCCGGGCGGTAGGGTAAGGCTTGGCTC
ATAATGTTTTTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTGCCGTACT
ATCTATACTGTCTGCGGTTTCGTCGCCTTGTCCTGATTTAAAGTTAATCCACTATACTCG
AAACGCGGCGGCGCAAATGCCGTCTGAAAGGTCATTTCGTATCGGGGATCGGGGATATTCG
GAATGCCGGACGGCTTCCCGTAACGGCGGGGCAGGCGGTTTGTTTTGCAGGAATCGGGGA
GGGCAAATCGGAAATGCGGGTGGGAGTTTATTTTGATGCGGCTGCATTCCGGCGGTACGG
GAAACGCCGAAAATCATCAAAATCGGCTTCAGACGGCATTTCCGGCAAGCCGCCTGAAAC
CTGCCGCATTTGGGTTACACGTTAAACAAAAAGTGCATCACATCGCCGTCTTGCACGACA
TATTCCTTGCCTTCCACACGCATTTTGCCGGCTTCTTTGGCTTTGGCTTCGCCGCCGAGC
GAGACAAAGTCGTCGTAAGAAATGACTTGGGCGCGGATGAAGCCGCGTTCAAAATCCGTA
TGAATCACGCCGGCGGCTTGCGGCGCGGTGTCGCCTTTGTGTATCGTCCACGCGCGGACT
TCTTTCACACCGGCGGTGAAATAGGTTTGCAGCCCCAAGAGGTCGTAACCGGCACGAATC
AGGCGGTTCAGGCCCGGTTCTTCCAAGCCCATTTCGGCGAGGAACTCGGCTTTTTCGTCG
TCTTCCAATTCGGCAATTTCGCTCTCCATCGCGGCGCAAACGGCGACGACGGGGGCGTTT
TCTTTTGCCGCCAATTCTTTCAGGCGGTCGAGGTGCGGATTGTTTTCAAAACCGTCTTCG
GCGACGTTGCCCACATACATCGCCGGTTTGGCGGTCAGCAGGAACAGCGGTTTGAGCATC
GCGCGTTCTTCCGCGTCCAAACCGAAGGAACGCACGGGTTTGCCTTCGTCCAGATGCGGC
AGCAGTTTTTTGCACAAATCGACCAGCTTTTGCGCGTCTTTGTCGCCTGAGCGGGCGCGT
TTTTCTTCGCGGACGATGGCTTTTTCGACACTTGCCAGGTCGGCAAGTGCCAACTCTGTG
CCGATGGTTTCAATGTCGGCAATCGGATCGACGCGGCCTGCAACGTGGACGATGTTGTCG
TCGTCAAAGCAGCGCACGACATTCACAATCGCATCGGTTTCGCGGATGTTGGCAAGGAAC
TGGTTGCCCAAGCCCTCGCCTTTGCTCGCGCCTGCAACCAAACCGGCAATATCGACAAAT
TCGACGATGGCAGGCTGCATTTTTTGCGGATTGACGATTTTTGCCAATTCGGCCATACGC
GGATCGGGGACTTCGACGATGCCGACGTTGGGTTCGATGGTACAGAAAGGATAGTTTGCC
GCTTCGATACCCGATTGGGTCAGCGCGTTAAAAAGGGTGGATTTGCCGACGTTGGGCAAA
CCGACGATGCCGCATTTCAAACTCATGTTTTTTCCTGAAAATAGAGAAATTTAACGGCGG
ATTATAGCATACCGCCGCCCGCGTTCCGAAAAAATGCCGTCTGAAACGGCTTCAGACGGC
ATCCGGTTTCAGAAAACCGTTCAGAACAAGCCGTGAATCACGCCTTCTGCGTCCACATCG
ATTTTCTCGGCAGCCGGAACTTTGGGCAGGCCGGGCATTTTCATCATGTTGCCGCACAGG
GCGACGATGAAACCTGCGCCTGCGGAAACGGTGATGCCGCGCACGGCGATGCGGAAGTCT
TCGGGGCAGCCCAACAGTTTGGCGTTGTCGCTCAAAGAGTATTGGGTTTTCGCCATGCAG
ATCGGCATTTTGTCCAAGCCCAGTTTTTCCAGTGAAGCGATTTCGGCAGACGCTTCCGCG
CTGAAATCAACATCTTCCGCGCCGTACACTTTTTGGGCAATCGCACGGATTTTGTCTTTG
ATGCCCAACTCGACATCGTAGGCGAAACCGAAGTTATTGGTTTGACTTTCAATGGCGTTG
ACGACTTTGCGCGCCAAATCCGCGCCGCCCGCACCACCTTTGCCCCACACTTCGGTCAGG
GAAACTTCAACGCCGTGTTCGGCACAGGCTTTTTCAATCATCGCCAACTCGGCATCGGCG
TCGGACACGAAGCGGTTGAGCGCAACGACGACGGGCAGTCCGAATACGTTTTTCAGGTTG
GAAATGTGTTTCAGCAGGTTGGGCAAACCTTTTTCCAAAGCGTCTAAATTTTCTTCGCCG
AGGTTGGCGCGTTCCACGCCGCCGTTATATTTCAACGCGCGGACAGTCGCCACGACAACA
GCCGCATCAGGTTTCAAACCGGCAAGGCGGCATTTGATGTCGCAGAATTTTTCCGCGCCC
AAGTCCGCGCCGAAGCCTGCTTCGGTTACGGCGTAATCGGCAAGGTGTTTCGCCAGACGG
GTTGCGGTTACGGAGTTGCAGCCGTGGGCGATGTTGGCGAACGGGCCGCCGTGTACGAAG
GCGGGCGTGCCTTCGATGGTTTGCACCAAGTTGGGCTTAATCGCATCTTTAAGCAATGCC
GCCATCGCGCCATTCGCTTTCAAATCTTTGGCGTAAACGGGGCTGCCGTCTTTGGCGTAG
```

```
GCGACAAGGATGTTGCCCAAACGCTCTTTCAAATCGCTGATGTCTTTGGCAAGACAGAAT
ACCGCCATCACTTCGGAAGCAACGGTAATATCGAAACCGTCAGGACGCATCACGCCGTCA
ACGGGTTTACCCATGCCGTCGATGATGTTGCGCAACTGGCGGTCGTTCATATCGACCACG
CGCCGCCACAGCACGCGTTTGGGGTCGATGTTCAACTCGTTGCCTTGGTAGATATGGTTG
TCGAGCATCGCGGCAAGCAGATTATTTGCCGCACCGATGGCGTGAAAATCTCCGGTGAAG
TGCAGGTTGATGTCTTCCATCGGCAAAACTTGGGCATAGCCGCCGCCTGCCGCGCCGCCT
TTCACGCCGAACACCGGCCCCAGAGAAGGTTCGCGCAGGGCAATCACGGCATCTTTGCCG
ATGTGGCGCAACGCGTCCGCCAAACCGATGGTTACGGTGGTTTTGCCTTCGCCCGCCGGA
GTCGGGTTGATGGCGGTAACCAAAATCAGCCTGCCCTGTTTTTGCGGCAGTTTGAACGCT
TCGGCAGGATTGATTTTCGCCTTGTAATGACCGTAAGGCTCAATGTTGTCGGCATTCAGA
CCAAGCTTGGCGGCAATTTCGCCAATCGGGCGCATGGTGGAGGATTGGGCGATTTCGGCA
TCGGTTTTGAAGCTCATGATTTTCCTTTAGAAATGAGGAGGGACATGCCGTCTGAAAGCA
TCAGGCGACAAACAGGTGGATTGAAAATAATATCAGGCATATTATAACGTTATCCGCACC
AAACCCGCAGTGAAATTTTTGACGCAGCAACAAAAATACCGTTCATATTGTTCACAATCC
AAGGAGAAAACATGGGCAGCAACGCATGGCTGTTTTGGGCATTGGCATCGGCAGGCTTCG
CCTCATTGACCGCTATTTTCGCCAAAATGGGTTTACAGGGTATAGATTCCGATTTCGCCA
CCTTTATCCGCACCTTGGTCATCCTTGCCGCTTTGTTATTGTTTTTAACCTACACCGGCA
AATGGCAGGGTGTGAACGGCTTTACGGGGCGCAACTGGACATTCCTCATCCTATCCGGTC
TTGCTACCGGCGCATCTTGGCTCGCCTATTTTAAAGCCCTGCAACTGGGCAACGCCTCGC
AAGTCGCCCCCATCGACAAATTCAGCCTGGTCTTGGTCGCGCTGATGGCGGTGGTTTTCT
TGGACGAACGCCCGAACACGCAGGAATGGATAGGCTTGGGGCTGGTAACGGCGGGCGTGT
TGGTGCTGGCGTTGAAACGTTAAACCGAATCCGCCATACCGTCTGAAACCGGGTTTTTAC
TTCCAAGCCCCTGCAAGGGCTTGAGCCTCTTTCAGACGGCATACCGTGCCGACATCCAGC
CACAAGCCCGTATGCTTCTGACCGCTCACGCGGTTTTGCCGCATTTCGCCACGCAATACG
GGCGCGAGTTTCGCCACACTGCCCGCTTCGATTCCGTCAAACATTTCAGGACGGTAAATA
CCCACGCCGCTGAATGTCAATCCGTTGCCGCCATTTACTTCCGGCCGCACGCTGCTGTCG
GGCAGCAGGGAAAAATCGCCGTCGGGGTTGTGCGGCGGATTTTCCACCAGCCACAGATGG
GCGGAAATATGTTCCGGCAGGGACGATGCCGTCTGAAACGCGGCGGTAAAATCGATGTCG
GTCAGCACGTCGCCGTTGACCACCAAAAACGGCTGCCCACCCAACAGCGGCAATGCCTGC
GCGATGCCGCCTGCCGTTTCCAAACCGCCTGCGGGTTCGGGCGAATAGGCGATGTTCACG
CCATAAGCCGAGCCGTCGCCCAAAGCATCTTCTATCTGCCGACCCAGCCAAGCGTGGTTG
ATGACGATTTCGGTAAACCCCGCCTGCTTCAGACGGCATAGGTGCCAACCGATTAGAGGC
TTACCCGCCACATCGAGCAGCGGCTTCGGAGTGGTATCGGTCAAAGGGCGCATACGCTCG
CCGCGTCCTGCCGCCAGTATCATCGCTTTCATATATCTGTCCGAATATCAGTCTAAAAAT
CTAAACTGCCGTCTGAAATACAGCAGCGCGGGGCGTTTGCACCCGCAGTTTTTGATTTCG
TCGAGCCTGACGTAAAACACAAAATGCGTGCCGATTTCATGTTTGCCGACAATATGCCCG
TGCAGGTGCGCCAACGCGCCCTCTATTTCAAGTTGTCCCGTTTTGCCGCGATGCCAGATG
TGGTAGGCAAACCGCTCTTCGGGCGACAGGCCGGTCAGCCCGGCAAAATGTTCGGCAACA
TCCTGATGTTCGTCCGCCAGCGTATTGATGCAGAGGCTGCCGTTTTCCGACAGGATCGGA
ATGATTCGCGCACTCCGGTTGATGCACAGCATCACGGTCGGCGGCTCGTCGGTAACCGGC
GCGACCGCCGTCATTGTAATGCCGTAACGCCCTGCCGCACCGTCTGTCGTGATGACATGA
ACGCCTGCCGCGCAAGATGCCATCGCATCACGGAACGAAGTTTGAAAATTTTTCTGCAAA
TCCGCCATTTTTCCCCTTTAAACTGTCCCCTATATAAGAATGCTGCACACAAGGCATCCC
CCATGTGCAGCAGTTTTGATTCAAAAAGCCGTCGGTCGGACGTTTCCGCGCGTTACGGCG
TATTACGAGTTCAACGCATCCTCGATTTTGGCAAGTTCTGCCAACAGGTCTTTAAGCAGC
AGCATTTTCTCGCGGCCCAGCACTTCCTCGATAGCGTCGTAGCGTTCGTCCACTTCTTCG
CCGATTTCCTCATACAGCTTCTCGCCCTCGGCAGTCAGCTTCAGAAAAACACGTCGTTGG
TCGTTGGAAGGTTTCAGGCGGACAACCAAACCCGCTTTTTCAAGGCGGGTCAGGATACCG
GTCAGGCTGGGGCGCAAAATGCACGCCTGATTCGCCAAATCTTGAAAGTCCAGCGTGCCG
TTTTCCGCCAAAAGACGGATAATCCGCCATTGCTGATCGGTAATATTCGCCTGATTCAGA
ATAGGCCTGAATTGGGTCATCAGGGCTTCCCTTGCCTGTATCAGACCGATATTGATAGAC
GCATGTTTTGATTGGGTAGGCATTGTTTAAGTCTCCAAGTTATCGAAAATCAAACTTTCA
AACCGTCGGGAAAGCCTGTGGGCGTAAATTTTGATGCAACCGTTATATAACAAAACGAAC
ATATAGCAACAATACGCTATAAACCGCATCGGACGACTGGGTATAAAAGACTTTAATTCC
GATAATCCTATCTAAAAATATTTTAATAGTTATATCTTAATCTATTTTTCCCACAATCAC
AACAAGGGATTACATCGGCAGGCGCGTCGGCTCTTTCCCAAAAAACAAAGCCGCCGCAT
CCGCCGCGCAAGGCATATGCCGCTTGATTCTCTACATAGCGGAAAATTTAATAAAAACAA
AAGTTAACCGAAAACATCCGCCTGAAAAATTCGTGCGCGCAAGCCCCAATAACTGCTGAT
TCCCGTCGTATAGTGAACCATTTTCCCATTTTTGACCAAAACGACGGCAGGCGTTGCGAC
```

-542-

```
AATCCGCCAAGACCTTGCCAAACCCCCGTCCTCATCGTTGACAGTCGGAAAGCCCAAGCC
GCGTTTTGCCATATACGCCGCCACTTCCGCCGAACTGCCGGAACGTACCGCCACGCCGAC
GACCGGCACGCCGTCCGCCGCCAAATCATCGATTATCGGCGACTGATAACGGCACACGCC
GCACCAGCTCCCCCAAAAATACACCAAAACCGCCTTATCTCGGCTAAACTGTCCCAAAGT
CAGCCGCTGCCCCGACAGCAGGGTCAAAGGCCGCCCTGCCGCACCGGCCGGCTCTTCGGG
CTTGCGTATCCAATCCAAAAACAGCGACACCAATAAAAACACCAATGCCGTCTGAACGGC
AAATTTGATGCCCGAAAGCAGTTTCTTTTTCATACGCTCTCTCAAACGGTACGCCCGCGC
AACCGGCAGGCAAACAAAAAGCCAAGTCTCAAAACTTGGCTTCCGGTTATCTGGTGGGTC
GTGAGCGATTCGAACGCTCGACCAACGGATTAAAAGTCCGCTGCTCTACCGACTGAGCTA
ACGACCCGATAAGCCGTGCATTATACAGCACCATCCTACCTCGTCAAGCAAATTTTACAG
GCTTAATTGCAGACCACTGTTTGCACGGGATATTTTGACAACGGATTTTCACAATCCGCC
GCATACCGTGTAAAAGTTCGCACAAGGAAAAGCAAACCGCCCGAAATCAATGTACACTTT
CCGCCCGTTTCCCTTCCCAACCTGCACACAGAAACACACATTATGAACATACAAAACATC
CGCACCCTCCTCGACACCGTCGCCGTTCCGAATACGGCACGCACGCTCGGCGGCGAAAAG
GCCGTCCGTTCGGTCGAACAGCGTTCAGACGGCATCCATATCGCCCTGCATTTCGGCTTC
CCCGTCGCGCACATTGCCTCAGAAACAGCCGACCGCATACAGGAAATCCTGATGCCCGAA
ACAGGCGACACACACATCCATCTGTCCATGGCACTGAAATCGGCACACACAAAGTCCAG
CCCGGCGTTACCACCATCAAAGGCGTGAAAAACATCATCGCCGTCGCATCGGGAAAAGGC
GGCGTGGGCAAATCGACAACCACCGCCAACCTTGCCGCCGCAATGGCGCGCATGGGCGCG
CGCGTCGGCGTGCTCGATGCCGACCTTTACGGCCCGAGCCAACCGACCATGTTGGGTGTG
GACGACCGCAAACCCGATCAGAAAAACCAAAAACTCATTCCCGTCGAATCTTCAGACGGC
ATACAGGTCATGTCTATCGGCTTTCTCGTCGATACCGACCAAGCCGTCGTCTGGCGCGGG
CCGATGGTCAGCCAAGCCTTGCAGCAGCTGATGTTCCAAAGCGAGTGGGACGAAGTGGAC
TACCTGTTTATCGACCTGCCCCCCGGCACGGGCGACATCCAGCTCACGCTGTCCCAGCGC
ATCCCCGTAACCGGTTCCGTCATCGTAACCACGCCGCAGGACATCGCCCTGATAGACGCG
CGCAAAGCCGTGGATATGTTCCGCAAAGTCAACATTCCCATTTTGGGCGTATTGGAAAAT
ATGTCCGTCCACATCTGCACCAACTGCGGACACAGCGAAGCACTGTTCGGCACGGACGGC
GGCAAAGATTTCGCCGCACGCCTCAACGTCCCCCTGCTCGGACAGCTTCCCCTAAGCCTG
CCCGTGCGCGAAGCCATGGACGGCGGCACACCGGCGCAACTGTTCGACGAACACCCCGCC
ATCGCCCGAATCTACACCGATGCCGCATTCCAAATCGCCCTGAGCATTGCCGACAAAGGC
AAAGACTTCAGCAGCCGCTTCCCCAAAATCGTCGTCGAATAAAGCCGCGTCCGAAACCGC
AACAGCAATGCCGTCCCAAGCCCCGCGCCTGCCGGCGGGCAAACTTGCCGGATAAAACGG
TTTTTTTGAGATTTTACGTTCCGGATTCCCGCCTGCGCGGGAATGACGAATTTTAGGTTT
CTGATTTTGGTTTTCTGTTTTGTAGGAATGATGAAATTTTGAGTTTTAGGAATTTATTGG
AAAAAACAGAAACCGCTCCGCCGTCATTCCCGCGCAGGCGGGAATCTAGACCTTAGAACA
ACAGCAATATTCAAAGGTTAGCTGAAGCTTTAGAGATTCTAGATTCCCACTTTCGTGGGA
ATGACGGGATGTAGGTTCGTGGGAATGACGCGGTGCAGGTTTCCGTGCGGATGGATTCGT
CATTCCCGCGTAGGCGGGAATCTAGACCATTGGACAGCGGCAATATTCAAAGATTATCTG
AAAGTCCGAGATTCTAGATTCCCACTTTCGTGGGAATGACGGGATGTAGGTTCGTGGGAA
TGACGCGGTGCAGGTTTCCGTGCGGATGGATTCGTCATTCCCGCGCAGGCGGGAATCTAG
ACCTTAGAACAACAGCAATATTCAAAGGTTAGCTGAAGCTTTAGAGATTCTGGATTCCCA
CTTTCGTGGGAATGACGGGATTTGAGATTGCGGCATTTATCGGAAAAAACAGCAACCGCT
CCGCCGTCATTCCCGCGCAGGCGGGAATCCAGACCTTGGGATAACAGTAATATTCAAAGA
TTATAAAAGACCCGTCATTCCCGCGCAGGCGGGAATCCAGACCTTAGAACAACAGTAATA
TTCAAAGATTATAAAAGACTCGTCATTCCCGCGCAGGCGGGAATCCAGACTGTCGGGCAT
CTGCAGCGGTTTGCTAAAAAACGCTTTACCGTGATCAGTGTGCAAAGTTAAAATGGGGAG
GTAAGCTTTTCAATCAGCAATCCGGCGGGCGCGGGATCGGGCGGTTTACCGAACCCCGGT
GTTCGCGGCGCGCCTGCCGCCGACGGTATCCCGCGAAGCAAGATTTAAGGGATAAAATAT
GTTCCAACACGCAGGGCGGCACATAAGGCGCCGCCCTGATTCGGAAGGGCTTGCACCCCT
CCCGGACAAAGCCTGATCCTGCCGCCCCGAAGGACGGATGCCCGAAGGGCGGGGGGTTTG
ACCGAAAAGGAAATACGATGAATAAAACTTTAAAAAGGCGGGTTTTCCGCCATACCGCGC
TTTATGCCGCCATCTTGATGTTTTCCCATACCGGCGGGGGGGGGGGGGCGATGGCGCAA
ACCCATAAATACGCTATTATCATGAACGAGCAAAACCAGCCCAAGGTAAAGGGGAATGGG
CAATATTCAACAATAAAGGACAAAGACAGGGAACGCAAATTTATCTATAATAAAAGCGGC
CGGGGTGGAGGCTCTGTCTTTTTCGACAATACCGATACCCTTGTTTCCCGACAAAGCGGT
ACTGCCGTTTTTGGCACAGCCACCTACCTGCCGCCCTACGGCAAGGTTTCCGGTTTTGAT
GCCGACGGGCTGAAAGAGCGCGGCAATGCCGTTAATTGGATTCATACGACCCACCCAGGG
TTGATAGGCTACAGCTACACCAGTGTCGTATGCAGAGACAGCACAGGCTGTCCCAAACTT
GTCTATAAAACCCGATTTTCCTTCGACAACACCGGTTTGGCAAAAAATGCGGGCAGCCTG
```

```
GATAGGCACCCGGACCCAAGCCGCGAAAATTCGCCCATTTACAAATTGAAGGATCATCCA
TGGTTGGGCGTGTCTTTCAATTTGGGCAGCGAGAATACCGTCAAAAATGGCAACTCATTC
AACAAATTGATATCTTCTTTTAGTGAAGACAATAATAATCAAACCATCGTCTCTACGACA
GAAGGCTCCCCTATTTCCCTTGGCGACCAGCAGCGCGAACATACCGCCGTGGTCTATTAT
CTGAACGCCAAACTGCACCTGCTGGACAAAAAAGGGATTAAAGATATCACCGGCAAAACA
GTGCGGTTGGGTGTCTTGAAGCCGAGCATCGATGTGAAGACACAAAATACGGGGCTTGGC
GGCATTCTAGCTTATTGGGCTAGGTGGGACATTAAAGATACCGGGCAGATTCCAGTCAAG
CTCGGCCTGCAGCAAGTCAAAGCAGGCCGCTGCATCAATAAACCGAACCCCAATCCCAAC
AAAAAAGACCTTTCGCCGGCCCTGACTGCCCCCGCGCTGTGGTTCGGACCTGTGAAAGAT
GGTAAGGCGGAGATGTATTCCGCTTCGGTTTCTACCTACCCCGACAGTTCGAGCAGCCAA
ATTTTCCTGCAAAACCTTTCCCGCAAGGATGACACAAGCAAACCGGGCCGCTATTCCCTC
AAACCCTTGAGTACGTCGGAGATTAAAAGTAAAGAGCCGAGTTTCACGGGGCGGCAAACC
GTCATCCGATTGGATGGCGGCGTACGGCATATCCAACTGGATAGAAACAATGAGGCCACC
GGTTTAAATGGAAATGACGGCAAAAACGACACTTTCGGCATTATTAGAGAAGGGAGCTTC
ATGCCTGATGCCAGCGAGTGGAAAAAAGTATTGCTGCCTTGGACGGTTCGGGGTTTTGCT
GATGACAGTAAATTTAAAGCATTCAACAAAGAAGAAAACAACGACAACAAGCCAAAATAC
AGCCAAAGATACCGCATCCGCGAAAACGGCAAGCGCGATTTGGGCGACATCGTCAACAGC
CCGATTGTCGCGGTCGGCGAGTATTTGGCTACTTCCGCCAACGACGGGATGGTGCATATC
TTCAAAAAAGGCAACGGGGACGCGCGCGACTATAGTCTGAAGCTCAGTTATATCCCGGGC
ACGATGCCGCGCAAGGATATTCAAAACACCGAATCCACCCTTGCCAAAGAGCTGCGCACC
TTTGCCGAAAAAGGCTATGTGGGCGACCGCTATGGCGTGGACGGCGGCTTTGTCTTGCGC
CGCATTACAGATGACCAAGACAAGCAAAAACACTTCTTTATGTTCGGCGCAATGGGCTTT
GGCGGCAGAGGCGCATACGCCTTGGATTTAAGCAAAATCGACAACAGCAACCCGGCCGGC
GTTTCCATGTTTGATGTCAAAAACGACAATGGCGTGAAATTAGGCTACACCGTCGGTACG
CCGCAAATCGGCAAAACCCACAACGGCAAATACGCCGCCTTCCTCGCCTCCGGTTATGCG
ACTAAAGACATTAACAACGGCGAGAATAAAACCGCGCTGTATGTGTATGATTTGGAAAAC
AACAACGGTACGCCGATTGCAACAATCAACGTACCCGACGGCAAGGGCGGGCTTTCGTCC
CCCACGTTGGTGGATAAAGATTTGGACGGCACGGTCGATATCGCCTATGCCGGCGACCGC
GGCGGGAATATGTACCGCTTTGATTTGAGCAACAACGATCCGACCAAATGGTCTGTACGT
ACTATTTTTAAAGGCACGCTGGATAAGCCGATTACCTCCGCGCCCGCCGTTTCCAAACTG
AAAGACAAACGCGTGGTTATCTTCGGTACGGGCAGTGATTTGAGTGAGGATGATGTTGAT
AAAAAGGATATACAATCTATTTACGGTATTTTTGACAATGACACAGGCACGGATGTGGCA
GAAGAAGGACAGGGCAAAGGGTTGCTCGAGCAACACCTTACTCAGGAAGATAAAACCTTA
TTCCTGACCGATTACAAGCGATCCGACGGCTCGGGCGACAAGGGCTGGGTAGTGAAATTG
GAAGCCGGACAGCGCGTTACCGTCAAACCGACCGTGGTATTGCGTACCGCCTTTGTAACC
ATCCGCAAATATAACGACGGCGGCTGCGGCGCGGAAACCGCCATTTTGGGCATCAATACT
GCCGACGGCGGCAAGCTGACCAAGAAAAGCGCGCGCCCGATTGTGCCGGAAGCCAATACG
GCTGTCGCGCAATATTCCGGTCATAAGCAAACCGCCAAAGGCAAATCCATCCCTATAGGT
TGTATGTGGAAAAACAATGAAACCGTCTGCCCGAACGGATATGTTTACGACAAACCGGTT
AATGTGCGTTATCTGGATGAAAAGAAAACAGACGGATTTTCAACAACGGCAGACGGCGAT
GCGGGCGGCAGCGGAACATTCAAAGAGGGTAAAAAACCCGCCCGCAATAACCGGTGCTTC
TCCGGAAAAGGTGTGCGCACCCTGCTGATGAACGATTTGGACAGCTTGGATATTACCGGC
CCGATGTGCGGTATGAAACGAATCAGCTGGCGTGAAGTCTTCTTCTGATTTGCACGCGAA
AATGCCGTCCGAAAGGTTTTCGGACGGCATTTTTTGCGTTTTTCGGGAGGGGCGGGTTCG
TAAAAGGCGGGCTATAGGGTAGGCTTCATCTCGCCAATCTCACTGAATCCATCAATTTCC
ACAATTCAATTAAATACCGTCAAACCGATGCCGTCATTCCCGCGCAGGCGGGAATCTAGA
CATTCAATGCTAAGGCAATTTATCGGGAATGACTGAAACTCAAGAAACTGGATTCCCACT
TTCGTGGGAATGACGGGATGCAGGTTCGTGGGAATGACGTGGTGCAGGTTCGTAGGAATG
ACGTGGTGCAGGTTTCCGTGCGGATGGATTCGTCATTCCCGCGCAGGCGGGAATCCAGAC
ATTCAATGCTAAGGCAATTTATCGGGAATGACTGAAACTCAAAAAACTGGATTCCCACTT
TCGTGGGAATGACGGGATTAGAGTTTCAAAATTTATTCTAAATAGCTGAAACTCAACGCA
CTGGATTCCCGCCTGCGCGGGAATGACGAAGTGGAAGTTACCCGAAACTTAAAACAAGTG
AAACCGAACGAACCGGATTCCCACTTTCGTGGGAATGATGGGATTAGAGTTTCAAAATTT
ATTCTAAATAGCTGAAACCCAACGCACTGGATTCCCGCCTGCGCGGGAATGACGAATTTT
AGGTTTCTGATTTTGGTTTTCTGTTTTTGTAGGAATGATGAAATTTTGAGTTTTAGGAAT
TTATCGGAAAAAACAGAAACCGCTCCGCCGTCATTCCCGCGCAGGCGGGAATCTAGGACG
TAAAATCTCAAGAAACCGTTGTACCCGATAAGTTTCTGCGCCGACAAACCTAGATTCCCG
CCTGCGCGGGAATGACGGTTCAGTTGCGTAGGACTGGATTGTGAAAAGGGGCGGATTCGG
TGAAAACGGCGGAAATGTGGGATTGATGGAATCGGTGGGCTGAAGCCCTCCCTACAGAGC
```

```
TTTCAGACGGTATTGTTTGCGTTTTCGGGATGGGGGCAAATGAAACACCGACAAACCGAT
ACCGTCATTCCCGCGCAGGCGGGAATCTAGACATTCAATGCTAAGGCAATTTATCGGAAA
TGACTGAAACTCAAAAAACTGGATTCCCACTTTCGTGGGAATGACGATTCGGACATTCCT
TAAACTACCCGTGTATCGCTGTAAATCTTAGAGATGGAGGAATAAAGACCGTTGGGCATC
TGCAGCCGTCATTCCCGCGCAGGCGGGAATCTAGGATGCGGAATCTCAAGAAACCGTTAT
ACCCGATAAGTTTCTGCACCGACAGGTCTGGATTCCCGCCTGCGCGGGAATGACGATTCG
GGTATTTCTGACGGTTCGGGCATTCCCGACAAGGTGGATTTTCAAGGTGTTGTATAGGGT
GTAGGAGGATTCGTAAAAGGTGAGTTATAGGGTGGGCTTCAGCCCACCGATTCCAACGAT
TCCACCAATCCTACACCGTTCCCATAGACTCAAATCAACACAGAAACTTATGCGCCGTCA
TTCCCGCGCAGGCGGGAATCTAGGATGCGGAATCTCAAGAAACCGTTATACCCGATAAGT
TTCTGCACCGACAGGTCTGGATTCCCGCCTGCGCGGGAATGATGGTTCGGGTATTCCTGA
CGATTCGGGTATTCCTGACGATTCGGGTATTCCTGACGATTCGGGTATTCCTGACGATTC
AGGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTAT
TCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGA
CGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTC
AGGTATTCCTGACGATTCGGGTATTCCCATAGTTTCGCCGGGCGGACGTGGGGAAATGCG
TAACGGGCATAGTGGGCGCGGAGCGGGCGGTTTTATGCCCCGGATTTCCGTTTTCGCGCG
AACATATCAGCCCGCCTGCCGCGTTTGCGCTTGAAATCGGGTATGTTTCGTCTTAAAATA
TGCTGCTTTCAGGGTATAGGCACTTGCCCGAAAAGCACGTTACGCGTCTATCTTGCGCGG
CGTGTTTTTTTTGACCGGATTTTTCCGACCGGATGCCCCCTGCCGAAGTCCCTTCAGAC
GGCATTGTCAAGAATTTTATTAAAAACAGGATTCCCATCATGAGCACCCCCGCCCTCCTC
GTCCTCGCTGACGGCAGCGTATTTCACGGCACATCAATCGGTTACGAAGGTTCGACTTCC
GGCGAAGTCGTGTTCAATACTTCGATGACCGGCTATCAGGAAATCCTGACCGACCCGTCC
TACTGCAAACAAATCGTTACCCTCACCTACCCACACATCGGCAACACCGGCACCAACGCC
GAAGATGAAGAAAGCCGCAGCGTTTATGCCGCCGGCCTGATTATCCGCGACCTGCCGCTC
TTGCACAGCAACTTCCGCGCCTCCGAAAGCCTGCACGACTATCTGGTACGCAACAAAACC
GTCGCCATCGCCGACATCGACACCCGCCGCCTGACCACGCTGTTGCGCGAAAAAGGCGCG
CAAGGCGGTGCGATTCTGACCGGTGCGGATGCCACAATCGAAAAAGCGCAAGAACTCATC
GCCGCGTTCGGCAGCATGGTCGGAAAAGATTTGGCAAAAGAAGTTTCCTGCACGGAAACT
TACGAATGGACGGAAGGCGAATGGGCATTGGGCAAGGGTTTCGTTACCCCTGACGAACAG
CCTTACCACGTCGTCGCCTACGATTTCGGCGTGAAAACCAACATCCTGCGTATGCTCGCC
TCGCGCGGCTGCCGCCTGACCGTCGTCCCCGCCCAAACGAGCGCGGAAGACGTGTTGGCA
CTCAACCCTGACGGCGTATTCCTATCCAACGGCCCCGGCGACCCCGAGCCTTGCACCTAC
GCCATCAAAGCCGTACAAAAACTGATAGAAAGCGGCAAACCGATTTTTGGCATTTGCTTG
GGACACCAGCTCATCAGCCTCGCCATCGGCGCGAAAACCCTGAAAATGCGCTTCAGCCAC
CACGGTGCGAACCACCCTGTGCAAGATTTGGACAGCGGCAAAGTCGTCATCACCAGCCAA
AACCACGGTTTTGCCGTTGATGCCGACACCCTGCCCGCTAACGCACGCATTACCCACAAA
TCCTTGTTTGACAACACTTTGCAAGGCATCGAGCTGACCGACAAACCTGTGTTCTGCTTC
CAAGGCCACCCCGAAGCCAGCCCCGGTCCGCAAGATGTCGGCTATTTGTTTGACAAATTC
ATTGGCAATATGAAAGCGGCAAAACGGGCATAATGGTTTTCAGACGGCAACAGTATGCTG
CTGCCGTCTGAAAAACAAAGCTGGAAATGAAGATTAGCGCACTCGACCATCTAGTACTAA
CTGTTGCCGACATTGACCGAACCATCGCGTTTTATAGTGAATTAAATTTAAACCGGTACA
GCGTTGGCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTCGCCGCCTTGTCCTGATT
TTTGTTAATTCACTATACACACAAGTTTTGGGCATGGAAGAAGTTTCATTTGGCAGCGAC
CGTAAAGCTTTGTTGTTTGGCAGTCAGAAAATCAACCTACACGGGCGCGGTGCGGAAATT
CAGCCTAACGCGCAACACGCCGCCTGCGGCACAGCGGATTTATGCCTGCTGACCGATACG
CCACTGGAAACGGTTTTACAGGAATTATCCGCACACGGCATCAAACCTTTAAGCGGCATC
GTAGCGCGCACAGGCGCAATGGGCAAAATCCAATCGGTTTACCTGCGCGATCCCGATGGC
AACCTGCTGGAAATCAGCAGTTATTGATTTTCAGACGGCTTATGCAAAATAAAAAACAGC
CTGCACAAGCTGTTTTCCTTGCAGCCTCTTTAACCCCAACAGCCGCCCCGTCCTCTCTCC
CTGTGGGAAAGCGTTAGAGAGAGGGCAACAAGCCGCAAGGCTTGTGTTTGGGCGGTTAGG
GTGTTGGGGAAGGTTGCCGAAATTCGGGGAATGCCCTCTCCCCGGCCCTCCCCCACGGGG
GAGGGAGAAGGTTGCAGCAGATTTTGCGGTTGCAGGCGGTTTGAAAGGCAACTTAGATTT
GCAGCTGTTGTTTCAGGTCATCTGAAAAATAAAAAGCAGCCTGCACAACCTGTTTTCCTT
GCAAACCCTTAATCCCAACCGCCACCACGTCCTCTCTCCCATGGGAGAGAGTCAGAGAG
AGGGCAACAAACTGTAAGGCTTACACAAACAGTAACCCGACAACAGAATGAGCACGCACG
AGAAACTTTTAACCGCCGACAACCCCGTCCTGCATCAACGCGCCAAAGCCATGCGCCAAG
AAATGAGCGAGGCGGAAGCAAAATTGTGGCAGCACCTGCGGGCAGGCCGTCTGAACGGCT
ATAAATTCCGCCGCCAGCAGCCGATGGGGAATTATATTGTTGATTTTATGTGCGTAACGC
```

```
CCAAGCTGATTGTCGAAGCAGACGGCGGGCAGCACGCGGAACAAGCCGTATACGACCACG
CGCGGACGGCATATCTCAACAGCCTGGGCTTTACCGTGCTGCGTTTTTGGAATCACGAAA
TTTTGCAGCAGACAAACGATGTACTGGCGGAAATCCTGCGCGTATTGCAGGAATTGGAAA
AGCAGTATGCGCAATAACAAACGGTTAATTTTGATTAGAGTTTTGAAAATTATAGGATAC
AGGTAGGGTACAGGCTGCTTGAATTGAGCGTTTAGAAGACCGTCTGAAAAACAAAAAACA
GCCCGCACAACCTGTTTTTCCTGCAGAACCCTTAATTCCAACAGCCGCCCCGTCCTCTCT
CCCTGTGGGAAAGCGTTAGAGAGAGGGCAACAAGCCGCAAGGCTTGTATTTAGGCGGTGA
AGGCATTGGGGAAGGTTGCCGAAATTCGGAGAATTCCATCTCCCCAGCCCTCCCCCACGG
GGGAGGGGGCAGGTTGCAGCGGATTTTGCGGTTGCAGGCGGTTTGAGAAAGAATGCCCGA
AATATCAACAGCGGGAATTTTTCAGGCAGCCTTTATCGCAAGGCAGGTGGAACAAACGCC
GCGAACGTTTTTTCAGACGACCTTTGAACTCATCGGCAGAGAGTGTGCCGCAAGGCACGC
ACGCGGTGGGTTGGGGTTGCAGGGAAAATGGAGAACGCGTGCATACGTACCGCACATACC
CTACATACGGGCTACGGCTTGCTACGATACGGGGGTTTCGATATACAAGTTAGGTTTTAG
CAAACCCAACATTTTAGACAATTAAGCGGTTTGTGTTGGGTTTTCAACCCAACCTACGCT
TGCTACGTTTATTGCAACATATTCGCAGGAGTTTAAATATGTCAATACCTATTAATTTCA
ATAATTTAAAGTATTTGCTTAATGATATGAGAAACAAAAATAGAATAATTGAAGCATTTC
CTTTTAATTATAATCAAAGGCAATACGCCGTTATTTTGACTAGGTATAAACCTGATGAAC
CTAGACCAGATGATTATGCACAAGCAAAATTAGAGTTTTTTAATTTGAATAGTGAAAATT
CAATATTTGCGTATGCTGATTTTTATGAAGTTCATTTTAAAAGTGCTACTGATTTTATTA
ATTTTTTAAAATTAATGTTCAGGCTGGTGCTGCGAAAATCAGAGAAATTTTTCAGAGTT
TTAGTAATCTTTTTGCAGATTTCATTCCAACACAAACTAAAAAAGATTTAGACATAATTT
ATAAAAAGATTGTAGCTACTCGTTTAGAACCTAATTCTCCTAACACTATTTATTGCTATG
ATGTCCGTAGAAATGGGAAAGATAAGGCTGGCAAGCCTAATCGCAGGAGCGTGGAAAATA
GTGAAAAAGCAAAAATTTTGCGCCCAGAGCTATACGAAAAATTTAAAGCCGATAGTAATT
ACAGTTTTTTCTTTTCAGATAATCCAAGCGATGAAAAAAACAGATGCAGAAATAATTAGAG
AAGTTACCAATCGTCAATAATCCAAATTCTTCAAAAGAAAGACCCACCATGCCCAAACGT
ACCGACCTAAAATCCATCCTTATCATCGGCGCCGGCCCTATCGTTATCGGTCAGGCCTGC
GAATTTGACTATTCGGGCGCACAGGCCTGCAAAGCCTTGCGTGAAGAAGGCTATAAAGTC
ATTTTGGTGAATTCCAACCCCGCCACGATTATGACCGACCCCGAAATGGCGGATGTTACC
TACATCGAGCCGATTATGTGGCAGACGGTGGAAAAAATTATTGCCAAAGAGCGTCCTGAC
GCGATTCTGCCTACCATGGGTGGTCAGACTGCGCTGAACTGTGCGCTGGATTTGGCGCGC
AACGGCGTGCTGGCGAAATACAATGTCGAGCTGATCGGCGCGACCGAAGACGCCATCGAC
AAAGCAGAAGACCGTGGCCGCTTTAAGGAGGCGATGGAGAAAATCGGCCTCTCCTGCCCG
AAATCTTTTGTCTGCCACACGATGAACGAAGCTTTGGCGGCGCAAGAACAGGTCGGCTTC
CCTACCCTGATTCGTCCTTCTTTCACCATGGGCGGTTCGGGCGGCGGCATTGCCTACAAT
AAAGACGAGTTTTTGGCGATTTGCGAACGCGGTTTCGATGCGTCGCCCACGCACGAGCTG
TTGATTGAGCAGTCCGTTCTCGGCTGGAAAGAGTACGAGATGGAAGTGGTGCGCGATAAG
AACGACAACTGCATCATCATCTGCTCGATTGAAAACTTCGACCCGATGGGCGTGCATACA
GGCGACTCGATTACGGTTGCGCCGGCGCAAACGCTGACGGACAAGGAATATCAAATTATG
CGTAATGCTTCGCTGGCGGTATTGCGCGAAATCGGCGTGGACACGGCGGCTCGAACGTG
CAGTTTGCGGTGAACCCTGCAAACGGCGAGATGATTGTGATTGAGATGAACCCGCGCGTG
AGCCGTTCTTCCGCGTTGGCTTCCAAAGCAACGGGTTTCCCGATTGCGAAGGTGGCGGCG
AAGCTGGCGGTCGGCTTTACGCTGGACGAGTTGCGCAACGACATCACCGGCGGCAAAACC
CCCGCGTCGTTCGAGCCTTCCATCGACTATGTGGTTACCAAAATCCCGCGTTTCGCGTTT
GAAAAATTCCCTGCCGCAGACGACCGCCTGACCACGCAGATGAAATCGGTGGGCGAAGTG
ATGGCGATGGGCCGCACGATTCAAGAAAGTTTCCAAAAAGCCCTGCGCGGCTTGGAAACA
GGCTTGTGCGGCTTCAATCCGCGCAGTGAAGACAAAGCGGAAATCCGCCGCGAACTGGCG
AACCCCGGCCCCGAACGTATGCTGTTTGTGGCAGACGCGTTCCGCGCGGGCTTCACGCTG
GAAGAAATCCACGAAATCTGCGCCATCGACCCTTGGTTCTTGGCGCAAATCGAAGACTTG
ATGAAGGAAGAAAAAGCGGTTTCAGACGGCATTTTGAGTGATTTGGATTTCGCCGCCCTA
CGTCGTCTGAAACGCAAAGGCTTCTCCGACAAACGTTTGGCACAATTGTTGAACGTAAGC
GAAAAAGAAGTTCGCGAACACCGCTACGCGCTGAAGCTGCATCCGGTTTACAAACGCGTC
GATACCTGCGCCGCCGAGTTCGCCACCGAAACCGCCTATCTTTACTCCACTTACGAAGAA
GAATGCGAATCTCGTCCTTCCGACCGCAAAAAAGTGATGATTCTCGGTGGCGGCCCGAAC
CGCATCGGTCAGGGCATCGAGTTTGACTACTGCTGCGTTCACGCCGCGCTCGCCCTGCGC
GAATCGGGCTTTGAAACCATCATGGTCAACTGCAACCCCGAAACTGTGTCCACCGACTTC
GACACCAGCGACCGCCTGTATTTCGAGCCGCTGACGCTGGAAGACGTGTTGGAAATCGTC
CGCACCGAAAACCCGTGGGGCGTGATTGTGCATTACGGCGGCCAAACCCCGCTCAAACTC
GCCAACGCGCTGGTTGAAAACGGCGTGAACATCATCGGCACGTCCGCCGACAGCATCGAC
```

```
GCCGCCGAAGACCGCGAACGCTTCCAAAAAGTGTTGAACGACTTAGGCCTGCGCCAACCG
CCCAACCGCATCGCCCACAACGAAGAAGAAGCGCTCGTCAAAGCCGAAGAAATCGGCTAT
CCGCTGGTCGTGCGCCCGTCTTACGTCCTCGGCGGCCGCGCCATGCAGGTCGTCCATTCC
GCCGAAGAGCTGCAAAAATACATGCGCGAAGCCGTGCAGGTTTCCGAAGACAGCCCCGTG
TTGCTCGACTTCTTCCTGAACAACGCGATTGAAGTGGATGTGGACTGCGTTTCAGACGGC
AAAGACGTGGTTATCGGCGGCATCATGCAGCACGTCGAACAGGCGGGCATCCACTCCGGC
GACTCCGGCTGCTCGCTGCCGCCCTACTCCTTAAGCGAAGAAATCCAAGACGAAATCCGC
CGCCAAACCAAAGCGATGGCGTACGCGCTGGGCGTGGTCGGACTGATGAACGTGCAGTTT
GCCGTACAAGACGGCGTAGTGTTCGTATTGGAAGTGAACCCGCGCGCCAGCCGCACCGTG
CCCTTCGTCTCCAAAGCCACCGGCGTGCCGCTCGCCAAAGTCGGCGCGCGCTGCATGGCA
GGCATTTCCCTGAAAGAACAAGGCGTGGAAAAAGAAGTTGTCCCCGATTTCTATGCCGTT
AAAGAAGCCGTGTTCCCATTCATCAAATTCCCGGGCGTGGATACGATTTTGGGACCGGAA
ATGCGCTCCACCGGCGAAGTCATGGGCGTGGGCGCAAGCTTTGGCGAAGCCTACTACAAA
GCCCAACTCGGCGCGGGCGAACGCCTCAACCCGACCGGCAAAATCTTCCTCTCCGTGCGC
GAAGAAGACAAAGAACGCGTCATTAAAACCGCTAAAAACTTCCAAGTTTTAGGCTACGGC
ATCTGCGCCACGCGCGGCACGGCGCAATACCTGACCGAACACGGGCTGATTGTGCAGACC
ATCAACAAAGTACCCGAAGGCCGCCCGCACATCGGCGACGCGCTGAAAAACGGCGAAATC
GCACTGGTCGTGAACACCGTTTCCAGCGATCCGCAATCCGTGTCCGACAGCCACATCATC
CGCCAAAGCGCATTGCAGCAACGTGTGCCGCAATACACCACCACCACCGCCGGCGGCGAAGCG
ATGAGCGAAGGCGCGAAAAGCCGAGACCATCTGGGCGTGTACAGCGTTCAAGAACTGCAC
GGGCGTTTGAAAAACCGCAACTGATGCCTGAATCAGGTTGAAAATGCCGTCTGAAGCCGT
TTTGCGGTTTCAGACGGCATTTTGTCATTTGGAAAGCCGATGTTGCCACACACAAGCCGT
ACATAAGGAACAGCCCTATCACGCTCCCCATATAGATTGCCATTGCCGCCGACTATACAT
TATCTTATTTATTTTTTCTCAAAGTTATTAAGTGAGTAAAAACAGTTTTATGACAGGTTT
TTATAGAATTATCCACAGAGATTGTTTCCCAGTTCCTCCACTAAAAAATCCAAAAATACG
CGTAAGCGGAGATTGACGGCTTTATCGCTGTAATAAACAGCATTAAAGGGGGTGTGTTTTA
TCGGAGGTTTGTTCGGCGAGCAGGGGAATTAACTTTCCTTCAGCGATGTCGTTGTCAACC
AAAAAATCTGATAAGCAAACAATACCGCAACCTGAAAGGCACAACGAGCGTAAGATTTCA
CCGCTGCTGGCGGTAAAGTGCGGTGAAATCTTATAGGGATTTCCCTGCGCATCTAAAACC
GCCCATGTATTTAGAGAACCGGGTTCGGTGAAGCCTAAACATTGGTGGCCGGCAAGCTCT
TCTGTAGATTGCGGCGTGCCGTGTTTTGCCAGGTATTCAGGACTGGCGATTACGCGGAAG
CGGCTGTCAAACAGATGGCGTGCACGCAGCCCGGAATCGTCCAATTCTCCGGCCCGTAAG
GCAATATCGACTTTGCGTTCAATCAGATTGATATAGCCTTCGGAAGAAACGAGCGAAAGT
CGGATATGCGGATAGCGTTCGTTGAATTTTGCTGCCAGCGGCGCCAGCAGATGCAGCACC
ATCGGCATCGCGGAATCCACGCTCAACACGCCTTGCGGTATTTCGTGCACTGCCAGCATT
TCGGTTTCCGCCGCTGCCATTTCTTGCAGGATTCTCTGCGCGCGGCGGAAATATTGCGCG
CCTTCTTCCGTCAGACTGAGTTGCCGCGTGGTGCGGTTGAGCAGGTTCACACCCAACTTT
TCCTCCAGCCGTTTGACGATGCGGCTTACGGCAGAATTTGCCATCGCCAACTGCTCCGCC
GCACGGCTGAAGCTGCCGCTTTCCACCACTTGAACAAATACGGTCAGTTCTTCTGAATTG
GTTTTCATCGTGTTTCCTTTTCGGTTGGAACCCCGCCCTTTAGGGCGGCAGGATCAGACT
TTATTTGGGAGGGGTGTAACCCCTTCCGAATCAGGACGGCACACAGGGCGGTGCTTTATG
TGCCATCCCGTGTGTTGGAACATCTGATTATTTCATTTGACGCAAAAGTGTTTTCTTATT
TTTGCACTTTTAAATTATAAAGTAAAACGGCACAATACATTCATCAATTCACAAACGAGG
TAACAAATGAATATTTTATTATTAGACGGCGGCAAGGCGTTCGGACATTCTCACGGCGGG
TTAAACCGTACGCTTCACAAAAAAGCGAAAGAAGTTTTGACCGCGCTCGGACACAATGTT
CAAGAAACCGTGATTGATGCCGGCTATGATGTTGAGGCAGAAATCGAAAAGTTCGTTTGG
ATGGATGCTGTGATTTGGCAGATGCCGGGCTGGTGGATGCACGAGCCTTGGACAGTGAAA
AAATACATAGACGAAGTATTAACCGCTGGACACGGCAAACTCTACCAAAGCGACGGCAGA
CACAGCGTCAATCCGACTGAGGGCTACGGCACAGGCGGCTTGTTGCAAGGCAAAAAACAT
ATGATTTCACTGACTTGGAATGCGCCGATTGAAGCCTTTACCCGCGAAGGCGATTTCTTT
GAAGGCAAAGGCGTTGATGTTTTGTATATGCACTTCCACAAAGCCAACGAGTTTTTGGGT
ATGACCCGCCTGCCGACATTCTTATGTAACGATGTGGTTAAAAATCCGCAAGTGGAAAAA
TACTTGGCAGATTATCAGGCACACTTGGAAAAAGTGTTCGGCTAAAAATTTATCTTATAA
ACAAACAAAGGCAGCCTGAAAGATTGAATGGTCTGCACCCCTAAGGTTGGACTAACCAAC
CGACTAAGGTGCAGATTATTTTTTGTTGCTTTTTCAGCTTTTCGTTGGGTTAGATATTCT
TGCCCACTGTTTTCAGGCAGCCTTGAATACAAAAAAATGGCGTATGTAATATGTTTATAC
GACCAAAACGGAATGAATTTTAACGTATTGCGCGTCATCAACAATGACTGAGTTTCTCGC
CTCTCGCGCCTGAATCTATAGTGGATTAACAAAAACCAGTACAGCGTTGCCTCGCCTTGC
CGTACTATTTGTACTGTCTGCGGCTTCGTTGCCTTGTCCTGATTTAAATTTAATCCACTA
```

```
TATGTCATGCAGTTCCTTTCATTCAAATCAACAAAAGAATGCCGTCCGAACGTCCGTTCA
GACGGCACTTGTCTTCCCACAATAGACTTGAGGCTGTTCTAACGTACCACCCCTTCGTTC
CGCCCCAAAACCATCGCATCGCCGTAGCTGAAGAAACGGTATTCGCGTTCGACCGCATGA
CGATACGCGGCGCGGATATGACCCATACCCGAAAACGCGCTGACCAACATCAGCAGCGTC
GATTTCGGCAAATGAAAATTGGTAACCAGTCTGTCGACAACATTAAAACGGTAGCCCGGC
GTGATGAAAATATCGGTGTCGCCCTGCCCCGCTTTCAGACGACCCGTCGCACGCGCGGCA
GATTCGAGGGCGCGCATGGAAGTCGTGCCGACCGCCCAGACTTTGTTCCCCCGGGCTTTT
GCCGCCTCAACGGCGGCGGCGGTTTCAGACGGCACTTCAAACCATTCGCTGTGCATTTTG
TGCTCTTCGATTTTGTCCACACGCACGGGTTGGAACGTTCCGGCACCGACGTGCAGGGTT
ACTTCTGCGGTTACCGCGCCTTTGTCTTTCAGACGGTGCAAAAGTTCTTCCGTAAAATGC
AGGCCCGCCGTCGGCGCGGCGACCGCGCCCTGATATTTGGCATAAACGGTTTGATAACGG
CTGTCGTCATCCGCATCGGCGGCGCGTTCGATATAAGGCGGCAGGGGCAGGTGTCCGTTC
TGTTCCAAAAGTTCGTAAACGGTCTCTCCGCCTTCAAAACGCAGGCAGAACAGTTCGCCC
TCACGCCCGACCGTCACGGCGCGGATGCCGCCTTCAAACACCAGCCCCATACCGGGCTTG
GGCGATTTGGACGAACGGATGTGCGCCAGTGCGGTATGGTTGTCCAACACGCGCTCAATC
AGGGCTTCGATCCTGCCGCCGCTGTCTTTCTGCCCAAACAGCCGCGCCTTCATGACTTTG
GTGTTGTTGAACACCAAAACGTCGCCCGCCTCGACATAATCCGGCAAATCGCCGAACACC
CGGTCTTGCAGCGGCATATCGGGCAACGCAACCAAAAGGCGGCTGCTGCCGCGCACTTCG
GGCGGATGCTGGGCAATCAGCTTTTCGGGCAGGGTAAAATCAAAATCTGAAATATCCATT
TTTACACTCTCGTTCGGGCAAGCCGCCATTATACGCACTTTAGCCCTTTTTCAGACGGCA
TCTTTGTCCGAAAAACCAACAGATTAGAATAAACACTCTTAACCTGGAACATCTTGTGCG
CAAAATCAAACTTCCTGCACATTTCCCCCAAAAACCGCCGTTTTTTGATATTTTACTGGA
CATTTACCGACAACTTCGGGAAAATAAACACATTCTCACGGTCGTTTTCCACCACAGGAA
AACCGTATCCGAACACCATTCCGCCCGGTTTGCGCCGTTGCCGCAAGCCGGCTGTTTTCT
GAAAAACCAACGCAACAACCCGCCGGAACACCGGCAGCCTTTAAAGGAACAGAAATGGAT
TTGCGCAAATTAAAAAAAACTGATTGATTTGGTTGAAGAATCGGGTATCGCCGAAATCGAA
GTAACCGAAGGCGAGGAAAAAGTCCGCATCACCCGAACCATCGCCGCCGCACCCGTTTAC
GCCGCGCCCGTACCTGCCGCCGCGCCGGCCGTAACGCCTGCCGCCGCACCCGTTGCGGCA
TCCGCGCCCGCCGCCGCACCTGCCGCCCGCGATTTGTCCGACGCGCAAAAATCGCCTATG
GTCGGCACGTTCTACCGCGCACCCGGCCCGAATGCCGCGCCTTTTGTCGAAGTCGGCCAA
CAAGTTAAAGCCGGCGACACGCTGTGCATCATCGAAGCGATGAAGCTGATGAACGAAATC
GAAGCCGAAAAATCCGGCACGGTCAAAGAAATTTTGGTCGAAAACGGTACGCCCGTCGAA
TTCGGCGAACCGCTCTTCATTATCGGATAATCCTGTTTTCAGACGGCATAAACTTCCGAT
GCCGTCTGAAATGCTTTCCCCCTTCAGCGTTCCCGCACCCTTTTTTACGGACGGGTTGCC
GGAACCGCAGGAAAGGTCATCATGCTGAAAAAAGTTTTAATCGCCAACCGAGGCGAAATC
GCATTACGCGTACTCCGTGCCTGCCGCGAAATGGGCATTGCCACCGTCGCCGTGCATTCC
GAGGCCGACAAAGACAGCCTGCACGTCAAACTCGCCGACGAATCCGTGTGCATCGGCCCT
GCCGCTTCCGCGCAAAGCTACCTTAACGTCCCCGCCATTATCGCCGCCGCCGAAGTAAGC
TGCGCGGACGCTGTCCATCCGGGTTACGGTTTCCTTGCCGAAAACGCCGATTTCGCCGAA
CAGGTCGAGCAGTCCGGCTTTACCTTTATCGGCCCGAAACCCGACACCATCCGCCTGATG
GGCGACAAAGTCTCCGCCAAACACGCGATGATAGCGGCAGGCGTACCCTGCGTCCCCGGT
TCTGACGGCGCATTGCCCGACGACGGCGAAGAAATCCTCAAAATCGCCGATAAAGTCGGT
TATCCCGTCATTATCAAAGCCTCTGGCGGCGGCGGCGGCCGCGGTATGCGCGTGGTCGAG
AAAAAAGAAGACCTCCTCCAATCTGTCGAAATGACCAAAGCCGAAGCAGGCGCGGCATTC
GGCAACCCGATGGTTTACATGGAACGCTATTTGCAACGTCCGCGCCACGTCGAAATCCAA
GTGATTGCCGACGAACACGGCAACGCCATCTACCTTGCCGAGCGCGACTGTTCGCTGCAA
CGCCGCCACCAAAAAGTCATCGAGGAAGCACCGGCTCCGTTCATCACTGAAAAGAACGC
GCCAAAATCGGCAACGCCTGTGCCGATGCCTGCAAACGCATCGGCTACCGGGGCGCGGGT
ACGTTTGAGTTTTTATACGAAGACGGCGAATTTTTCTTTATCGAGATGAACACGCGCGTT
CAGGTCGAGCATCCGGTTACCGAGCTCATCACCGGCGTGGACATCGTGCAGGAGCAACTC
CGCATCGCCGCCGGCCTGCCTTTGCAATACAAACAAAAGGATATTCAAGTCGAAGGCCAC
GCGTTTGAGTGCCGTATCAACGCCGAAGACCCGTACAACTTCATTCCAAGCCCGGGCCTG
ATTGAAAGCTGCCACCTGCCCGGCGGCTTCGGTATCCGCGTGGACAGCCACATTTACCAA
GGCTACCGCATCCCACCGTACTACGACAGCCTGATCGGCAAAATCTGCGTACACGGCAAA
ACGCGTGAACAGGCAATGGCGAAAATGCGCGTCGCACTCGCCGAGCTGGCGGTAACCGGC
ATCAAAACCAATACGCCGCTTCACCGCGACCTGTTCGCCGATGCGGGTTTCCAAAAAGGC
GGCGTCAGCATCCACTATTTGGAACACTGGCTGGAAGATCGCAAAGCCAAACAGGACAAG
TAAACCGCCGCCGATATGCCGTCTGAAGCCGCCCGTCCGCGTTCAGACGGCATTTCCCTT
GCCCCGCGCCGTCTGAAACCGATTTCGATATAGTGGATTAACTTTAAACCAGTACGGCGT
```

-548-

```
TGCCTCGCCTTAGCTCAAAGAGAAAGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGG
TTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTAAATTCAATCCA
CTATATTTCCAAGAAAGCCCGTTATGCCCTACCAACAAATCACCGTCAACGTCAACGATG
CCGTCGCCGAACGCCTCGCCGACGCGCTGATGGAACACGGCGCACTCTCCGCCGCCATCG
AAGATGCCTACGCCGGCACGCAAAACGAACAGGCGATTTTCGGCGAACCCGGTATGCCCG
CCGAACAAATCTGGCAGCAGAGCAAAGTCATCGCCCTGTTCGGCGAACACGACGAAGCCG
CCGCCATCATCCAAACCGCCACACAAGAATGCGGGTTAAAAGACTTGGCATACACCGGCG
AAACCATCGAAGACCAAGACTGGGTGCGTCTCACGCAATCGCAATTCGACCCCATCCGGA
TTTCCGACCGCCTGTGGATTACCCCCTCTTGGCACGAAGTCCCCGAAGGCAGTGCCGTCA
ACCTCCGCCTCGACCCCGGACTCGCCTTCGGCACCGGCAGCCACCCGACCACGCGCCTCT
GCCTCAAATGGTTGGATACGCAACTCAAAAACGGCGAAAGCGTCCTCGACTACGGCTGCG
GTTCGGGCATCCTGACCATCGCCGCCCTCAAACTCGGTGCAGGTTTCGCCGTCGGCGTGG
ATATTGACGAACAGGCCGTCCGCGCCGGCAAGGACAACGCCGCGCAAAACAACGTCGATG
CACAATTCTTCCTGCCCGACGGTCTGCCTCAAGGGCAATTCGACGTAGTTGTCGCCAACA
TCCTCGCCAACCCTTTGCGTATGCTTGGCGAAATGCTCGCCGCCCGCACCAAACAGGGCG
GACGCATCGTGTTGTCCGGTTTGTTGGACGAACAGGCCGAAGAACTCGGCGGCATTTACA
GCCAATGGTTCGACCTCGACCCGGCGGAAACCGAGGAAGGATGGGCGCGATTGAGCGGCG
TAAAACGCTGAAACGGAAAGGAAACACCGTGCAGGATAAAAACAACCTCTGCTGGCTCGA
TATGGAAATGACGGGGCTGAATCCCGAAACCGACCGCATTATCGAAGTCGCGATGATTAT
TACCGACTCGGATTTGAATGTGTTGGCGCAATCCGAAGTTTACGCCGTCCACCAAAGCGA
CGACGTGCTGAACAAAATGGACGAATGGAACACCGCCACACACGGCAGGACGGGGCTGAC
ACAGCGCGTACGCGAATCGTCGCATACCGAAGCCGAAGTCGAACAGAAACTGCTGGACTT
TATGTCGGAATGGGTACCCGGACGCGCCACGCCGATGTGCGGCAACTCCATCCACCAAGA
CCGGCGTTTTATGGTCAAATATATGCCGAAACTGGAAAACTACTTCCACTACCGCAACCT
CGACGTTTCCACGCTGAAAGAACTCGCCAAACGCTGGAATCCGCCCGTTGCCAAAAGCGT
CGTCAAACGCGGTTCGCACAAGGCATTGGACGACATTTTGGAGAGCATCGAAGAAATGCG
CCACTACCGCGAACACTTTCTGATTTCCGCCCCGAGAGCCGAAGCGCAATAAGAAACAAA
CAATGCCGTCTGAAACGCAGTTTGCATTTCAGACGGCATTTTTACAGCAGATTGAAATCA
AAAATATACACGCCCGTCATTCCCGCACAGGCGGGAATCCGGAAGGTCGGGCCTGCCGTT
ATTTTCAATCATTACAGAAACTGAAAGGTCTGGATTCCCGCCTGCGCGGGAATGACGGGC
GTGTGCATTCTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAAACAGT
ACAAATAGTACGAAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTG
AGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATACTTCAATCTGCCAA
ACAGATCGAACAGAGAAACCCTGTCCGTCAAAACATCATTCAGCCATCGCCTTGAACACT
TCAACCGCAACCGCAACCGTTTCGTCAATCAGCTCGGGCGTATGCGCGGCGGAAACGAAA
CCTGCTTCATAAGCGGACGGGCCGAAGGCGACATTGCGGTCGAGCATCCCGTGGAAAAAC
TGTTTGAAGCCTTCAATATTGGAACGCGCCATATCGGCATAGTTTCGCGGCGCGTGTGCG
GCGAAATACAGACCGAACATACCGCCCACGCTGCGGCGGTGAACTCGATGCCCGCCGCA
TCCGCTGCCGTCCGAAAACCTTGAACCAACTGTTCGGTACGCGCCGTCAGGTTTTCATAG
AAGCCTTCGCGCTGGATGATTTCCAGCGTTTTCAAGCCTGCGGCGACAGCAATCGGGTTG
CCCGACAAGGTGCCTGCCTGATACACGCCGCCCAGCGGGGAAATACATTCCATAATGTCT
TTGCGCCCGCCAAACGCGGCAAGCGGCATACCGCCGCCGATGACTTTGCCCATCGTGGTC
AGGTCGGGCGTGATGCCGTGCAAAGATTGCGCGCCGCCGAGCGCGACGCGGAAGCCGGTC
ATCACTTCGTCGTAAATCAACACCGCGCCGTATTTTTCGGTCAATCCGCGCAAGGCTTTG
ACAAAGGCTTCGGTCGGGCGGACGAGGTTCATATTGCCGACGAAGGGTTCGACAATCACG
CAGGCGATTTCATTGCCGCTTTGAGCAAAGGCTTCTTCGAGTTGGGCGATATTGTTGTAC
TCGAGTACCAAAGTGTGTTTGGTAAAGTCGGCAGGCACACCGGCGGAAGACGGGTTGCCA
AACGTCAGCAGACCGCTGCCGGCTTTCACCAGCAGGCTGTCGGAATGCCCGTGGTAGCAG
CCTTCAAACTTGATGATTTTGTCACGCCCGGTAAAACCGCGTGCCAGACGGATGGCGGTC
ATGGTCGCTTCGGTACCGGAGCTGACGAGGCGCAGCCGTTCGACGGACGGCATGATTTTG
GCGATTTCTTCGGCAATGACGATTTCGCCTTCGGTAGGCGCGCCGAACGACAAACCGCCC
AATGCGGCTTCGCATACGGTTTCGACGACTTCGGGGTGCGCGTGTCCGACAATCGCAGGT
CCCCACGAGCCGACGTAATCGGTATAGCGCGTGCCGTTTTCGTCCCAAACATACGCGCCT
TCGGCTTTTTTGATAAAGCGCGGTACGCCGCCGACGCTGCCGAATGCGCGGACGGGGGAA
TTCACGCCGCCGGGGATGATGGCTTTGGCGCGGTCGAATAAAATTTCGTTACGGTTCATA
TATATCCTCAAATGCCGTCTGAACGGCAGGTTTCGGGCTTGGAAGCAGAAAGCCCCATTT
TATCATTTTTCAGGTTGCGACAAGGATTTGCCCGCTTCTTTGCGGATCACGCCAACCGCA
TCCCGGATGACGGAACGCTCGTCTTTTTCCACTTTATGTGTAAAGCGGTAGTCTCGGACG
ACTCCCTCCCCGTCGTAATCCACACACCACTCCCAATGTCGGCGTTCTGATTTCATATAA
```

-549-

```
ATGAAATTGGTCGGCAAAAAATTATAAATCGGCAGGCTGACTTCATGATAGGCATAACAA
CCGAAAGGGTTGCGCTTCCCGAAACGTGCCTCTACACCTCCGCCCGGGTCGTTTTGCCTT
TAACAACCGTTTGTGCGATTCCCTCTTCCGTCTGATATAGTGGATTAACAAAAATCAGGA
CAAGGCGACGAAGCCGCAGACAGTACAGATAGTACGGCAAGGCGAGGCAACGCTGTACTG
GTTTTTGTTAATCCACTATAACGCAGGAACTGATGTTCCCTGTCGCCGAAATTGCTGGTA
CACGCACACAGCAGCAATGCCGCCCATACAGCCGGTTTCATACACATCTCCCATTAAAGC
CAAACATTATACAGCCGTCCCGACCGATTAAATTCATATTTTAAAACAATATCCTGCCTC
CAAAACCCACATCGTGCTATAATCCGCACCGATTTTCAGACGGCATCGTCGTGCCGTCTG
AAATTTTTTCATTCCAACAACAATCAGCCCCGCGATTACGGCTGCCTGAGAAAGACACAA
ACCATGAAAAAGTATTTATCCGCACCTTCGGCTGCCAGATGAACGAATACGACAGCGAC
AAAATGCTCGCCGTCCTCGCCGAAGAACACGGCGGCATCGAACAGGTTACCCAAGCCGAC
GAAGCCGACATCATCTTGTTCAACACCTGCTCCGTGCGCGAAAAAGCGCAAGAAAAAGTC
TTCTCCGATTTGGGGCGCGTGCGTCCGCTCAAAGAAAAAAACCCCGGCCTCATCATCGGC
GTTGCCGGCTGCGTCGCCTCGCAAGAAGGCGAAAACATCATCAAACGCGCGCCTTATGTG
GACGTGGTTTTCGGCCCGCAAACGCTGCACCGCCTGCCAAAAATGATTGTGGACAAAGAA
ACCAGCGGGCTGTCGCAAGTCGATATTTCCTTCCCCGAAATCGAAAAATTCGACCACCTG
CCGCCCGCCCGCGTCGAAGGCGGCGCGGCATTTGTATCGATTATGGAAGGCTGTTCCAAA
TACTGCTCCTTCTGCGTCGTCCCCTACACGCGCGGCGAAGAATTCTCCCGCCCGCTCAAC
GACGTATTGACCGAAATCGCCAACCTTGCCCAGCAAGGCGTGAAAGAAATCAACCTCTTG
GGACAAAACGTCAACGCCTATCGCGGCGAAATGGACGACGGCGAAATCTGCGACTTCGCC
ACCCTGCTGCGCATCGTCCACGAAATCCCCGGCATCGAACGTATGCGCTTCACCACCAGC
CACCCGCGCGAGTTTACCGACTCGATTATCGAGTGCTACCGCGACCTGCCCAAACTGGTT
TCCCACCTGCACCTGCCGATTCAAAGCGGTTCCGACCGCGTATTGAGCGCAATGAAACGC
GGCTACACCGCTTTGGAATACAAATCCATCATCCGCAAACTGCGCGCCATCCGTCCTGAT
TTGTGCCTGAGCAGCGATTTCATCGTCGGCTTCCCCGGCGAGACCGAACGCGAGTTCGAG
CAAACCTTGAAACTGGTGAAAGACATCGCCTTCGACTTGAGCTTCGTGTTTATTTACAGT
CCGCGCCCCGGCACGCCTGCCGCCAACCTGCCGGACGACACGCCGCACGAAGAAAAAGTG
CGCCGCCTCGAAGCCTTGAACGAAGTCATCGAAGCCGAAACCGCGCGCATCAACCAAACC
ATGGTCGGCACGGTACAACGCTGCCTGGTCGAAGGCATCTCCAAAAAAGACCCCGACCAA
CTGCAAGCCCGTACCGCCAACAACCGCGTCGTCAACTTCACCGGCACGCCCGACATGATT
AACCAAATGATCGATTTGGAAATCACCGAGGCCTACACCTTCTCCCTGCGCGGCAAAGTT
GTCGAAGCCTAAACCCTCACGCCGAAAAAATGCCGTCTGAAGCGTTTCAGACGGCATTTT
GCCTTGTATCGGCAGACGACGGCGCGGCCGGGCGGCTTAATTTGCCGCATCCCGATCCGA
CAGCCACGCGCGCACACGCCGTTCCACCGCTTCGGCACTCAAGCCCAAATCGTCTAAAAG
TTTTTTCGGATCGCCGTGTCCGGTTACGGTATCGGCAACGCCCAAAAGCAAAACGGGTTT
GCAGATGCCGTGTTTCGCCAATACTTCCAGCACCGCCGCCGCCTGCGCCGCCCTGTTCGGC
GTTTTCTTCAAGGGTAACGATGCGGTCGGTCGTGGCTTCGGGCAAGGCGGACAATCAACTCTTC
GTCTATCGGTTTGACGAAGCGCATATCGGCGACGGTGGCGTTCAGTTTTTCGGCAACCGC
CAATGCGGGGGCGACCATACTGCCGAAGGCAATGAATGCGGTTTTCTCACCTTCGCGGCG
GATAATGCCCTTGCCGATTTCCACGGTTTCCATGCCGTCTGAAACCGGCGCGCCCGTACC
CGTGCCGCGCGGATAGCGGACGGCGGCGGGCGCGTCTGCCTGATAGCAGGTCGAAAGCAA
CAGGCGGCATTCGTTTTCATCGCTCGGCGCGGCGACAATCATGTTCGGCACGCAGCGCAA
AAAGCTCAAATCGTACAGACCGGCATGGGTCGGGCCGTCCGCGCCGACGATGCCCGCGCG
GTCGACGGCAAACAAAACGGGTAGGTTTTGCAGGGCGATGTCGTGCACCAGTTGGTCGTA
GGCGCGTTGTAAAAAGGTGGAATAAATCGCCACGACGGGCTTCATCCCTTCGCAAGCCAA
ACCGCCGGCAAAGGTAACGGCGTGCTGCTCGGCGATGCCGACATCGAAATAGCGGTCGGG
GAATCGTTGTTCAAACTCAACCAAGCCGCTGCCCTCGCGCATGGCGGGGGTAATCGCAAC
CAGTCGGGAATCTGCCGCCGCCCGGTCGCACAGCCATTTGCCGAACACTTGGGTATAGGT
CGGTTTGGCGGCGGGCTTGGGTTCTTTTTCAGACGGCATTTGCGCCGCGCTTTCTTTAGG
CAGGTTGGCGACGGCGTGGTATTTGACGGGGTCGTTTTCGGCGAGTTTGTAGCCGTTGCC
CTTTTTGGTGATGACGTGCAGCAACTGAGGGCCTTTGCGGCTGCGCAAGTCTTTCAATAC
GTCCACCAGATTTTCGACGTTGTGTCCGTCCACGGGGCCGGTGTAGCGGAAGCCGAAGTT
TTCAAACAAAGACAGCGACTGTTTGGCGTGTTCGGCTTCTTCGGCAAGGGTTTTGATTTT
GTGTTCGACTTTTTGGGCAAACTCCATCGCGCCGGGTATTTTGTCTAATACCTTGCCCGT
TTGCGCTTTGACGGTACTCAACAGGCCGTGCATATCGCGCACGACGTTGCTGGCAAGGTA
TTTCGGCAGCGCGCCGACGTTGGGGGAAATCGACATTTCGTTGTCGTTGAGGACGACCAG
CAAATCCACATCCATATCGCCTGCGCAATTCAAGGCTTCAAACGCCTGCCCCGCCGTCAT
CGCGCCGTCGCCGATGATGGCGACGCTGCGGCGGTCGCTGCCCAAGAGTTTGTCTGCCGC
CGCCATGCCCAACGCCGCGCCGATGGAGGTGGAGGAATGCCCCACGCCGAACGCGTCGTA
```

-550-

```
CTCGGACTCGCAACGTTTCGGAAAACCCGCCAAACCGCCATATTGGCGCATGGTGTGCAT
CTGGTTTTTCCTGCCTGTCAGGATTTTGTGCGGATAGCTTTGGTGTCCGACATCCCACAC
CAGCTTGTCTTCGGGCGTGTCGTACACATAGTGCAGGGCGATGGTCAGTTCGACCGCGCC
CAAATTGCTGGCGAAATGCCCGCCGGTCTGCCCGACAGATTCCAGCAGAAAGGTGCGCAA
CTCGCCGGCAAGGCGCGGCAGCTGTTTTTTGTCCAGACGGCGCAAATCTTGCGGGCTGTC
AATCAGGTCGAGTAGGGGGCTTGGGTTCATGGTGTGTCTTTTTTATGTGTCGTCCGGGTG
CAACGGTCAATTATATATCAAGAGCGTGCGGCTGACGGCTGATTTTGCCGTATGTCATTC
GTCCTGCCGCTTGGCGCGCGGGTGGGCTTCGTCATACAGGCGGGCGATGTGGTCGAAATC
GAGCTTGGTATAAATCTGCGTGGTCGAAAGGCTGCTGTGCCCGAGCAGCTCCTGCACCGC
CCTGATGTCGCGCGAAGCCTGCAATAGGTGTCCGGCGTAGCTGTGGCGCATCATATGCGG
CGAAACGTGCCTGCCGTCGCCGTTTTGCGCCGCCCATTGCGCCAAACGTTTTTGGATTTG
GCGTTGGCTCAGGCGCGTGCCGTTCCTGCCGGTAAACAGGGCTTTGCCGTCCGATGCCGT
CTGACGCAGCGGCAGATAGTTTTTCAGGGCTTCCACGCTTTTGCCGACCAGCGGCACCTG
CCGCTGCTTGCGCCCTTTGCCGATAACGTGTACCCACGCCTCGTCCAAATAGACATCATC
TGCATTCAAGCCGTGTATCTCGCTCACGCGCAAACCGCTGCCGTACATCAGTTCGAACAG
GGCGTGGTCGCGCACCGCCAGCGGGTCGCCGCCGTCCACGGGCAAATCCAGCATCCGGTT
CAGCCATTCCTGCGGCAGGGCTTTGGGTACGCGCTCGGGCTGCTTCGGCGGTTTGATGTC
GGCGGTCGGGTCGGCGTGCATCAGGCCGCGCTTTACCAGCCAAACGCAATACTGCCGCCA
AGACGAAAGCTTGCGAGCCAGCGTCCGTTCCCCCAAACCGCGGCCGGACAGCCGGCGTAA
TGCCTGTACGAAGTCGCCGCGAGTGCAATTTGAAGGGTTTGCAGACGGCATTTCTTCCAG
AAGGGCAAGCAGTTCCTGCAAGTCGCGCCGGTATGCGGCAACCGTGTGCTCCGATTTACC
CTCGCGCACGATATTTTCCAAATAAGCGTCCAAGTATGCCGCAAGTCCGTCCAAACCCAT
TCCCACACCTAAAATAACATTAGAAACATTATCATAAATCGGAATATCCGAATCCCGAAA
CGTCAAAACCCGACAAACCTGCATACTGGCATCGTTAATATAAAATCAATGAGCTGTTTA
TGGTTTTTTGCTGTAAAAAACATTATAATCCGCCTTATTTACCTATTGCCCAAGGAGACA
CAAATGGCACTCGTATCCATGCGCCAACTGCTTGATCATGCTGCCGAAAACAGCTACGGC
CTGCCGGCGTTCAACGTCAACAACCTCGAACAGATGCGCGCCATCATGGAGGCTGCAGAC
CAAGTCGACGCCCCCGTCATCGTACAGGCGAGTGCCGGTGCGCGCAAATATGCGGGTGCG
CCGTTTTTACGCCACCTGATTTTGGCGGCTGTCGAAGAATTTCCACACATCCCCGTCGTC
ATGCACCAAGACCACGGCGCATCACCCGACGTGTGCCAACGCTCCATCCAACTGGGCTTC
TCCTCTGTAATGATGGACGGCTCGCTGATGGAAGACGGCAAAACCCCTTCTTCTTACGAA
TACAACGTCAACGCCACACGTACCGTGGTTAACTTCTCCCACGCTTGCGGCGTATCCGTT
GAAGGCGAAATCGGCGTATTGGGCAACCTCGAAACCGGCGAAGCAGGCGAAGAAGACGGT
GTAGGCGCAGTGGGCAAACTTTCCCACGACCAAATGCTGACCAGCGTCGAAGATGCCGTA
TGTTTCGTTAAAGATACCGGCGTTGACGCATTGGCTATTGCCGTCGGCACCAGCCACGGC
GCATACAAATTCACCCGTCCGCCCACAGGCGATGTATTACGTATCGACCGCATCAAAGAA
ATCCACCAAGCCCTGCCCAATACACACATCGTGATGCACGGCTCCAGCTCCGTTCCGCAA
GAATGGCTGAAAGTCATCAACGAATACGGCGGCAATATCGGCGAAACCTACGGCGTGCCG
GTTGAAGAAATCGTCGAAGGCATCAAACACGGCGTGCGCAAAGTCAACATCGATACCGAC
TTGCGCCTTGCTTCTACCGGCGCGGTACGCCGCTACCTTGCCGAAAATCCGTCCGACTTT
GACCCGCGCAAATACCTGAGCAAAACCATTGAGGCCATGAAGCAAATCTGCCTCGACCGT
TATCTTGCGTTTGGCTGCGAAGGTCAGGCAGGCAAAATCAAACCTGTTTCGTTGGAAAAA
ATGGCAAGCCGTTATGCCAAGGGCGAATTGAACCAAATCGTCAAATAACAGGTTGCCTGT
AAACAAAATGCCGTCTGAACCGCCGTTCGGACGACATTTGATTTTTGCTTCTTTGACCTG
CCTCATTGATGCGGTATGCAAAAAAAGATACCATAACCAAAATGTTTATATATTATCTAT
TCTGCGTATGACTAGGAGTAAACCTGTGAATCGAACTGCCTTCTGCTGCCTTTCTCTGAC
CACTGCCCTGATTCTGACCGCCTGCAGCAGCGGAGGGGGTGGTGTCGCCGCCGACATCGG
TGCGGGGCTTGCCGATGCACTAACCGCACCGCTCGACCATAAAGACAAAGGTTTGCAGTC
TTTGACGCTGGATCAGTCCGTCAGGAAAAACGAGAAACTGAAGCTGGCGGCACAAGGTGC
GGAAAAAACTTATGGAAACGGTGACAGCCTCAATACGGGCAAATTGAAGAACGACAAGGT
CAGCCGTTTCGACTTTATCCGCCAAATCGAAGTGGACGGGCAGCTCATTACCTTGGAGAG
TGGAGAGTTCCAAGTATACAAACAAAGCCATTCCGCCTTAACCGCCTTTCAGACCGAGCA
AATACAAGATTCGGAGCATTCCGGGAAGATGGTTGCGAAACGCCAGTTCAGAATCGGCGA
CATAGCGGGCGAACATACATCTTTTGACAAGCTTCCCGAAGGCGGCAGGGCGACATATCG
CGGGACGGCGTTCGGTTCAGACGATGCCGGCGGAAAACTGACCTACACCATAGATTTCGC
CGCCAAGCAGGGAAACGGCAAAATCGAACATTTGAAATCGCCAGAACTCAATGTCGACCT
GGCCGCCGCCGATATCAAGCCGGATGGAAAACGCCATGCCGTCATCAGCGGTTCCGTCCT
TTACAACCAAGCCGAGAAAGGCAGTTACTCCCTCGGTATCTTTGGCGGAAAAGCCCAGGA
AGTTGCCGGCAGCGCGGAAGTGAAAACCGTAAACGGCATACGCCATATCGGCCTTGCCGC
```

CAAGCAATAACCATTGTGAAAATGCCGTCCGAACACGATAATTTACCGTTCGGACGGCAT
TTTGTATTGCACCGTCCGACGGCATGCCCAAGGGGGGAAATCCCTATTTTCAGGCCAACC
GCTATATAATGCCGTCTGAACCAACGAGAGAATGCCATGCAAGCTGATTTTAACCGTCCC
GTCCTGGCCGTCGATACCGGTACTTCCCGTTTGTCGCTCGCGCTGCGTGCCGACGGCGAA
ACCCGTCTGTTCCATCAGGAAGTCGGCAGCCGCCAGTCCGAACTGATTCTGCCGGAAATC
CGCACCCTATTCCGCGATGCAGGCATTACCGCCGCCGATTTGGGTGCGGTCGTGTACGCA
CAGGGTCCCGGCGCGTTTACCGGACTGCGTATCGGCATCGGTGTAGCTCAGGGTTTGGCA
ACGCCGTTTGATACCCCCTTAATCGGCGTACCCTCGCTCGATGCCGCCGCCTCGCTGCCG
CCGCCGCAAAGCTGCATCCTTGCCGCTACGGACGCTCGTATGGGCGAAGTGTTTATGCA
TGGTTCGATACGCTGAACTGCCACCGTTTGAGCGATTATCAGGTCGGGCGGGCGGCAGAC
ATCCGGCTGCCGGAGGGATGCGCCTTTTCAGACGGCATAGGCAGCGCGTTCGCGCTGGAA
GAAGCTCCGCCGTTCTCAGGCAGACCGGATATGCCGACTGCCGCCGACTTTCTCGCATTG
GCAGCCAAGGGCGGTTATCCTGCCGTCCATGCCGCACACGCCGGTTTGCTCTACGTCCGC
AACAAAATCGCCCTGACTGCCAAAGAACAGGCCGAACGGAGAGCGCGCCCGTGAACATCC
GCCGTGCCGTTTGTGCCGATTGTGAGGAGCTGGCCGCACTCGATGCCGTCTGCAACCCGT
CCGCATGGACGCAACGCCAATTTGAGTCCGCACTGGTTTCGCCGTCCGAACAGGTTTTCC
TTGCGGAAAAAGACGGCGGGATTGCCGCCTTTATCGTTTGGCAGAACCTGCCCGACGAAT
CCGAACTGCACCTGATTGCCACCGCGCCCGAATGCCGCCGCCAAGGAATTGCGTCCGCCC
TGCTCGAATATTGGTTCACACATCTGCCCGAAGACACGCAACGCCTGCTGCTCGAAGTCC
GTGCAGGCAACACCGCCGCACAGGCACTGTACACGGCGCACGGCTTCAGCATTACGGGCA
GGCGGAAAAACTATTACCGTACAGCCGACGGTAAAACCGAAGATGCCGTCTTAATGGAGA
AAATATGTTAAGCGCGCGCTACCTCCACCTGCACGAAGCTTTGGGTTTGGGTCCGATGTG
GCTGAAACAGGCCGCCGCCGTCCTGCCGCCCAAAAACACACCCGCACCCTCGGCACAGGC
ACGTCCCCAAACCGTCCGCGCCGCCCCGATCCGCCCTTCCCAACCCCATAACGGTCAGGC
GCGGCTCGAAACGATGAAAGCGTTGGAAACCGCCGCCGTACCTACGCGCAAACCCGCGCC
TGAAACCGAAACGCCTCTGCCCGGCCTTTCAGACGGCATCGCCCCCGTTCCCGCCGCTTC
GGGCATCACCAAGCTTGCCGTCGTCAGCCTTTGCCCACCGATCGAGGATGCGGTTTACGG
GCAACTGTTCCACGGCAAAGCAGGCATCCTGCTCGACAACATACTCAAAGCCGTAGGACT
GGATGCCGCCTATGTCCACAAAACCTGTTGGGTGAAAACCGCCGCCGTCGGCAACCCGAT
GCCGTCTGAACAGGCCGTCGCGAATGCGCTGGGTCAAATCGCCCGCGAACTCGACGGCTG
CCGCGCCCCGGCTGTCCTTTTCCTCGGGCAGGCTTTTGTCCAGCCTGAACGGCAAACGAT
GATTGAAACTTTGTGCGGCAGCCGTCCCTTCTTCATCATCGACCATCCCGCCCGGCTTTT
ACGCCAACCCGAACTCAAAGCCCGCGCCTGGCAGGTGTTGAAACAGTTGAAACGCGCCTT
GCGGCAAGGCGGCGGCAGTTGAAGCGCGCCGCACGGGGCGGTAGAATCGCAACTGCGTCC
CAATATCTGACAGAAAGCACAAAATGACCGATTTCCGCCAAGATTTCCTCAAATTCTCCC
TCGCCCAAAATGTTTTGAAATTCGGCGAATTTACCACCAAGGCAGGACGGCGGTCGCCCT
ATTTCTTCAATGCCGGCCTCTTTAACGACGGCTTGTCCACGCTGCAACTGGCAAAATTTT
ACGCACAATCCATCATTGAAAGCGGCATCCGATTCGATATGCTGTTCGGTCCCGCCTACA
AAGGCATTATTTTGGCGGCGGCAACCGCGATGATGCTGGCGGAAAAGGCGTGAACGTCC
CGTTTGCCTACAACCGCAAAGAAGCCAAAGACCACGGCGAAGGCGGCGTGTTGGTCGGCG
CGCCGCTTAAAGGGCGCGTGCTGATTATCGACGACGTGATTTCCGCCGGCACATCCGTAC
GCGAATCGATCAAACTGATTGAAGCGGAGGGTGCAACCCCCGCCGGTGTCGCCATCGCGC
TCGATCGCATGGAAAAAGGCACGGGTGAATTGAGCGCGGTTCAGGAAGTGGAAAAACAAT
ACGGTCTGCCCGTCGCCCCCATCGCCAGCCTGAACGATTTGTTTATTCTGTTGCAAAACA
ACCCCGAATTCGGACAGTTCCTCGAACCCGTCCGAGCCTACCGTCGGCAGTACGGCGTAG
AATAAAAACAAAGCATATGCCGTCCGAACCGCCTTACGCCTCAGACGGCATCAAACCTGA
CACACACGAGGAAATACCATGCCCGCCTGTTTCTGCCCCCACTGCAAAACCCGTCTCTGG
GTCAAAGAAACCCAACTCAATGTCGCCCAAGGCTTCGTCGTCTGCCAAAAATGCGAAGGA
CTGTTTAAAGCCAAAGACCATCTGGCAAGCACGAAAGAACCCATATTCAACGATTTGCCC
GAGGCTGTTTCGGATGTCAAACTCGTTCACCGTATCGGCACGCGCGCCATCGGCAAGAAA
CAGATTTCCCGTGACGAAATCGCCGGCATCCTCAACGGCGGTACAACCCAGCCCGATATT
CCGCCCGCAACCGCCGCCACCCCTGCTGCCGCACCGCAGGTTACCGTACCGCCCGCCGCG
CCCGCCCGTCAGGATGGGTTCAACTGGACGATTGCAACCCTGTTTGCCCTTATCGTCCTC
ATTATGCAGCTTTCCTACCTCGTCATCCTATGAGCGCGCCCGACCTCTTTGTCGCCCACT
TCCGCGAAGCCGTCCCCTACATCCGCCAAATGCGCGCGGCAAAACGCTGGTCGCCGGCATAG
ACGACCGCCTGCTCGAAGGTGATACCTTAAACAAGCTCGCCGCCGACATCGGGCTGTTGT
CGCAACTGGGCATCAGGCTCGTCCTCATCCACGGCGCGCGCCACTTCCTCGACCGCCACG
CCGCCGCTCAAGGCCGCACGCCGCATTATTGCCGGGGGCTTGCGCGTTACCGACGAAACCT
CGCTCGAACAGGCGCAGCAGTTTGCCGGCACCGTCCGCAGCCGTTTTGAAGCCGCATTGT

```
GCGGCAGCGTTTCCGGGTTCGCGCGCGCGCCTTCCGTCCCGCTCGTATCGGGCAACTTCC
TGACCGCCCGTCCGATAGGTGTGATTGACGGAACCGATATGGAATACGCGGGCGTTATCC
GCAAAACCGACACCGCCGCCCTCCGTTTCCAACTCGACGCGGGCAATATCGTCTGGCTGC
CGCCGCTCGGACATTCCTACAGCGGCAAGACCTTCTATCTCGATATGCTTCAAACCGCCG
CCTCCGCCGCCGTCTCGCTTCAGGCCGAAAAACTCGTTTACCTGACCCTTTCAGACGGCA
TTTCCCGCCCCGACGGCACGCTCGCCGAAACCCTCTCGGCACAGGAAGCGCAATCGCTGG
CGGAACACGCCGGCGGCGAAACGCGACGGCTGATTTCGTCCGCCGTTGCCGCGCTCGAAG
GCGGCGTGCATCGCGTCCAAATCCTCAACGGAGCCGCCGACGGCAGCCTGCTGCAAGAAC
TCTTCACCCGCAACGGCATCGGCACGTCCATTGCCAAAGAAGCCTTCGTCTCCATCCGGC
AGGCGCACAGCGGCGACATCCCGCACATCGCCGCCCTCATCCGCCCGCTGGAAGAACAGG
GCATCCTGCTGCACCGCAGCCGCGAATACCTCGAAAACCACATTTCCGAATTTTCCATCC
TCGAACACGACGGCAACCTGTACGGTTGCGCCGCCCTGAAAACCTTTGCCGAAGCCGATT
GCGGCGAAATCGCCTGCCTTGCCGTCTCGCCGCAGGCACAGGACGGCGGCTACGGCGAAC
GCCTGCTTGCCCACATTATCGATAAGGCGCGCGGCATAGGCATAAGCAGGCTGTTCGCAC
TGTCCACAAATACCGGCGAATGGTTTGCCGAACGCGGCTTTCAGACGGCATCGGAAGACG
AGTTGCCCGAAACGCGGCGCAAAGACTACCGCAGCAACGGACGGAACTCGCATATTCTGG
TACGTCGCCTGCACCGCTGACCGCAACGGAAAGCCGCCGCAGAAATGCCGTCTGAACCCC
GTTTCAGACGGCATTTCCCCGATTATATAGTGGATTAAATTTAAATCAGGACAAGGCGAC
GAAGCCGCAGACAGTACAAATAGTACGGCAAGGCGAGGCAACGCTGTACTGGTTTAAATT
TAATCCACTATAAAGACCTGCCCAACCCTCAAGGACCCCGATGAAATCCTACCCCGACCC
CTACCGCCATTTTGAAAACCTCGATTCCGCCGAAACGCAAAACTTCGCTGCTGAAGCGAA
TGCCGAAACGCGCGCGCGTTTTTTAGAAAACGACAAGGCGCGCGCGCTTTCAGACGGCAT
TTTGGCGCAGTTGCAGGACACGCGGCAGATTCCGTTTTGTCAGGAACACCGCGCGCGGAT
GTACCATTTCCATCAGGACGCGGAGTATCCGAAGGGCGTGTACCGCGTGTGTACCGCGGC
GACGTATCGTTCCGGCTATCCCGAGTGGAAAATCCTGTTTTCGGTGGCGGATTTCGACGA
ATTGCTTGGCGACGATGTGTATTTGGGCGGCGTGTCGCACTTGGTGGAACAGCCCAACCG
CGCGTTGTTAACACTGAGCAAATTGGGCAGCGATACGGCGTACACGCTGGAAGTGGATTT
GGAAGCAGGGGGAGTTGGTCGAAGGCGGTTTTCACTTTCCGGCAGGCAAAAACCATGTGTC
GTGGCGCGATGAAAACAGCGTGTGGGTGTGTCCGGCTTGGAACGAACGCCAGTTGACCCA
ATCGGGCTATCCGCGCGAAGTATGGCTGGTGGAACGCGGCAAGAGTTTCGAGGAAAGCCT
GCCTGTGTATCAAATCGGCGAAGACGGCATGATGGTGAACGCGTGGCGTTATCTCGATCC
GCAGGGTTCGCCGATTGATTTGATTGAAGCGTCGGACGGTTTTTACACCAAAACCTATTT
GCGGGTCTCAGCCGAAGGCGAGGCGAAACCGTTAAACCTGCCCAACGATTGCGACGTGGT
CGGCTATCTGGCGGGGCATCTTTTGCTGACGCTGCGCAAGGACTGGAACCGCGCGAACCA
AAGCTATCCGAGCGGCGCGCTGGTGGCGGTGAAGCTGAATCGGGGCGAACTCGGGGCGGC
GCAGCTTTTGTTTGCGCCCGATGAAACGCAGGCATTGGAAAGCGTGGAAACGACCAAGCG
TTTTGTGGTGGCGAGCCTGTTGGAGAACGTACAAGGCCGTCTGAAAGCATGGCGGTTTGC
CGACGGCAAATGGCAGGAAGTCGAATTGCCGCGCCTGCCTTCGGGCGCGTTGGAAATGAC
CGACCAACCTTGGGGCGGCGACGTGGTTTACCTTGCCGCCAGCGATTTCACCACGCCGCT
GACGCTGTTTGCGCTGGATTTGAACGTGATGGAACTGACCGTCATGCGCCGCCAGCCGCA
GCAGTTTGATTCAGACGGCATTAACGTGCAGCAGTTTTGGACGACTTCGGCTGACGGCGA
GCGCATTCCTTATTTCCACGTCGGCAAAAACGCCGCGCCCGACATGCCGACGCTGGTCTA
TGCCTACGGCGGTTTCGGCATTCCCGAATTGCCGCATTATCTGGGCAGCATTGGCAAATA
TTGGCTGGAAGAGGGCAATGCCTTTGTATTGGCGAACATCCGCGGCGGCGGCGAGTTCGG
CCCCGCGCTGGCATCAGGCGGCGCAGGGAATCAGCAAACATAAAAGCGTTGATGATTTATT
GGCAGTCGTGCGCGATTTGTCCGAACGCGGTATCAGTTCGCCCGAACACATCGGCTTGCA
GGGCGGCAGCAACGGCGGACTGATTACTGCCGCCGCCTTCGTGCGCGAACCGCAAAGCAT
CGGCGCGCTGGTGTGCGAAGTGCCGCTGACCGACATGATCCGTTATCCGCTGCTCTCCGC
CGGTTCAAGCTGGACAGACGAATACGGCAATCCGCAAAAATACGAAGTCTGCAAACGCCG
GTTGGGCGAATTGTCGCCGTATCACAATCTTTCAGACGGCATCGATTATCCGCCCGCGCT
CATTACCACCAGCCTGTCCGACGATCGCGTCCATCCCGCCCACGCGCTCAAGTTCTACGC
CAAACTGCGCGAAACCTCCGCGCAATCTTGGCTCTACTCGCCTGACGGCGGCGGCCATAC
CGGCAACGGCACCCAACGCGAATCCGCCGACGAACTCGCCTGCGTCTTGCTGTTTTTGAA
AGAGTTTTTGGGCTAAGGGCGGGGGAGCGGCACTGCCGCCGCGAATGAAAAAAGGTCGTC
TGAAACTGCTTTTTCAGACGACCTTTTTTAATGGTTGTTTCAAATCAAAATATCTATGCC
GCCGGCCCCATCAGCACTTCTTCACATCCGAAGGCAAAAATCCGTAATGCCGTCTGAACG
CTTCGTTGAACCGTCCCGCGTGGCGGTAGCCGCAAAAGTGCATGGCGGCTTGGACGGTGC
TGCCGGATTCGATGAGGGCGAGCGCGTGTTCCAGCCGCAGGCGGCGCAGGCATCCGGCGA
CGGTTTCGCCGGTTTGCGCTTTGAAATAGCGTTTCAGGTAGCATTCGTTCAGTCCGACGC
```

```
GGCGGGCGATTTCGGCGATGGTCAGCGGACGGGCGAATTCGTGTTGCAGGATGTCGGCGG
CTTCGTCTATGCGCCGACGGCGGTAACCGTTGTCGTGGCGGCGGAAGGTGAAGCGCAATA
ATCGGGCGGAGAGTTCCAGCGCGGCGGCTTCGTCGGCAAGCAGGCCGAAGCCGTCCGATT
CGAACGGGCGTTGCAGCAGTGGGCAGGCCGCCGCCGTCAGTGCCGCTGCGTTTTGCGCCA
GCCGTTGCAGGGCGAATCGGCCTATTGTTTGCGGCGAAAACAGGCGTTCGTCCAGCAAGC
CTTCGTCGTGCCAGCGGCGCAGTTTTTCCAGCGAAAAATCCAAATGCAGCGCGCACATGC
CGCTGTTGTCGGGCAGCAGGGTTTCGGATACGTCCGCCAAATCGCCGCGTACCAGTCAGA
TTTCGCCGGCAGATGGGCGGTATTCCCTGCCGCCCATTGTAACCGGTTCTGCCCCGACA
CCATGACGAACAAGGCGCAGTTGTGGCTGAAATTGTGGATTTCGGTGGGAAACGCGCCCG
TTCCGCCGCCGCGCATCCGCGACAAGGTGATGCCCGAATCGAAGCGGTTGATGCACATTT
CCAGATGCAAACCGGGCTGTTTTGCCTGCGCAATGAGCGCGCTGTCGGAACAGCCGTCCA
ACGCCCAGCCGGATTTATCGGAGCGGACATAGGTTTGGTACTGGCGGTAGATGGCGGCGG
TGTTCATGATTGGATAGGAACGAGTTGTCTAACAAATGAATTAAATAGGAATTATTACCA
ATAATCAAGCGCAGGGATTGGTTGAAACGGAAAAGGTCGTCTGAAAGGGTGTTTCAGACG
ACCTTTTCCGTATCGGGAATTTGTTTTGCCGTATCGGGAATTTTGCGTTTTGCGGCGTGG
TTTCTGCAGGTTGTTTGCTTAATAATAAACATTCTTATTCGTATGCAAAGGAACCGCACA
CCGTGAAACCGCGTTTTTATTGGGCAGCCTGCGCCGTCCTGCTGACCGCCTGTTCGCCCG
AACCTGCCGCCGAAAAAACTGTATCCGCCGCATCCGCATCTGCCGCCACGCTGACCGTGC
CGACCGCGCGGGGCGATGCCGTTGTGCCGAAGAATCCCGAACGCGTCGCCGTGTACGACT
GGGCGGCGTTGGATACGCTGACCGAATTGGGCGTGAATGTGGGCGCAACCACCGCGCCGG
TGCGCGTGGATTATTTGCAGCCTGCATTTGACAAGGCGGCAACGGTGGGGACGCTGTTCG
AGCCCGATTACGAAGCCCTGCACCGCTACAATCCTCAGCTTGTCATTACCGGCGGGCCGG
GCGCGGAAGCGTATGAACAGTTAGCGAAAAACGCGACCACCATAGATCTGACGGTGGACA
ACGGCAATATCCGCACCAGCGGCGAAAAGCAGATGGAGACCTTGGCGCGGATTTTCGGCA
AGGAAGCGCGCGCGGCGGAATTGAAGGCGCAGATTGACGCGCTGTTCGCCCAAACGCGCG
AAGCCGCCAAAGGCAAAGGACGCGGGCTGGTGCTGTCGGTTACGGGCAACAAGGTGTCCG
CCTTCGGCACGCAGTCGCGGTTGGCAAGTTGGATACACGGCGACATCGGCCTACCGCCTG
TAGACGAATCTTTACGCAACGAGGGGCACGGGCAGCCTGTTTCCTTCGAATACATCAAAG
AGAAAAACCCCGATTGGATTTTCATCATCGACCGTACCGCCGCCATCGGGCAGGAAGGGC
CGGCGGCTGTCGAAGTATTGGATAACGCGCTGGTACGCGGCACGAACGCTTGGAAGCGCA
AGCAAATCATCGTCATGCCTGCCGCGAACTACATTGTCGCGGGCGGCGCGCGGCAGTTGA
TTCAGGCGGCGGAGCAGTTGAAGGCGGCGTTTAAAAAGGCAGAACCCGTTGCGGCGGGGA
AAAAGTAGGGAGTCGTCTGAAAACGGAGCTTCCGAAGGAAGCGGGGGGGTTTCTGCGAAGC
TAAAGTGCGGTTTCAACGAATTGAAAAGCAGCCTGTATGTTGAAAATACCGCTCAAGCAA
ACCTACGGTTTGCCGCCCTCTCCCTAGCCCTCTCCCACAGGGAGAGGGGATTGGGTTGCA
GGCTGCCTTTAAGGTTTAGGCAAATTTTTAACTTCGTTGAAGCTGCGATTTCAGAAGCTC
CGTTTTAGCTTCGCAGAAACTCCGCTTCCTTCGAAAGCTCCGTTTTCAGACGACCTTTTG
GAGTACCGCAGGCACACGCATCGAACGGCTGAATCAAAGATTCAGACCGATGGCAGTCCG
CACCCGAGTTTATGCGGCAAACAGCGAGGCTACGGCAACCCGCCCCCTCTCCCTGTGGGA
GAGGGTTAGGGAGAGGGCGGTAAGCCGCAGGCTTACATCAAAGCCGATAACGCTTCCGTT
ACAACTCCGCCCACTGAAAGCAGCCTGCAACGAAGCCAAAACGACAAACCGCATCGTAAA
CCACCCAACCCATAGGAGAACCCCATGCAAAACGAAACCATCAACCTGAAACAGCACCTT
GCCGCCATCAAAGAATACTGGCAGCCCGAAATCATCAACCGCCACGGGTTCCAATTCCAC
TTGGTCAAACTTTTGGGCGATTACGGCTGGCATACGCACGGATACAGCGACAAAGTGCTG
TTTGCCGTGGAGGGCGACATGGCGGTGGACTTCGCCGACGGCGGCAGCATGACGATACGC
GAGGGCGAGATGGCGGTCGTGCCGAAGTCGGTGTCGCACCGCCCGCGTTCGGAAAACGGC
TGCTCGTTGGTGCTGATTGAGTTGTCCGACCCGTCCGAGGCCGTCTGAAAACGAAGTTTC
CGAAGGAAGCTGAGTTTCTGCGAAGCTAAAAGCAGCCTGCACCTTCAATCAATATGCCGA
AAATACAACCCCACCGCACACCAACACACAAAGGAAATCCCATGACACGCTTCAAATATT
CCCTGCTGTTTGCCGCCCTGTTGCCCGTGTACGCGCAGGCCGATGTTTCTGTTTCAGACG
ACCCCAAACCGCAGGAAAGCACTGAATTGCCGACCATCACCGTTACCGCCGACCGCACCG
CGAGTTCCAACGACGGCTACACTGTTTCCGGCACGCACACCCCGCTCGGGCTGCCCATGA
CCCTGCGCGAAATCCCGCAGAGCGTCAGCGTCATCACATCGCAACAAATGCGCGACCAAA
ACATCAAAACGCTCGACCGCGCCCTGTTGCAGGCGACCGGCACCAGCCGCCAGATTTACG
GCTCCGACCGCGCGGGCTACAACTACCTGTTCGCGCGCGGCAGCCGCATCGCCAACTACC
AAATCAACGGCATCCCCGTTGCCGACGCGCTGGCCGATACGGGCAATGCCAACACCGCCG
CCTATGAGCGCGTAGAAGTCGTGCGCGGCGTGGCGGGGCTGCTGGACGGCACGGGCGAGC
CTTCCGCCACCGTCAATCTGGTGCGCAAACGCCTGACCCGCAAGCCATTGTTTGAAGTCC
GCGCCGAAGCGGGCAACCGCAAACATTTCGGGCTGGACGCGGACGTATCGGGCAGCCTGA
```

-554-

```
ACACCGAAGGCACGCTGCGCGGCCGCCTGGTTTCCACCTTCGGACGCGGCGACTCGTGGC
GGCGGCGCGAACGCAGCCGCGATGCCGAACTCTACGGCATTTTGGAATACGACATCGCAC
CGCAAACCCGCGTCCACGCAGGCATGGACTACCAGCAGGCGAAAGAAACCGCCGACGCGC
CGCTCAGCTACGCCGTGTACGACAGCCAAGGTTATGCCACCGCCTTCGGCCCGAAAGACA
ACCCCGCCACAAATTGGGCGAACAGCCGCCACCGTGCGCTCAACCTGTTCGCCGGCATCG
AACACCGCTTCAACCAAGACTGGAAACTCAAAGCCGAATACGACTACACCCGCAGCCGCT
TCCGCCAGCCCTACGGCGTAGCAGGCGTGCTTTCCATCGACCACAACACCGCCGCCACCG
ACCTGATTCCCGGTTATTGGCACGCCGACCCGCGCACCCACAGCGCCAGCGTGTCATTGA
TCGGCAAATACCGCCTGTTCGGCCGCGAACACGATTTAATCGCGGGTATCAACGGTTACA
AATACGCCAGCAACAAATACGGCGAACGCAGCATCATCCCCAACGCCATTCCCAACGCCT
ACGAATTTTCCCGCACGGGTGCCTACCCGCAGCCTGCATCGTTTGCCCAAACCATCCCGC
AATACGGCACCAGGCGGCAAATCGGCGGCTATCTCGCCACCCGTTTCCGCGCCGCCGACA
ACCTTTCGCTGATTTTGGGCGGACGATACACCCGTTACCGCACCGGCAGCTACGACAGCC
GCACACAAGGCATGACCTATGTGTCCGCCAACCGTTTCACCCCCTACACAGGCATCGTGT
TCGACCTGACCGGCAACCTGTCTCTTTACGGCTCGTACAGCAGCCTGTTCGTCCCGCAAT
CGCAAAAAGACGAACACGGCAGCTACCTGAAACCCGTAACCGGCAACAATCTGGAAGCCG
GCATCAAAGGCGAATGGCTTGAAGGCCGTCTGAACGCATCCGCCGCCGTGTACCGCGCCC
GTAAAAACAACCTCGCCACCGCAGCAGGACGCGACCCGAGCGGCAACACCTACTACCGCG
CCGCCAACCAAGCCAAAACCCACGGCTGGGAAATCGAAGTCGGCGGCCGCATCACGCCCG
AATGGCAGATACAGGCAGGTTACAGCCAAAGCAAAACCCGCGACCAAGACGGCAGCCGCC
TGAACCCCGACAGCGTACCCGAACGCAGCTTCAAACTCTTCACTGCCTACCACTTTGCCC
CCGAAGCCCCCAGCGGCTGGACCATCGGCGCAGGCGTGCGCTGGCAGAGCGAAACCCACA
CCGACCCTGCCACGCTCCGCATCCCCAACCCCGCCGCCAAAGCCCGCGCCGCCGACAACA
GCCGCCAAAAAGCCTACGCCGTCGCCGACATCATGGCGCGTTACCGCTTCAATCCGCGCG
CCGAACTGTCGCTGAACGTGGACAATCTGTTCAACAAACACTACCGCACCCAGCCCGACC
GCCACAGCTACGGCGCACTGCGGACAGTGAACGCGGCGTTTACCTATCGGTTTAAATAAG
GTCGTCTGAAAACGGAGTTTCTGCGAAGCTATAGTGGATTAACAAAAACCAGTACGGTGT
TGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTCAAGCACCAAGTGAATCGG
TTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCAC
TATAAAAGCAGCCTGCACATTGAAAATGCCGCCCAAGCAAACTTTCAGTTTGCCCGCCTC
GTCCTAGCCCTCTCCCACGGGAGAGGGGATTGGGGTGCAGGCTGCCTTTAAGGTTCAGGC
AAATTTTAACTTCGTTGATACCGCGCTTTAGCTTCGCAGAAGCTGCACTTTCAGACGACC
TTTTGGAACACCACAGGTACACGCATTTAAGGAATGCCGTCTGAAATGCCTGCCTCAATA
ACGCATCATGTTGCCGTCAATCTCGGCCGCCCATGCATCGATGCCGCCCTGAAGGTTGTA
CAGGTTTTCAAAACCCGCGTCCGCCAAATACATCGCCGTATGCAGGCTGCGGATACCGTG
GTGGCAATACACCACAAGCGGCACATCATCCGGCAGCTCGTTCTGCCGCAGCGGAATCAG
ATTCATCGGGATATGCAGCGCATTTGGCAGCGAACAAACCGCCGTTTCTTCATCCGTACG .
CACGTCCAACAAACAAAACATCCGCCCTTCGTCCATCCACGCTTTCAATTCCGCGGGCCC
AAGTTGCACAATATCCATCGCACCCCCCAAAAAAAACCAAGCAAAATGCCGTCTGAAGCC
CCAAACCCGCTTTCAGACGGCATGACCTGTCAACATCTTAAAAATCGAAACCGCCAAACG
GATCGGCATCCTTATCATCCAAATGCGCCACCAAGGTATCGAACAGCACCTTCTCTTCAA
ACACATCGCCCCTGCGCGTAATCAAAAGCGCGCGTTGAACAGGCTTGCGACCTACGATAA
CCACCATGCGTCCGCCATCTTTCAACTGTTCTTTCAACACTTCAGGCACAAGGTTTACCG
CACCGCCGACATAAACCGCATCAAACGGCGCACCTGCGGAAAGTTCGGTCAACCCGTTGT
TTTGCACATAATCGATATTGTCCAAACCCAAGCCGTCCAACACCGCTTTGGCGCGGTTTT
GCTGTTCGACATCGATGTCGTCCGACACCACACGACCAGCCAATTTTGCCAACAGCGCGG
TCGCATAGCCCGAACCCGTGCCGATTTCCAAAACCGTATCGTTTTTCGTCAGCTTCAAGC
CCTGCGCCAGCCGCGCCACGACTTTCGGCTCGAGCATCTTATGACCGTTGGCAAGCGGCA
GCGCCATATCCGCATACGCCAAACCCTGCAAGTCCTCATCGACAAAAAGCTCGCGCGGAA
TCTCCGCCAAAGCGTCCAACACATCAAAATCCAATACATCCCACGGACGGATTTGCTGTT
CGACCATATTGAACCGCGCTTTTTCAAAATCCATTTAGTGCTCCGTCAAATAATTGTTCC
AACAATGGCAGGCATTATAAAACCACACTCCCGCCGCGCCAACTTCGGCACGCGCCGACA
GCCCGTTTTGTCAGTCTCAAACCGCCTGACGCGAAGCCTCAAACCGCTTCTCCAAAATCT
TCGCCAGTTCGCCCAAATACAAAGCATCCGTCTCATCAAACTGCGCCAAATGTTCGCTGT
CCGCGTCCAACACGCCGATACAGCGGCCGTCTGAAAACAGCGGCACGACAATCTCCGAAC
GTGACAAAGACGAACAGGCAATATGGTCGGGATGCGCGTTGACATCCTTAACAACCACCG
TTTCACCCTTCGCCCAAGCCTGACCGCACACCCCGCGACCGAACGGAATCCGCGTACACG
CCAAAGGCCCCTGAAACGGTGCCAAAACCAATTCGTCCGAACGCGTATCGACCAAATAAA
AACCCACCCAAAACCAACCGAACGCCTCCTTCAAAACCGCCGCCGTGTTCGCCAAATTCG
```

-555-

```
CCACCCAATCCGCCTCGTCAGCCACCACAGACTCAATCTGCGGCAACACCTCCCGATAAA
GCGCGGCCTTGTCCGAAGCCGAAAAATGAAGCGCGTGCATCACATCTCCTATAGTTGCAT
ACATATCAGGCGGCCATTATAAAACAGCCTGCCCGAAACAACATTCCAAACCGCCCGGCC
GGCCGCTTCAAGTTGCGAACCCGCCGCATATCCACTAAACTTCACGTTGCACCGCGCCAC
ACGCGGCAGACAAAAAAACACGACACGGAGCAAAAAAGATGTATCGCCAAATCGGAATGT
GGGATCAAAAATGGGTCATCGGCAACTGGAAAATGAACGGCCGGCTCCAAAACAACAACG
CACTGATGCACCGCTTCCGCATCCACCCCACCGCCGAACGCGTCCTCATCGGACTCGCCG
CCCCGACCGTTTACCTGCTGCAACTGCACAACGCCATGCAAATCGTTTTAAACAACCGCA
TCCTCACCTGCGCCCAAGACGTGAGCCGCTTCCCCAATAACGGCGCGTACACCGGCGAAG
TGTCCGCCGAAATGCTCGCCGACACCGGCACAGACATCGTCCTCATCGGACACTCCGAAC
GCAGCCTTTATTTCGGCGAAAAAACGAAATCCAACGCCGCAAAATGGAAAACGTCCTCA
ACGTCGGACTCATCCCGTTATTGTGCGTCGGCGAAAGCCTCGAAGAGCGCGAAGCCGGCA
AAGAACACGAAGTCATCGCCCATCAGCTTTCCATCCTGCAAGGGCTGGATACCAAAAACA
TCGCCGTCGCCTACGAACCCGTCTGGGCGATCGGCACCGGCAAAGTCGCCACCGTCGAAC
AGATTGCCGATATGCACGCATTCATCTACAAAGAAATCTTGTCTTTGTGCGGAAGCGATG
TTAAAATCCGCGTCCTTTACGGCGGAAGTGTGAAAACGGACAACGCGGCCGACATCTTCG
CAGTACCTTATGTGGACGGCGCACTCGTCGGCGGCGCGTCATTGTCGTACGACTCCTTTA
CCGCCATCATCAGTGCCGCACAAAATGCGTAGAAAAATATGGAAGCCTTCAAAACCCTAA
TTTGGATTGTTAATATAATTTCCGCTTTGGCCGTCATCGTGTTAGTATTGCTCCAACACG
GCAAAGGCGCGGATGCCGGCGCGACTTTCGGATCGGGAAGCGGCAGCGCGCAAGGCGTAT
TCGGCTCTGCCGGCAACGCTAACTTCCTCAGCCGCTCGACCGCCGTTGCAGCAACATTTT
TCTTTGCAACCTGCATGGCTATGGTGTATATTCACACCCACACGACAAAACACGGTTTGG
ACTTCAGCAACGTACAACAAACTCAGCAAGCACCCAAACCCGTAAGCAATACCGAACCTT
CTGCCCCTGTTCCTCAGCAGCAGAAATAACAGTTTTTCAAATGCCGACATGGTGAAATTG
GTAGACACGCTATCTTGAGGGGGTAGTGGCCGTAGGCTGTGCGAGTTCAAATCTCGCTGT
CGGCACCAACACACAAAAACGCCTGAAAATTTCAGGCGTTTTTTGTTCAATCCCATCCAA
CGCTGTCAACCAATTCCAATCAATACAAGGATTTCAGGCTGATTGTTATCCTGCCGTCCC
CCTTCCTGACAGTGCAATCCCGTCCAATCCGCCCTAATTGAAGTAACCTAAAATTTACGG
TATCTTTTGCGGTATCTGAAAAATACCTCGAAAAAATACCGCAAAAATAAAGCTGAACGA
CCGCCAAATCAGGAATGCCAAGCGGAAAAGAGCTTGCGGGGAATACTGCCAAGACGTAGG
GAACAAGGGGGAAACCGTCCAAGATGCAGGGCGGTTTTTTTTGGGTTTTTGGAAAAAACC
TATACTAGGAAGCGATACCCTTAGTTGTTACCTTGTTACCGGGGAAAAGTTAGATAAATA
AGCATATGAAATATAGTGAATTAAATTTAAATCAGGACAAGGCGGCGAGCCGCAGACAGT
ACAAATAGTACGGCAAGGCGAGCCAACGCTGTACCGGTTTAAATTTAATTCACTATAAAA
TAAGAAAAAGATAAAAAATTGGTAACAAATGCGGTAACAAATGGTAACGAATCGGTAACA
ACTTTTGGGGTTTTTCCGGTTTTTCACCGTCTTGGCAGTGGGAGCGTAGCGGAATGAAAG
CCAAAACGCACGGAACCGCGCCTATTTTGAGCAGGAATGGCGGTTAAACCGCTTGGTTAT
ATACGGGGAATAGGAAGACAGCGAAACGCGCTAAAAACGCAATTTGAGCCATTAAAAGCG
ATTGATTAAAAAAATAATCAGGTTAGCCGCCAGTGTTTCAGGCGGCATAAACGGAGAAAT
TGCGGGGCATAAAAAAGGCAGCTTGCCGTGTTGTCTGTCTCTGGTATAATTCCAAGTATC
ACTAATCAACGGCTACACAATGCGGATATTCAAAAACCAATGGATAGTGAAATTTGCCAA
GAAGCACAAAATCAACGATTCCGAGCTGCTGGAAGCGGTAGAGCGGGCGGATAACGGGCT
GATAGACGCAGATTTAGGCGGCGGTGTGATTAAGCAGCGCATAGCAAGGCAAGGACAAGG
CAGAAGCGGCGGTTATCGCAGTCTGATACTGTTCAAACAGGCAGACAAGGCATTTTTTGT
TTACGCCTTTGCCAAGAACGACAGGGAAACATTTCGGATAAAGAACTTGACGTTTACCG
AAAAGCCGCCGCATATTATCTGAAATACACGCGGGCAGAGCTGGCGGCTTTGAAAGAAGA
CGGCATTATCACGGAGATAGAATCATGAAATACAAAAACGAGGCATTAGCCGCCATTCAT
GAAATGATGGAAGGGGCTTACAACATCGGCGCAATCGACAAAAAGACCATGCGCGACTTT
GACAAGTCCTGCCTGACCGAAATCAAACCGTTGAGCGGCGGAGACATCAAGGCAATCAGG
GAGAAGGAGGCACTATCGCAAGCCGCTTTCGCCATCTATCTCAACGTGGGAAAAAATCAC
GTTTCGGCTTGGGAGCGGGGCGTTAAAAAGCCGAGCGGCGCGGCGTTGAAGCTGCTGACC
ATCGTCAAAAACAAGGGCATCGAAGCCATTGCGTAGCCGACTTGGCAAACGGCAAAATCA
GCAAGTTCACAATAGACGCGCTGCTGAATATGCCTGCCAAGACAGGCAAGACCGCCGAAC
TGAATATCAGGGCGTAGCCGCATAAATGCCCGACCGCATCAAACCAAGCCGAAACGGCGG
CGGTGCAGACGACATAGCCCGACAGCAAGGCACGGCGCAGACGGGCGCGAAACCCGAAAC
ATCACCGACCGCGAGGTACGGGGATTTTTTGCGCCCGTTGCAGGGGGGGATTGGATTTAA
GCGGCGCGGGCTTGAAGGCAAAACGGGTGGGGCACAGAACTGTTTAAATGCAGTCTGAAT
CTCAAACGATTTCAGACGGCATTTTGAAACAATGGCTCAAATTCTCGATCCCCTTCCCTT
AACGCCGACGTTTTTTATTAACGCGCCCCTTATTTCTGACACTTTGCTCATAAACCGGCA
```

```
TAACGGTCGGCAACAACCGTTTTAGATTTTCTATACGGGCATTGTTTGTCGGATGAGTAG
AGGTAATAGCATAAATAAAGCCGTTTGGTCGTTTTCCTGATTCATTTTTTCCCAAACCC
TGACAGCGGCCGCCGGATGATAGCCTGCCTGCGCCATCAACATCATTCCCCCCTCATCGG
CTTCTTCTTCCAAGCTGCGGCTATAAGGCAAGGTAAGACCGTACGTCCCCAAAATATCCA
TACCCAATCCGACCAATTCCGGATTAGTATCCGGTTTTTTGTCTAATATAATCTGCGTGC
CTATCTGCGCCGCCGTATTGGTCAAGATTTGCTGCCCGACCTTATTTTTACCGTGTTCAT
GCAGGGCGTGCGTCATTTCATGCCCCATAATGGCGGCAATTTCGTCATCGGTCAGCTTGA
GTTTGTCGACTATCCCCGTATAAAACGCCATTTTTCCACCGGGCATTGCCCACGCGTTCA
GCTCATCGTTTTGAAAACCGTCATTTTCCAGTCAAACTTATGGCTGGTATTATTTGCCG
CATCGGCATAAGGCAGCATACGTCGAAATACTGCCTGCACCCTGCGGGCTGTTCTGGATG
TGGTATCGACATTGCCGGCAGACTTGTTTAACTCAACCGTTTTCATATAATCTTTGGCAG
CCGCAGCGTTCATTGTGGCGGAATCATGACCGTAAACATCAGCAACGACCGCACAAGCCC
CCAATACCGAGATTACTGCCGACAGGCAGAGTATCCGTTTAAAGGAAGGAAGGAAGGAAA
TTTCATATTTAGGTTTACTCCTTAAAAAATTAAATTTCAAAAAAATGCCGTCTGAATCCA
AAACGGATTTCGGACGGCATCTTAACATTGTTTAATGTTTTTAAAAAGATTTACACCACG
ATGTTCTCCAGTCTGCCCGGTACGGCGATGATTTTCTTGGCAGGCTTGCCTTCTATGAAT
TTCACCGCGCCTTCAGCGGCGTATTCGGCAGCTTCTTCAGCCGGTTTGTCGAAATCACGC
ATAAATTGCCAATAATTCTCCAACTTTTTTTACGGCTGCTGCTGCCTTTTGCGGCAATATT
GCGCTGAACTTCAACTGTTTTCAAAATGGCAGAAGAATAAATATCCCTTGTGAATTCAGT
ATCATGATTTGAAATCAAAATACCTTGGGAGTTGGGCGCAATTTATTGATTTTTTGTAAA
GTCCGCGACCAATGAATTCGATCGTATTTTGGTCGCGCAGAATTTGCAACTGTTGGCGGA
TTTTGTCTCTGATATGGTTGTTTTGGGGAAATTGGATGGATAGTTTGTTTTCAAATTCAT
ACATTTGCGACAATGTGAATTCTTCGGGGAGTTGGTCGATACATTTCATAACAGCCAGAA
GCCAGCCTTTGCGCTCCGCATTTTGGTTGCGTAAAAACAAATTGGATTGCCATTTTTTCA
GAACGGTTTCGGGTTCGATAATGCGGGAATTGTCTATTAAGAATATTTTGCCGCTTTCAG
GCAAAGGGGCGAGATTGATAGAACACATAATGTGGTTCGGCCGGTTTTTAATGCCTTTAT
TTCTGGGAATAATCATATCCGGCGTGATGAAATGTTTGGGTACAAGCACCAATTGCCGTA
TGGAGTAATCCGCTTTTTTATATGCAAGAAAGAAAAAGTTGGGGTTGGTATCTGACCGGA
TGCGCTCCAACATGGTGTGATATGCACCGTCAGGCACGCTGTTGCCTATGGTTTTTTGAT
TTTTACTCTTTAATTCATATTGCTCGTGGCAATTTGGGCAAAAGAGGTCTGCAACAGGTT
TGTTATTGGCAAATCTCTGCATCGGCTTGCTTCCGCAACAGGGGGCAGTAGCCGTTTTTTT
CCAACCAAGCCTCGCTCATTACACGGATTTTATGGGTTGCTTTATTTTGTTGCTTTCCCA
ATTCGGTATCGAAAAATAAATTCATGTTTTGGATTTTGAGATTTCAGTTATTCGGGGTTC
GTCATGCAGACAACACAATCCACCTTAAAAAGGCCGTCTGAAACCCTGTTTCCAAGTTTC
AGACGGCCTTTATCCGTGTGGCTAAACCTTAAAAGCGGTTAGACGACGATGTTCACCAGT
CTGCCCGGTACGACGATGATTTTCTTCGCCGGTTTGCCTTCCATGAATTTCACCGCGCCT
TCGGTGGCGAGTGCGGCGGCTTCGAGGTCGGCTTTGGATGCGTCGGCGGCAACAGTGATT
TTGCCGCGCAGTTTGCCGTTGACTTGAACCATCACTTCGATTTCGGATTTGACCAAGGCG
GCTTCGTCGACTGTCGGCCAGCCTGCTTCCCACAGTTTCGCGCCGTTCAATTCGCTCCAC
AGGGTTTCGCAGATGTGCGGCACGATGGGCCACAACAGGCGTACGGCGGTTTCCAATACT
TCTTGGGCGACGGCGCGTCCTTGTTCGCCGCCGGTGTCGGTTTTGTCGTATTGGTTGAGC
AATTCCATCACGGCGGCGATGGCGGTGTTGAACTGCTGGCGGCGGCCGTAGTCGTCGCTG
ACTTTGGCAGTGGTCGCGTGCAGTTTGTGGCGCAGGTCTTTGAGTTCTTTAGACAAACCG
TCTTGGCTGCCTGCGAACGCTTTGACCGCTTCGCCTTGCTTCAAGTATTCGTAAACGGTA
CGCCACAGGCGGCGCAGGAAGCGGTGTGCGCCTTCGACGCCGCTGTCGCTCCATTCGAGG
GACTGTTCGGGCGGTGCGGCGAACATCATAAACAGGCGGGCGGTGTCCGCGCCGTAGGCG
TTAATCAGTTCTTGCGGATCGACGCCGTTGTTTTTGGACTTGGACATTTTTTCCGTGCCG
CTGATGACGACGGGCAGCCCGTCGGCTTTGAGGACGGCGGAAATGGGGCGGCCTTTGTCG
TCGAACGTCAGCTCGACATCGGCGGGGTTGATCCAATCTTTGCCGCCTTTGTCGTTTTCG
CGGTAGTAGGTTTCGCAAACGACCATGCCTTGCGTCAGCAGGCGTTCAAACGGTTCGTCA
ACATTGACTAGACCTTCGTCGCGCATCAGTTTGGTGAAGAAACGCGCTACAAGAGGTGC
AAAATCGCGTGTTCGATGCCGCCGATGTATTGGTCGACCGCGCCCCAGTATTTCGCGGCG
GCAGGATCGACCATGCCGTCTGAAAATTTTGGCGACATGTAGCGGAAGAAATACCAGCTC
GATTCCATGAAGGTGTCCATGGTGTCGGTTTCGCGTTTCGCCGCGCCGCCGCAGCATGGG
CAGGCAGTTTCGTAAAACTCGGGCATTTTTGCCAGCGGCGAACCCATGCCGTCGGGTACG
ACGTTTTCAGGCAAAACGACCGGCAATTGGTCGGCAGGGACGGGTACGTCGCCGCATTGT
TCGCAATGGACGATGGGAATCGGGCAGCCCCAGTAGCGTTGGCGCGAAATGCCCCAGTCG
CGCAGGCGGTATTGGGTTTTCGGTTCGCCCGCGCCTTGGCTTTGCAGCTTGGCGGCGACG
GCGTCGAATGCCGTCTGAAAATCCAAGCCGTCCAAGTCGCCGCTGTTGACCAATACGCCG
```

```
TTTTCTTTGTCGCCGTACCATTCTTGCCATTGGTTTTCGTCAAATGCGTTGTCGCCGACG
GCAATGACTTGTTTTTTCGGCAGATTGTATTTGGTGGCGAACTCAAAATCGCGTTCGTCG
TGCGCCGGAACCGCCATCACCGCGCCGTCGCCGTAGCCCCACAATACATAGTTGGCAATC
CACACTTCCAGCTTGTCGCCGTTGAGCGGGTTGACGACGTAGCGGCCGGTCGGCACGCCT
TTTTTCTCCATCGTCGCCATATCGGCTTCGGCAACCGAACCGGCTTTGCATTCGGCAATA
AATGCCTGCAATTCGGGTTTGTCGGCGGCTGCGGCGGCTGCCAGCGGATGCTCGGCGGCA
ACGGCAACATAAGTCGCACCCATCAGCGTGTCGGGGCGGGTGGTATAAACTTGCAGGAAT
TTCGCGTAATCGCCTTCCAAGCCTTGTTTGCTGTCGTCTGAAACGGCGAAGCGCACGGTC
ATACCGCGCGATTTGCCGATCCAGTTGCGCTGCATGGTTTTGACTTGTTCCGGCCAGTGT
TCCAGCTTGTCCAAGTCGTTGAGCAGCTCTTCGGCGTAATCCGTGATTTTGAAGTAATAC
ATCGGGATTTCGCGTTTTTCGATCAATGCGCCGGAACGCCAGCCGCGTCCGTCGATGACT
TGCTCGTTGGCAAGGACGGTTTGGTCGACAGGGTCCCAGTTTACCGTGCCGTTTTTGCGA
TAAACGATGCCTTTTTCAAACAGCTTGGTAAACAGCCATTGTTCCCAGCGGTAGTATTCG
GGTTTGCAGGTTGCGGTTTCGCGCGCCCAGTCAATCGCAAAACCTAGGCTTTTGAGCTGG
GTTTTCATGTATTCGATGTTATCGTACGTCCAAGCGGCAGGGGCGACGTTGTTTTTCATC
GCCGCGTTTTCCGCCGGCATGCCGAACGCGTCCCAACCCATAGGCTGCATGACGTTGAAG
CCGTTTAAAAGTTTGAAGCGGCTCAATACATCGCCGATGGTGTAGTTGCGCACATGCCCC
ATGTGCAGCTTGCCGCTGGGATAGGGGAACATGGAGAGGCAATAATATTTGGGTTTGGAA
GCGTCTTCGGAGACGTTGAAAATACGGGCGTCGTCCCATTTTTTCTGCGCCGCAGGCTCA
ATGGCGGCGGGCCGGTATTGTTCTTGCATAGTCATTCTGTTTTCGCTTAAAAACGTTGGA
AAAATAAAGTCGGCATCAATTATAACAGGTTGCCGGAAGCGGCGAATCGGCAGATTGCCG
GCAGGATGCGTAAATTCGCACGCGCATTATTCCGTATGCCGTACAAATACACCGCGTTTA
TTGATACGCACGTTTTTTATGCTAATATTACAAACCAAAATCAAATGTTTAAAACTCTCC
TGATGCGGCTCTTCCGAACAAAAGGCAGACGGGCATCGGGTAAAAGAGGATTCTGCATAT
GAAAATCAAACAAATCGTCAAACCGGGCTTGGCAGTATTGGCGGCGGGCGTTCTGTCTGC
CTGCGCAACCAAAAGCAACGTCAAAGCCGACGGCACGACCGACAATCCGGTTTTCCCGAA
ACCCTATTCCGTAACGCTCGACAACAAGCGCGGCACATTCCCGACTTATGACGAACTGGA
TCAGATGCGCCCCGGCCTGACCAAAGACGACATCTACAAAATCCTGGGCCGCCCGCATTA
CGACGAAAGTATGTACGGCGTGCGCGAATGGGATTACCTGTTCCACTTCCATACCCCGGG
CGTAGGTATCGACCCTGAAAACACTTCCGGCGTAGAAGATGTTACTACCTGCCAATACAA
AGTGATTTTCGATAAAGACAAATTTGCCCGCAGCTTCTACTGGAACCCCGTCTTCCCGAA
AGATGCCGCCTGTCCGCCGCCCGCACCCAAAGCCGAGCCGCAAGTCATCATCCGCGAAAT
CGTGCCGGCAAAACCGAAACGTATCCGCCAATAATCCGACATGCCGTTCCGCCTGTTTTT
AGGGATATTATGCGGCCTGTCAATGGTTGCCCCCGTATATGCACAGGGGCAGCCGGATAC
GGTCGGCGACTTTATCCAAAAGAAAAAAGTCATCGTCGATACATCCAAAGCGGAACTCTG
TTTCGCTGACGACCGTCAGTGCCACCCCGTCCTCATCGGTGTTGCCACGCCCAAGGGGAC
GTTCGGGCTGACGCTGAACAGTACCGACAAGCCCGGATACGGCGGCGAAGTCATCGGTTT
CAAGCAGGAGGGTGATTTTCTTTTCGCCCTGCACCGCGTTTGGAATCAGATACCGTCGGA
AAGGCGGAACGAACGCATCGCCTCCCCGTCCGTGTCCGACAGGATTATGACCAACGGCTG
CATCAACGTCAGCGATGCGGTGTACGAAAAACTGCGTCATTATTTTGTGTTGGAAGTGAT
TTGAAACAGACGGATACCGCACGCGCCGGTATCTGTTTTCACATTGCCCCGATGCCTGAA
ACAGACTGTCCGCCACGTCATGCCGTCTGAAACCGGCGCAGATGCCGCCAAGCCTTCAGA
CGGCATTGCCTGCCCGCTCCGACCGAACAACAACCATCTTTGGGAGAACCTTATGCCCGA
ACAAAACCGCATCCTCTGCCGCGAACTGAGCTTGCTGGCATTCAACCGCCGCGTGTTGGC
GCAGGCGGAAGACCAAAACGTCCCCCTTTTGGAACGCCTGCGCTTCCTGTGCATCGTTTC
ATCCAACCTCGACGAGTTTTTCGAAGTCCGTATGGCGTGGCTGAAGCGCGAACACAAACG
CTGCCCGCAGCGCAGGCTGGACAACGGCAAAATGCCGTCTGAAACCATCGCCGACGTTAC
CGAAGCGGCGCGCTCCCTGATACGGCACCAGTACGACCTGTTCAACAACGTCCTTCAGCC
CGAGCTGGCACAAGAAGGCATCCATTTTTACCGCCGCCGAAATTGGACAGACACACAGAA
AAAATGGATTGAAGACTATTTCGACCGCGAATTGCTGCCGATCCTGACCCCCATCGGACT
CGACCCTTCCCACCCCTTCCCGCGCCCGCTGAACAAATCGCTCAACTTCGCCGTCGAACT
CGACGGCACAGACGCGTTCGGCAGGCCTTCGGGGATGGCGATTGTGCAGGCACCACGCAT
CCTGCCGCGCGTTGTTCCCCTGCCGTCCGAACTGTGTGGCGGCGGACACGGCTTCGTCTT
CCTCTCCTCCATCCTGCACGCCCACGTCGGAAAACTCTTCCCGGGCATGAACGTCAAAGG
CTGCCACCAGTTCCGCCTGACGCGCGACAGCGACTTGACCGTTGACGAAGAAGACCTGCA
AAACCTCCGCGCCGCCATTCAAAACGAGTTGCACGACCGCGAATACGGCGACGGCGTGCG
GCTCGAAGTCGCCGACACCTGTCCCGCCTACATCCGCGACTTTCTGCTCGCGCAATTCAA
ACTGACCGCCGCCGAACTCTATCAGGTCAAAGGCCCGGTCAACCTCGTGCGCCTCAACGC
CGTCCCCGACCTAGTCAACCGCCCCGATTTGAAATTTCCCACACACACGCCGGGCAGACT
```

GAAAGCCTTGGGCAAAACCGCGTCCATATTCGATTTGGTGCGCCAATCGCCCATCCTGCT
GCACCACCCCTACCAATCGTTCGACCCCGTTGTCGAAATGATGCGCGAAGCCGCCGCCGA
CCCCGCCGTGCTTGCCGTCAAAATGACGATTTACCGCACCGGCACGCGTTCCGAACTCGT
CCGCGCCCTGATGAAGGCGGCACTCGCCGGCAAACAAGTAACCGTCGTCGTCGAACTGAT
GGCGCGTTTTGACGAAGCCAACAACGTCAACTGGGCGAAGCAGCTCGAAGAGGCGGGCGC
GCACGTCGTGTACGGCGTGTTCGGCTACAAAGTCCACGCCAAAATGGCACTGGTCATCCG
CCGCGAAGACGGCGTGCTCAAACGTTACGCCCATCTCGGCACGGGCAACTACCACCAAGG
CACATCGCGCATCTACACCGACTTCGGCCTCATTACCGCCGACGAACAAATCACCGCCGA
TGTGAACATATTGTTTATGGAAATCACAGGTTTGGGCAAACCCGGGCGGCTGAACAAACT
CTACCAAAGTCCGTTTACCCTGCACAAAATGGTTATCGACCGCATCGCACGCGAAACCGA
ACACGCAAAGCCGGCAAACCGGCGCGGATTACCGCCAAGATGAATTCGCTCATCGAACC
GACCGTCATCGAAGCCCTGTATCGGGCAAGCGCGGCAGGCGTACAAATCGATTTGATTGT
GCGCGGTATGTGCACCTTGCGCCCGGGTGTAAAAGGCTTGTCCGAAAACATCCGCGTCCG
CTCCATCGTCGGCAGGCAGCTCGAACACGCGCGCGTGTATTACTTCCATAACAACGGCAC
GGACGATACCTTTATCTCCAGCGCGGATTGGATGGGGCGCAACTTCTTCCGCCGCATCGA
AACCGCCACGCCGATTACCGCGCCCGAACTCAAAAAGCGCGTTATACATGAAGGACTGAC
CATGGCACTGGACGACAACACCCACGCGTGGCTGATGCAGCCCGACGGCGGCTATATCCG
CGCCGCACCTGCCGAGGGCGAATCCGAAGCCGACCTGCAAAACGATTTGTGGACACTGCT
CGGAGGCTGACCCGCACCGCCCCAATCAAAAACCATGCCGTCTGAAACCTTTCCGTTTCA
GACGGCATGGTTTTACAGCAATCTAAACAGGGCGGGACCGGAGTCAAAAACACACCTTCGC
CATTCCTGCACAAGCACTTCCCCTATACGCTCCCAACCCCAAGCCGCCGCATTCCAGACG
GCATTATAGTGGATTAAATTTTAGGGGCTGTACTAGATTAGCAGATATGTTACCCTCGAA
ATATGAAGATAACGCACTGCAAATTAAAGAAAAAGTACAGAAAGAACTGCTCCGTTTTT
TGTGCTGGAAGTTACCGCCCGTTCTGCCGCCGATATTTTGGGTATCCATCCCAATTCGGC
AGCACTGTTCTACCGTAAAATCCGCACGGTTATCAACCATCATTTAGCCTTGGCTGCCGA
TGAGGTTTTTGAGGGCCCTGTCGAGCCGGACGAAAGCGATTTCGGCGGACGGCGTAAAGG
CAGACGTGGTCGCGGTGCGGCAGGAAAAGTGGTTGTCTTCGGCATTCTGAAACGCAACGG
ACGGGGCTATACCGTTGTCGTAGATAATGCCAAGTCTGAAACGTTACTCCCTGTCATCAA
GAAGAAATCATGCCGGACAGCATTGTTTATACCGATAGTCTGAGCAGCTGCGACAAGTT
GGACGTGAGCGGTTTTATCCATTACCGCATCAACCATTCCAAGGAGTTTGCAGACCGTCA
GAACCACATTAACGGCATTGAGAATTTTTGGAATCAGGCAAAACGCGTCTTGCGAAAATT
ATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACG
AAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAG
GCAACGCCGTACTGGTTTTTGTTCATCCACTATACCTTTCCGACAGCCGAACAAAACCCC
GAATCCGTCTGCACGGTTCGGGGTATATCTCCAATACGGGCATCGTGTTCCGGAAAACCG
TCAAATCCGCATCGGCATCACAATATATTTGAAATTCGGATTGTTCGGCACGGTAAACAG
CGTCGAGCGGTTGGCATCGCCGAAGGCAAGCTGCATATCGTCGGAATGGATGTTGCGCAA
CACGTCCATCAGATAGCCGATATTGAAACCGACTTCGAGTTCGCCGCCCTGATAGGCGAT
TTCGATTTCTTCGCGCGCTTCTTCCTGCTCGTTGTTGCTGCACACAACGCTCAACAGGCC
GGGTTGCAAAAACAATCGCGCACCGCGGAATTTTTCATTGGCAAGAATCGATGCACGTTC
CAACGCGCCCAACAATTCTGCCCTCGACAACACGAAAATCTTGTCGTTGTCCAAAGGAAT
CACGCGGTTGAAATCGGGGAATTTGCCGTCGATGACCTTGCTGACGATGGTCGTGCCGTT
GCATTGGAAACGCACCTGTTTGTCCAGCAGCTCGATTTGAATCGGATCGTCGGGGTTGTT
CAACAGTTTGAACAGTTCCAGCACCGTTTTGCGCGGCAAAATCACTTCGGCGCGCGGCAA
ATCCGCATCAATCGCGCAGGCTGCATAGGCAAGGCGGTGTCCGTCGGTCGCCACAAGGCG
CAACTGGCTGCCCTCAACCTGCATCAGCAGACCGTTGAGATAATAGCGGATGTCCTGCAC
CGCCATGCTGTACTGCACTTGCGACAGCATGGTTTTGAAACGCTCCTGCTCCAGCGAGAA
AGTCGCGCTGATGTCCTCGCCGACATTCATCATCGGAAAATCGGCGGCAGGCAGGGTCTG
CAGGGCAAAACGCGATTTGCCCGCCTTCAGCGTCAGACGGCTGTCGTCCCAATCCAGCGA
CACCAGCGCACCGGCAGGCAGCGCGCGCAAAATATCCTGAAATTTCTTGGCATTGGTGGT
GATGCGGAAGTCGCCCGCGCCGCCCTCGGGACCCGCAGTGTCGATTTGGATTTCCAAATC
GGTTGCCAAGAGTTTGGTCTGACCGCCTTTTCCCTCAATCAGGACGTTGGACAGGATGGG
CAGGGTGTGGCGGCGTTCGACGATGCCGGTAACGGCTTGCAACGGCTTGAGCAGGCTGTC
GCGCTCGGCTTGTAAAATCAACATGTTCGCTCCTTTAAATCGGTTTGTATAGTGGATTAA
ATTTAAATCAGGACAAGGCGACGAAGCCGCAGACGGTACAAATAGTACGGAACCGATTCA
CTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTA
CTGGTTTAAAGTTAATCCGCTATATCTTTACCCTTCGGACGGCATGGGCAATATCATGTC
GTCTGAAAACGTTTTCCATCAGTTTTGAATCAGAATCAGCAGCTTTTCATAATCCTGAGC
CAATTCCGGATCTTCTTCGCGCAGTTTCGCCACTGCCCTGATGCCGTGCATAACGGTCGT

```
ATGGTCGCGCCCACCAAACGAATCGCCGATAGACGGCAGGCTCAAAGTAGTCAGTTCTTT
GGTCAGGCTCATCGCCACCTGGCGCGGACGGGCAATGTTTCGTGTCCGTTTCTTACCGAG
CACATCGCTGATTTTGATGCGGTAATATTTCGCCACCGCATCGATGATGATGTCGGCGGT
GATGACTTTGTGCTTCTCGGCAATAATGTCCTGCAAAGCGGTACGCGCCAAATCGATGTC
GATGACGGGACGGTTCATAAAGCGGCTGCTCGCTCCGACACGATTAAACGCGCCTTCAAG
CTCGCGCACGTTGGAACGGATCAGATTGGCAATGAACAGCGCGGCTTCGTCTTCGATACT
GATGCCCGCCGCTTCCGCCTTTTTCTGCAAAATGGCGATGCGCATTTCCAATTCGGGCGG
CTCGAGTTCCAAAGTCAGTCCCCATGAAAAACGGGATTTGAGGCGGTCGTCCATGCCTTC
GATTTTCGCAGGCAACACATCGCAAGTGAGGATGAGCTGTTTTTTCTCGTTGTGGAAATG
GTTGTACAGATAGAAAAACTCTTCCATCGTACGGTCTTTGCCTTTGATGAACTGGATGTC
GTCGATAATCAGCAGGTCGTATTGCTTGTATTGCTGCTTGAACACGTCGTAAGTGTTGTT
GCGAACCGCCTTCATAAAGCTGCGGATATAGTCATCCGAATGCATATAGCGCACTTTGGC
ATCGGGACGGTTTTTCAGCAGCTCGTTGCCGACCGCCTGCACAAGGTGGGTTTTGCCCAA
ACCCGTGCTGCCATAGAGGAAGAACGGGTTGTAACTCTGCCCCGGGCTTTCCGCAATCGC
CTGCGCCGCAGCCGCCGCAAGGCGGTTGCCCTTACCTTCTACCAACGTATCAAACGTGTA
ATCCGGAGACAGGTTGGTCTGCTCGTAACGCGCCTCTTCCGCATCGCGCTGCACGTCCGT
CCGTGCTTTGGCAACTGCCACCGATTCCGGCCGGGAAGCAGACCCGGCAGCCTGACGCGG
CTCGTGCGGCAGGTTTTTCATACGTTCCGCCAAAATATCCGCCGCCGTTTTCGACGCAGC
GGGTTTGACAGGCTCTTCAGACGGCAGCTCGTCCAACAGAACCTCCTGCACGGGCATTCC
CTCCGACACCGCATGCAAGGACGGCTCGGCAGGTTCGACAGCCACCTTCAACCGCCGCCAT
CTCATAACGCACGCCTTCTCCCGGTTTGAATACGAAGGCGGAACGGCCGGCAGCCAACTC
TTCCCTCACCGCTTCTATTTTTCCGGCAAACTGGCTCTTGAGCATATTGCAGGCAAACTG
GTTCTTGCCGTACACCACCCATACGCCACCCTCCTCACCAACGGTAAGGGGCGCAATCCA
TTGCGCAAACTGCCCTTGAGGCAACATATCGTGAAGACGGCGGAGGCACAGCGGCCAAAA
CTCTGCTAATGTCATGGATAGGCTCGAATCGGTAAAAATGAAATCGAAAACAAAGAAAAT
ATAATATTTTCAAAAAGAAAACAAATCTGTTGAACGCACATCGGTTCAAAACGCGACTGC
CCGATTATACCGACTCACGAATATTTTATCCACAACCCGTGCAAAAATTTATCCACAGAA
AGGCGGCGGAAATCCGCAGGCAATCGGGCAATCTTCCTGCAAAGTTTCTATATTGATTGA
CAAAAGCGGCAAATTGGAGTGTAATTCACGGTTTAATTATCTACCCATTCTATTTTAGGA
AACATCATGAAACGCACTTATCAACCTTCCGTTACCAAACGCAAACGCACCCACGGCTTC
CTGGTGCGCTCCAAAACGCGCGGCGGCCGCGCAGTATTGGCCGCACGCCGTGCCAAAGGC
CGCAAACGCCTGGCGGTATAATTTTGGACTACCGCTTCGGAAGGCAGTACCGCTTGTTGA
AAACGGATGATTTTTCATCCGTTTTTGCATTCAGAAACCGCCGCAGCCGCGACCTGCTGC
AAGTTTCGCGCTCAAACGGCAACGGGCTGGGCCATCCCCGCATCGGTCTGGTGGTCGGCA
AAAAAACCGCCAAACGCGCCAACGAACGAAATTATATGAAGCGCGTTATCCGCGACTGGT
TTAGATTGAACAAAAACCGGCTGCCGCCGCAGGATTTCGTCGTGCGCGTCCACCGTAAAT
TCGACAGGGCTACCGCAAAACAGGCAAGGGCGGAACTGGCACAACTCATGTTCGGCAACC
CCGCAACCGGATGCAGGAAACAGGCATGATCAGAACGGTACTCTGCAGGCAAGGTTCAGA
CGGCAACGGGTTTCCCATACAAGGAACATCCCGATGAACTTCCTATTGTCCAAACTCCTG
CTGGGACTGATACGGTTCTACCAATATTGCATCAGCCCGCTGATTCCGCCGCGCTGCCGT
TATACGCCGACCTGTTCGCAATACGCGGTCGAAGCGGTCAAAAAATACGGCGCATTCAAA
GGCGGCCGGCTCGCCATCAAGCGCATTGCACGCTGCCACCCTTTCGGCGGACACGGACAC
GACCCCGTTCCCTGACCCGACGCAATATTCAAATTGCACGCTTTCCTTTTATTTCCCATC
GGTTTCTATATAATGCCGTCTGAAGCTTCGGGCAGGCGGCACGACCGCCGGGTATGAAGC
CCGCCCTTATTCCCCGTCTATCGGAACACGCAACCTGCGGCATTTCCGACCATTCAGGAA
ACTCTTATGGATTTTAAAAGACTCACGGCGTTTTTCGCCATCGCGCTGGTGATTATGATC
GGCTGGGAAAAGATGTTCCCCACTCCGAAGCCCGTCCCCGCGCCCCAACAGGCAGCACAA
CAACAGGCCGTAACCGCTTCCGCCGAAGCCGCGCTCGCGCCCGCAACGCCGATTACCGTA
ACGACCGACACGGTTCAAGCCGTCATTGATGAAAAAAGCGGCGACCTGCGCCGGCTGACC
CTGCTCAAATACAAAGCAACCGGCGACGAAAATAAACCGTTCATCCTGTTTGGCGACGGC
AAAGAATACACCTACGTCGCCCAATCCGAACTTTTGGACGCGCAGGGCAACAACATTCTA
AAAGGCATCGGCTTTAGCGCACCGAAAAAACAGTACAGCTTGGAAGGCGACAAAGTTGAA
GTCCGCCTGAGCGCGCCTGAAACACGCGGTCTGAAATCGACAAAGTTTATACTTTCACC
AAAGGCAGCTATCTGGTCAACGTCCGCTTCGACATCGCCAACGGCAGCGGTCAAACCGCC
AACCTGAGCGCGGACTACCGCATCGTCCGCGACCACAGCGAACCCGAGGGTCAAGGTTAC
TTTACCCACTCTTACGTCGGCCCTGTTGTTTATACCCCTGAAGGCAACTTCCAAAAAGTC
AGCTTTTCCGACTTGGACGACGATGCCAAATCCGGCAAATCCGAGGCCGAATACATCCGC
AAAAACCCCGACCGGCTGGCTCGGCATGATTGAACACCACTTCATGTCCACCTGGATTCTC
CAACCTAAAGGCAGACAAAGCGTTTGCGCCGCAGGCGAGTGCAACATCGACATCAAACGC
```

```
CGCAACGACAAGCTGTACAGCACCAGCGTCAGCGTGCCTTTAGCCGCCATCCAAAACGGC
GCGAAAGCCGAAGCCTCCATCAACCTCTACGCCGGCCCGCAGACCACATCCGTCATCGCA
AACATCGCCGACAACCTGCAACTGGCCAAAGACTACGGCAAAGTACACTGGTTCGCCTCC
CCGCTCTTCTGGCTCCTGAACCAACTGCACAACATCATCGGCAACTGGGGCTGGGCGATT
ATCGTTTTAACCATCATCGTCAAAGCCGTACTGTATCCATTGACCAACGCCTCTTACCGC
TCTATGGCGAAAATGCGTGCCGCCGCACCCAAACTGCAAGCCATCAAAGAGAAATACGGC
GACGACCGTATGGCGCAACAACAGGCGATGATGCAGCTTTACACAGACGAGAAAATCAAC
CCGCTGGGCGGCTGCCTGCCTATGCTGTTGCAAATCCCCGTCTTCATCGGATTGTATTGG
GCATTGTTCGCCTCCGTAGAATTGCGCCAGGCACCTTGGCTGGGTTGGATTACCGACCTC
AGCCGCGCCGACCCCTACTACATCCTGCCCATCATTATGGCGGCAACGATGTTCGCCCAA
ACTTATCTGAACCCGCCGCCGACCGACCCGATGCAGGCGAAAATGATGAAAATCATGCCG
TTGGTTTTCTCCGTCATGTTCTTCTTCTTCCCTGCCGGTCTGGTATTGTACTGGGTAGTC
AACAACCTCCTGACCATCGCCCAGCAATGGCACATCAACCGCAGCATCGAAAAACAACGC
GCCCAAGGCGAAGTCGTTTCCTAAATGCCGCAGCATGAAAAATGCCGTCTGAAACCTGTT
CAGACGGCATTTTTATTGCCCACCCCCTATCGGGGCGGAAATCTTCAACCCGCATACATC
ACAAAAATCGTCGGGCGTTTTTTCAGATTGGGCATTTCTTTTCTTTTTCGCCACTGCACG
ATTGTTTGACTGATGATTTCCTGTGTCGGCAAGGTCAAATCCGTAGCCGTGCATAAACGC
GTTTCAGGATGCAGGTTTTCCACCGCATCGGCAAGCAGCGCATCATTGCGGTAAGGCGTT
TCAATAAAAATCTGCGTCTCGCCGCACTGGCGCGAACGCTGTTCCAAAGCCCGAAAAGCC
TGAATCCGCTCGTTTTTTTCAGACGGCAGATAGCCTTTAAACGCAAAACTCTGCCCGTTC
GCACCCGAAGCCATCAAAGCCAGCAGCAGGCTGGAAGGCCCGACCAGCGGACGGCACTTCA
AAACCGTGTTTATGCGCCAATGCCACCAAATTCGCACCCGGATCGGCCACAGCCGGGCAA
CCCGCCTCACTGACAATGCCCATACTGCGCCCTTCTTGCAAAGGTTTCAGCAATTCCGGC
AAAGTCTTCAAATCCGTATGTTCATTCAACGTTTGCAGATTCAGCTCGCGGATAGGCGTA
GTCACGCCCAAATGTTTCAAATGCGCACGCGCCGTTTTTTCCGCCTCCACGACAAAATCC
GTCAGCCCGACAATCGCCTGTTGTTCATGCGGCAACAGGCACGGCGTGTCAGGCGTACCC
AAAGGCGTAGGAATCAAATACAAAACAGGAGACATCATTCCCTCACTCATCGGTTAAAAA
TGCCGTCTGAGCCTTTCAGACGGCATAAACGGGCAGTTACAGAACCTCCACGCCCTCATT
TTTCAAGAAATCGACCAGACGGAAAACCGGCAAACCGATTAAAGCATTCGGATCGGTACT
CTCAATCCTTTCAATCAGCAATGCACCCAAATCCTCACTCTTCAGCGCACACGAACAATA
AACCGCATCAGGCTCGCGCTCCAAATAGCGGAGGATATGCAACTCGTCCAACTGCCTCAT
CACGACCACCGTCTTATCGATATGCCGCCGCATCCTGCCCGTAACCGTATTCAACAGCAC
GATCGCGCTGTAAAACTCAATCTCCCTGCCGCTCAAGTGCATCAGCATCTTTTGCGCATT
GGCAAGGTTCATCGGCTTGCCCCACTGCCTGCCGTCGCACCACGCCACCTGGTCCGCACC
GACAATCAACGCCTCTGGGAAACGCCCGGTCAACGACCGCGCCTTACCCTCGGCAAGGCG
CAATGCCGTCTGAGGGGCGGATTCCCCCAACATCGGCGTTTCGTCAAAATCGGGGGACGC
CGCCTGAAAGGCAATGCCGAGCCTTTCCATCTGTTCGCGGCGGAAAACCGAACTCGTACC
CAAAATCAAAGGCAGTTCCAAACCCATCCCATCCTCCTTACCGTTGAAAACACGCCCGAA
GGGGCAGTAAAATCCAGCCATGCGCCGAAACACGGATACCCGCCTTCGGCGTACCGCAAC
ATTTTTCTTAAAAATATTGACGTTAGAACATCTAAATTATATCATATCCCGTTTATGTCA
GACCCTAATTTGATTGACTTGGAAATTTTTGCCGCCGAAGGGCAGAACCTGCAAGGCAGT
TTTCTGCTGGAAGAATTGGATGAACGCGTCAGTTCGCACGATTATCCCGCCGACAGGCAG
ACCAAAATATCGTTTACACTGACCGGCGGTCGCGACCGGCTGCAACGCCTGTTCCTCGAC
CTGAACGTCAAAGCCGATATGCCCCTGATTTGCCAGAGATGTATCAAACCCATGCCGTTC
ATGCTTGATGAAAGCAGCCGTATCGTCCTGTTTTCCAACGAAGAGTCCTTGGACGAATCC
ATGCTTGCCGACGAAGAACTCGAAGGCATACTGATTGAAAAAGAACTCGACGTGCGCACA
TTGGTAGAAGACCAAATCCTGATGTCCCTGCCCTTTTCGCCGCGACACGAAGACTGCGGC
GACAATGGGACACTGGAAGAAGTCAATCGGGACAAACCCAACCCCTTTGCTGTTTTGGCA
GGTTTGAAAAGCAATTGATTAGGACACAGTTTATTTATCTAGGAGCTTGAAATGGCCGTT
CAACAAAACAAAAAATCCCCTTCCAAACGCGGTATGCACCGTTCGCACGACGCGCTGACC
GCGCCTGCACTGTCTGTCGACAGCACAACCGGCGAAGTACACCGCCCGCACCACATCTCC
CCCAACGGTATGTACCGCGGCCGCAAAGTGGTCAAAGCCAAAGGCGAATAATCCCTATTC
GACTGACTGAAAAAGCCAGAACATTGCCATGCAATTACTGGCTTTTTTTGCATTGGACGC
ACCATCCGTCCAAACTTTCGCCATACGTCAACACACAGGGGCAAAGCGTTCCGTATAATA
CCCCGTGAAAATATTCCAAAAGCCCCAACCACCAAGGAAATTCCGATGAAACAGAAAATC
TGGTACACCTACGATGACATCCACCGCGTCATCAAAGCATTGGCAGAAAAAATCCGGAAC
GCCGACATCAAATACGATGCCATGATTGCCATCGGCGGCGGCGGCTTTATTCCGGCACGT
ATGCTGCGCTGTTTCTGGAAATTCCGATTTATGCCGTAACCACCGCCTATTACGACAGC
GACAACGAAGGACAGGTTACCGAAGAAGTCAAAAAAGTCCAATGGCTCGACCCCGTTCCC
```

```
GAAGCCCTGCGGGGCAAAAACGTACTCGTCGTCGATGAAGTGGACGACAGCCGCGTAACC
ATGGAGTTCTGCCTGAAAGAACTGCTCAAGGAAGACTTCGGTACGATCGGAGTCGCCGTA
CTGCACGAAAAAATCAAAGCCAAAGCAGGCAAAATCCCCGAAGGCATTCCCTATTTCAGC
GGCATCACCGTAGAAGACTGGTGGATCAACTATCCGTGGGACGCACTCGACATCGACGAA
CACAACCGCCTTGCCGAGGCCGGCCGAGGCTGACCCTTTCAGACGGCATATTTTCCGAAC
CGATGCCGTCTGAAGCCCGCACGACCCCTGCCGCAGACCGAAAACCTACCGGAGAAACCC
TATGATTACATTGGCCGTAGATGCCATGGGCGGCGACCAAGGACTTGCCGTTACCGTACC
CGGCGCAACCGCATTCCTCCAAGCACACCCCGATGTCCGCCTGATTATGACCGGCGACGA
AACGCAACTGCGCCAAGCCCTGACCGCGGCAGGCGCACCGATGGAACGCATCGACATCTG
CCATACCACCCAAGTCGTCGGCATGGACGAAGCCCCGCAATCCGCCCTGAAAAACAAAAA
AGACTCCTCCATGCGCGTCGCCATCAACCAGGTTAAAGAAGGCAAAGCCCAAGCCGCCGT
ATCCGCAGGCAACACGGGTGCGCTCATGGCAACCGCACGTTTCGTCCTCAAAACCATTCC
CGGCATCGAACGCCCCGCCATCGCCAAATTCCTTCCTTCCGACACCGACCACGTTACCCT
TGCACTCGACCTTGGCGCGAACGTCGACTGCACGTCCGAACAGCTCGCCCAATTTGCCGT
TATCGGCAGCGAACTCGTCCACGCACTCCATCCTCAAAAAGGACAGCCGCGCGTCGGGCT
GGTCAACGTCGGCACGGAAGACATCAAAGGTACGGACACCGTCAAACAAACCTACAAACT
GCTGCAAAACAGCAAACTCAACTTTATCGGCAACATCGAAAGCAACGGCATCCTCTACGG
CGAAGCAGATGTCGTCGTCGCCGACGGCTTTGTCGGCAACGTCATGCTCAAAACCATCGA
AGGCGCGGTCAAATTCATGAGCGGAGCCATCCGCCGCGAATTCCAAAGCAACCTGTTCAA
CAAACTTGCCGCCGTTGCCGCCCTACCCGCCCTCAAAGGGCTGAAAAACAAACTCGACCC
GCGCAAATTCAACGGGGCCCATCCTGCTCGGGCTGCGCGGCATCGTGATTAAAAGCCACGG
CGGCACAGACGAAACCGGTTTCCGCTATGCCCTCGAAGAAGCCTACCACGAAGCCAAGTC
CGCCGGCCTTTCCAAAATCGAACAGGGCGTAGCCGAACAACTCGCCGCACTCGAAACTGC
CAAAGCCGTCCAAAAACGAAAATGTCGGCGGTCTGTAACACACACGATGCCGTCTGAACGC
CCCCGCCCCTTTCAGACGGCATCCGCCCGCACCAAACCTGCGGGCGCGGACGGCGATGCG
CCTGTCCGGCACTTCCCAAATATCGCCTTGTAAAATAAGGAGTATTTGAAAAATGAAGAC
ATTAGAAAAACGGATGAAAGCTCTAGACAAACGGATTATGAAGTTCGGAAAATCCCTTGA
AGGCAGGCTTGATGCCCGTCTGATTGAATCCGCATTGGATTATATTCATTATTCGGAACG
TTTTTTTGGCTTTTGAAATCCTGTGTACTTATATCGAAGATTTCGATGTCCGGCTGACGGA
ACAAGAATCCCGGGAAATTTCTTTTATCAACAAGGAATTTGAGATAGAAAGCACGTCCGA
TTAACCAATAAAGCCAATGGGTTGATAAACATGAAAACATCGACGGTCGTTTTTGGCGGA
TTTTTTATGGCAGACAACGGAGAGCGAATCCAAATCCCCGTTTTGGAAAATCCTGACATT
AGGGAAATCAATCACTTTTTTTCCGTATCAAATTTTGAGAAAAAAACCGGCGTCCTTGTT
TTCAGAATCATCCCCGAGCCGGAATTTGGCAATACCGAATTAACTGTCTATTTTAAAAAA
GGATATTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTGCCGTACTGGTT
TTTGTTAATCCACTATATCAGACGAAAACAAACACCCGCGCCAATAGCCTGACGGCAACC
CGGCAATCAAAATGCCGTCTGAAGCAGCTTGGGCTTTCAGACGGCATTTCCTTCGCTTAA
AACAGCGTATCGGCAACCCCGCCCTGCCTGTCCACGGCAATCTGCATCTGAAAACCATCT
GTATCCCAAACCACACCCCCATCCCTGTTTCCATCATGTGCACCCTGTCCGTATTGGGCA
ATCATCTGTTTTTCGCTTACAATAGCCGAATCTGAACCAACTCTCTAAAAAGGCCGTTCC
CATGCAGTATGCAAAAATTTCCGGCACAGGCAGCTATCTTCCCGCCAACCGCGTCAGCAA
TGACGACCTTGCCCAAAAGGTAGATACCTCTGACGAGTGGATTACCGCGCGCACGGGCAT
CAAATTCCGCCATATTGCAGCCGAAAACGAAAAAACCAGCGATCTTGCCGCCGAAGCGGC
GCACCGCGCGCTGGATGCAGCCGGATTAGACAGCGGCGAAATCGATTTGATTATCGTGGC
AACGGCAACGCCGGATATGCAGTTTCCGTCTACTGCGACCATCGTGCAACAAAAATTGGG
CATCACCAACGGCTGCCCCGCGTTTGACGTACAGGCGGTGTGCGCCGGCTTTATGTACGC
GCTGACCACGGCAAACGCCTACATTAAAAGCGGTATGGCGAAAAACGCGCTGGTCATCGG
CGCGGAAACCTTCAGCCGCATTGTAGACTGGAACGACCGCACAACCTGCGTATTGTTCGG
CGACGGCGCGGGCGCGGTGGTTTTAAGCGCGTCGGACACGCCGGGCATCATCCACAGCAA
ACTCAAGGCCGACGGCAATTATCTGAAACTCTTAAACGTCCCCGGGCAAATCGCCTGCGG
CAAAGTTTCCGGTTCGCCGTACATTTCGATGGACGGTCCCGGCGTGTTCAAGTTTGCCGT
CAAAATGCTGTCCAAAATCGCCGATGACGTTATCGAAGAAGCAGGTTACACCGCCGCTCA
AATCGACTGGATTGTTCCCCATCAGGCAAACCGCCGCATTATCGAATCGACCGCGAAACA
TTTAGGTTTGAGTATGGACAAAGTCGTCCTGACCGTCCAAGACCACGGCAACACATCCGC
CGCATCGATTCCGCTGGCTTTGGATACGGGCATCCGCAGCGGACAAATCAAACGCGGTCA
AAACCTGCTGCTCGAAGGCATCGGCGGCGGTTTCGCGTGGGGCGCGGTGCTGTTGCAATA
TTGAACCCGATGCCGTCTGAAACAGGCTTTCAGACGGCATTTCCCATATCATGAAGCGGC
AGGCTTTCTTCAAACTGATGGCGTGTGCGGCATTTCTGTCTGCCGTTTCGCTGCGCCTCC
CCGTATTGGGCGCGTGTTACGCAATATTGTCCCTCTATGCGTTTGCACTTTACGGCATCG
```

```
ACAAACGGTGCGCCATACGGGGGCAACGCCGCATTCCCGAACACCGCCTGCTGCTGCCTG
CATTGCTCGGCGGCTGGGTGGGCGCGTATTTCGGCAGCATGACATTCAAACATAAGACAG
CGAAAAAGCGTTTTGTTGTGCTGTTCCGTCTGACTGTTTCAGGTAATGTCTTGGCGACCC
TCATCCTGATTTATAGTGGATTAAATTTAAACCAGTACGGCGTTGCCTCGCCTTGCCGTA
CTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATTA
TTTTGTCCCGCCTGAATTTTTCGTAAAACTCGGGCAGAATACCTGATTATCCAACCAAAC
AAAGGAATACTATGTCTTTTGCCTTCTTTTTTCCCGGACAAGGTTCCCAAAGCCTCGGTA
TGATGAACGGCTTTGCCGAACACGCCATCGTCAAAAACACCTTTGCCGAAGCCTCCGCCA
TATTGGGGCAGGACTTGTGGGCGATGATAAACGGCAGCGATGCCGAAATCATCGGTCAAA
CCGTCAACACCCAGCCCATTATGCTCGCCGCCGGCGTTGCCGTTTACCGCGCCTATTTAG
AAGCGGGCGGCAAAACGCCTGCCGCCGTTGCCGGACACAGCCTCGGCGAATACACCGCAC
TCGTTGCCGCCGGCGCATTGAATTTTGCCGACGCGGTCAAACTCGTGCGCCTGCGCGCCG
AACTGATGCAGTCCGCCGTACCGCAAGGCGTGGGCGCAATGGCGGCGATTCTCGGCTTGG
AAGATGAGCAGGTTAAAGCCATTTGTGCCGAAGCCGCCCAAAGCGAAGTGGTCGAAGCCG
TCAACTTCAACTCACCCGGACAAATCGTGATTGCAGGCAACGCCGCCGCCGTCGGACGCG
CCATGGCTGCCGCCAAAGAAGCCGGTGCCAAACGCGCCCTGCCGCTGCCCGTGTCCGTAC
CTTCCCATTGCAGCCTGATGAAACCCGCCGCCGACAAACTTGCCGAAGCCCTGAAAACCG
TTGAAATCAAGCAGCCGCAAATCCGCGTTATCCACAACGCCGACGTTGCCGCCTACGATG
ATGCCGACAAAATCAAAGACGCGCTCGTCCGCCAGCTTTACAGCCCCGTACGCTGGACGG
AAAACCGTCAACGCCCTCGTTTCAGACGGCATTGCCGAATCCGCCGAATGCGGCCCGGGCA
AAGTGTTGGCGGGCTTGGCAAAACGCATCAACAAAGCCGCCGCGTGCAGCGCACTGACCG
ATGCCGGACAGGTTGCCGCCTTTATCGAAGCGCACTGACTTCGTTCTGCAAAAAGCAGCC
TGCCCTCTTCAGGCTGCTTTTCATGTCCGAACGACGGCAGCCCCATATTTACGCTATAAT
CCATCCCGACCAAACCACCGACAGCGGCTGCCGTTGCAGTTCCCGCCCTACCGATATGAT
AGAAAAACTGACTTTCGGACTGTTTAAAAAAGAAGACGCGCGCAGCTTTATGCGCCTGAT
GGCGTACGTCCGCCCCTACAAAATCCGCATCGTTGCCGCCCTGATTGCCATTTTCGGCGT
TGCCGCCACCGAAAGCTACCTTGCCGCCTTCATCGCCCCCCTGATTAACCACGGCTTTTC
CGCACCTGCCGCGCCGCCCGAGCTGTCTGCCGCCGCCGGCATCATTTCCACCCTGCAAAA
CTGGCGCGAACAGTTTACCTATATGGTTTGGGGGACGGAAAACAAAATCTGGACCGTCCC
GCTCTTCCTCATCATCCTCGTCGTCATCCGTGGCATCTGCCGCTTTACCAGCACCTATCT
GATGACTTGGGTCTCCGTGATGACCATCAGCAAAATCCGCAAAGATATGTTTGCCAAAAT
GCTGACCCTTTCCTCCCGCTACCATCAGGAAACGCCGTCCGGCACCGTACTGATGAATAT
GCTCAACCTGACCGAACAGTCGGTCAGCAACGCCAGCGACATCTTCACCGTCCTCACGCG
CGACACGATGATCGTTACCGGCCTGACCATCGTCCTGCTTTACCTCAACTGGCAGCTCAG
CCTCATCGTCGTCCTGATGTTCCCCCTGCTCTCCCTGCTCTCGCGCTACTACCGCGACCG
TCTGAAACACGTCATTTCCGACTCGCAAAAAAGCATAGGCACGATGAACAACGTGATTGC
CGAAACCCATCAGGGACACCGCGTCGTCAAGCTGTTCAACGGGCAGGCGCAGGCGGCAAA
CCGGTTCGACGCGGTCAACCGCACCATCGTCCGCCCTCAGCAAAAAAATCACGCAGGCAAC
GGCGGCACATTCCCCGTTCAGCGAACTGATCGCCTCGATCGCCCTCGCCGTCGTCATCTT
CATCGCCCTGTGGCAAAGCCAAAACGGCTACACCACCATCGGCGAATTTATGGCATTCAT
CGTCGCGATGCTGCAAATGTACGCCCCCATCAAAAGCCTTGCCAACATCAGCATCCCTAT
GCAGACGATGTTCCTCGCCGCCGACGGTGTATGTGCATTTCTCGACACCCCGCCCGAACA
GGACAAGGGCACGCTCGCACCGCAGCGTGTCGAAGGGCGCATCAGCTTCCGCAACGTCGA
TGTCGAATACCGTTCAGACGGCATCAAAGCCCTCGACAACTTCAACCTCGACATCAGACA
AGGCGAACGCGTCGCCCTGGTCGGACGTTCCGGCAGCGGCAAATCCACCGTCGTCAACCT
GCTGCCCCGCTTTGTCGAACCGTCTGCCGGCAACATCTGCATAGACGGTATCGACATCGC
CGACATCAAACTCGACTGCCTGCGCGCCCAATTCGCCCTCGTCTCCCAAGACGTATTCCT
GTTTGACGACACCCTGTTTGAAAACGTCCGATACAGCCGTCCCGACGCGGGCGAAGCCGA
AGTCCTGTTCGCCCTCCAAACCGCCAACCTGCAAAGCCTGATTGACAGCTCCCCGCTCGG
ACTGCACCAGCCCATCGGATCGAACGGCAGCAACTTATCCGGCGGACAGCGGCAACGCGT
CGCCATTGCCCGCGCCATTTTGAAAGACGCGCCGATATTATTATTGGACGAAGCCACCAG
CGCATTAGACAACGAATCCGAACGCCTCGTCCAACAGGCGCTCGAACGCCTGATGGAAAA
CCGCACCGGCATCATCGTCGCCCACCGCCTGACCACCATCGAAGGGGCCGACCGCATCAT
CGTGATGGACGACGGCAAAATCATCGAACAAGGCACACACGAACAACTGATGTCCCAAAA
CGGTTACTACACGATGTTACGCAATATCTCAAACAAAGATGCCGCCGTCCGGACGGCATA
AACAAAATGCCGTCCGAAATGGTACAATCGCCCCGACCCTTTCAGACGGCATCATATCCG
CCGACCCATCCGATTATCTTCAATCACTGTAAAACCCATTATGACCCAAGACAAAATCCT
CATCCTTGACTTCGGTTCGCAAGTTACCCAGCTCATCGCCCGCCGCGTGCGCGAAGCCCA
CGTTTACTGCGAGCTGCATTCTTTCGATATGCCTTTGGACGAAATCAAAGCCTTCAACCC
```

```
CAAAGGCATCATCCTCTCCGGCGGCCCCAATTCCGTTTACGAATCCGACTATCAAGCCGA
TACCGGTATTTTTGATTTGGGCATTCCGGTTTTGGGCATCTGTTACGGCATGCAGTTTAT
GGCGCACCACTTGGGCGGCGAAGTGCAGCCCGGCAACCAGCGCGAATTCGGTTATGCGCA
AGTTAAAACCATAGACAGCGAGCTGACACGCGGCATTCAAGATGGTGAGCCAAACACACT
CGACGTATGGATGAGCCACGGCGACAAAGTGTCCAAACTGCCCGACGGTTTCGCCGTCAT
CGGCAACACCCGTCCTGCCCGATTGCCATGATGGAAAACGCCGAAAAACAATTCTACGG
CATCCAGTTCCACCCCGAAGTTACCCACACCAAACAAGGCCGCGCCCTGTTGAACCGCTT
TGTCTTGGATATTTGCGGCGCACAACCGGGCTGGACGATGCCGAACTACATCGAAGAAGC
CGTTGCCAAAATCCGCGAACAGGTCGGCAGCGACGAAGTGATTTTAGGTCTGTCCGGCGG
CGTGGACTCTTCCGTAGCCGCCGCGCTGATTCACCGCGCCATCGGCGACCAACTGACCTG
CGTGTTCGTCGATCACGGTTTGTTGCGCCTGAACGAAAGCAAAATGGTGATGGATATGTT
CGCCCGCAACTTGGGTGTGAAAGTGATACACGTCGATGCCGAAGGGCAGTTTATGGCGAA
ACTCGCCGGCGTAACCGACCCCGAGAAAAAACGCAAATCATCGGTGCGGAATTTATCGA
AGTATTTGATGCCGAAGAAAAAAAACTTACCAACGCCAAATGGTTGGCACAAGGCACGAT
TTACCCTGACGTAATCGAATCCGCAGGTGCAAAAACCAAAAAAGCCCACGCCATCAAATC
GCACCACAACGTCGGCGGCCTGCCTGAAAACATGAAGCTCAAATTGCTTGAGCCTTTGCG
CGATTTGTTCAAAGACGAAGTACGCGAATTGGGTGTGGCTTTGGGCCTGCCGCGCGAAAT
GGTGTACCGTCATCCGTTCCCGGGTCCGGGTTTGGGCGTGCGTATTTTGGGCGAAGTGAA
AAAAGAATATGCCGACCTGCTTCGTCAGGCAGACGATATTTTCATTCAAGAATTGCGCAA
TACTACCGATGAAAACGGTACATCTTGGTACGACCTGACCAGCCAGGCATTCGCCGTGTT
CCTGCCCGTCAAATCTGTCGGCGTAATGGGCGACGGCCGCACATACGATTACGTCATTGC
CTTGCGTGCCGTGATTACCAGCGACTTTATGACCGCGCATTGGGCGGAACTGCCGTATTC
CTTGTTGGGCAAAGTGTCCAACCGCATCATCAACGAAGTCAAAGGCATCAACCGCGTGGT
TTATGATGTGAGCGGCAAACCGCCTGCCACCATCGAGTGGGAATAAACAGCAAACATGGC
TGCCCCGTCCGGCGCAGTCCTTCGATTATCGGAAAAAAGGAAAAAATATGAGCACACAAG
ATTTAAACGGCAAAATCGCTTTGGTAACAGGCGCATCGCGCGGTATCGGTGCAGCAATTG
CCGACACGCTGGCGGCAGCCGGTGCCAAAGTCATCGGTACGGCGACCAGTGAGAGCGGTG
CGGCGGCGATTAGCGAGCGGTTGGCGCAATGGGGCGGCGAAGGCCGCGTATTAAATTCCG
CCGAACCTGAAACCATCGAAAGCCTGATTGCCGACATCGAAAAAGCGTTCGGCAAACTCG
ATATTCTGGTCAACAACGCCGGCATCACCCGCGACAACCTCCTGATGCGCATGAAAGAAG
AAGAGTGGGACGACATCATGCAGGTCAACCTCAAATCCGTGTTCCGCGCTTCTAAAGCCG
TTTTGCGCGGTATGATGAAACAACGTTCCGGCCGCATCATCAACATCACATCCGTCGTCG
GCGTGATGGGCAATGCCGGTCAAACCAACTATGCCGCGGCAAAAGCAGGCTTAATCGGTT
TCTCCAAATCCATGGCGCGCGAAGTCGGCAGCCGGGGCATTACCGTCAACTGCGTCGCCC
CTGGCTTTATCGATACCGACATGACACGCGCCCTGCCGGAAGAAACCCGCCAAACCTTTA
CCGCCCAAACCGCCTTGGGCAGATTCGGCGACGCGCAAGACATCGCCGATGCGGTTCTGT
TCCTCGCTTCCGACCAAGCAAAATACATCACCGGCCAAACGCTGCACGTCAACGGCGGTA
TGCTGATGCCTTAACAGACAACTTTTTCAACCATGCCGTCTGAAGCCCTTTCAGACGGCA
TTTGCATTCTCAGGCAAAATGAACACACACCACCCCGCCCTGCCCATGCGGCTCAGGC
ACAAGCTGAGACCTTTGCAAAATTCCTTTCCCTCCCGACAGCCGAAACCCCAACACAGGT
TTTCAGCTGTTTTCAGCTGTTTTCGCCCCAAATACCGCCTAATTCTACCCAAATACCCCC
TTAATCCTCCCCGGACACCTGATAATCAGGCATCCGGGTCACCTTTTAGGCGGCAGCGGG
CGCACTTAGCCTGTTGGCGGCTTTCAAAAGGTTCAAACACATCGCCTTCAGATGGCTTTG
CGCACTCACTTTAATCAGTCCGAAATAGGCTGCCCGGGCGTAGCGGAATTTATGGTGCAG
CGTACCGAAGCTCTGTTCGACCACATATAGTGGATTAACAAAAACCAGTACGGCGTTGCC
TCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCGAGTGAATCGGTTCC
GTACTATTTGTACTGTCTTCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATA
CATCATCGCTACTACCGTTCCGGCGCAACAGGCATTCCTCGATGCCGCCGAACTGATGCA
ATGGAGTATAGAAACCGAAGGGCTGGGCTTGAACGTCATCTCGCACAAGATACTCGGCAA
AGACCACGCCCAAGTCGAATTTGAAGCCTACTTCCGAGACGGACAACACCGATCCGCGCA
TCACGAACTGTCCGGCTTCGTCAACATCGGCGGACAATGGTATTTTATCGATCCCACCGT
TCCGCATCCTGCGATGAAACAACCCTGCATTTGCGGATCAGGCAAAAAATTCAAAGCCTG
CTGCGGCAAATATCTGAAACCTGTCGCATAAAAATGCCGTCTGAACGTTCAGACGGCATT
TTCAACGTGCAAAAAAAACCATTCATACCAAGGGTAAGTATGAATGGTCAATACATTGCG
GGAAAACGTCTTACTTGCTGCACTGCCGAAAAGGGAGAAACGGCAGCGGTAATCAGCGGA
AAGGATTGTACCCGAATTAATATTAAGAAACGTTAATCGCGAAAATATATTAACAAACCT
GTTGAAACCTATTGGTTTTCCCGTATCCACCCGACCCAGCGTTCAAACAGCTTCGGTTCG
AGCGCGGCAACGACCGAGCGTTTGAACACGTGTTCACCACTCCAAAACCCGTCGCCTTCC
AAAGTCGTCAGCCTGCCGCCCGCCTCCTCGAAAATCAACGCGCCGGCGGCATAATCCCAC
```

```
AGCTTCTGCCCGCCGTGAACATAAACATCATAACGCCCGCACGCCAGATAACACCAATCC
AACGTACTGCTGCCCATACTCCGTATCGTTCCAAAAGGCGCGAGCGTACTCATACGGCTG
GAAAGTTTGCCCGAACGCAGATATTTGATTTCCACGCCCGCAATCGCCTCATTGAGTTTT
TTATCCACGAGGCGCAGGGGCAGACGCGTCCCGTTTAAAAACGCCCCCTGCCCGCGTTCG
GCATAAAAACATTCGCCGCTGACTGGGTTGTAGATTACGCCCAACTCGGCGCGCCCGTTG
CGGACAAACGCCACCGATACCGCAAAATGCGGCAGCCCGTTGACAAAATTGTTCGTCCCG
TCTATCGGATCGACAATCCACAGCCCCTTTTCCCCCGAATATTGTTCCCACAAAGCCGAC
TGTTCCTGCCGCGACATTTCCTCACCCAACATCGGACTGTCGATTAAAAGCGGCAACGCG
GCGGCAAAAGCCGTCTGCGCGGCAATGTCCGCCTCGCTCAACATCGAACCGTCTTCCTTG
CGGTGAGACGGCGTATTCAAAAAACGCGGCATAATTTCGGTTTGCGCGATATGGCGCACG
ACTTTCTGCAAACGGTGTAACACTTCCTACTGTCCTCATATTTTGAACTTGCGGCGCGCG
AACGTATAATGTCCGCTTCCATCACGCCGCTGCGACGGATTATAACCGTCCGAACCGCCA
AAAACTATGCCCCGATTCCACCTGCCCGAAAACCTTTCCGTCGGACAAACCGTCGCCCTG
CCCGACAACATCGTCCGCCACCTCAACGTCCTGCGCGTCCGCCCCAACGAAAACATCACC
CTCTTCGACGGCAAAGGCAAGGCACACGCCGCACGGCTGACCGTTTTGGAAAAACGCCGC
GCCGAAGCCGAAATCCTGCACGAAGACACAACCGACAACGAGTCCCCGCTCAACATCACA
CTGATACAATCCATCTCCTCCGGCGATCGCATGGATTTCACCCTGCAAAAAAGCGTCGAA
CTCGGCGTAACCGCCATACAGCCCGTCATCAGCGAACGCTGCATCGTCCGCCTCGATGGG
GAACGCGCCGCCAAACGCCTCGCACGCTGGCAGGAAATCGTCATCTCCGCGTGCGAACAA
AGCGGCAGGAACACCGTTCCCCCCGTACTGCCCATCATCGGCTACCGTGAAGCACTCGAC
AAAATGCCGTCTGAAAGCACCAAGCTGATTATGAGCATCAACCGCGCCCGCAAACTCGGC
GACATACGCCAACCGTCCGGCGCAATCGTCTTTATGGTCGGGCCCGAAGGCGGCTGGACA
GAACAGGAAGAACAACAGGCATTTGAAGCTGGCTTTCAGGCGGTTACACTCGGCAAACGG
ATTTTACGCACAGAAACCGCCCCACTCGCCGCCCTCGCCGCCATGCAGACGCTTTGGGGC
GATTTCGCATAAACAGAAATGCCGTCTGAAACCCGTTCAGACGGCATTTTGCAGCCGATT
AAGATAGTAGGTTCAAATAAGATTTCCCGTGTCGTCATTCCCGCGAAAGCGGGAATCTAG
AAACGAAAAACTACAGAGATTTATCCGAAACAACAACCCTCTCCGCCGTCATTCCCGCAA
AAGCGGGAATCTAGAAACGAAAAACTACAGGGATTTATCCGAAACAACAAACCCTCTCCG
CCGTCATTCCCGCGCAGGCGGGAATCTAGAAACGAAAAACTACAGGGATTTATCCGAAAC
AACAAACCCTCTCCGCCGTCATTCCCGCGCAGGCGGGAATCTAGAAATTTAACGTTGCGG
TGATTTATCGGAAATGACTGAAACTCAACGGACTGGATTCCCGCCTGCGCGGGAATGACG
AGATTTAGGTTTCTGTTTTTGGTTTTCTGTTCTCGCGGGAATAACGGAATTTTAAGTTT
TAGGAATTTGTCGGAAAAACAGAAATCCCCCCGCCGTCATTCCCGCAAAAGCGGGAATCT
AGAAACGAAAAACTACAGGGATTTATCCGAAACAACAAACCCTCTCCGCCGTCATTCCCG
CGAAAGCGGGAATCTAGAAATTTAACGTTGCGGTGATTTATCGGAAATGACTGAAACTCA
ACGGACTGGATTCCCGCCTGCGCGGGAATGACGAATTTTAGGTTTCTGTTTTTGGTTTTC
TGTTCTCGCGGGAATAACGGAATTTTAAGTTTTAGGAATTTATCGGAAAACAGAAATCC
CCCCGCCGTCATTCCCGCGAAAGCGGGAATCTAGAAATTTAACGTTGCGGTGATTTATCG
GAAATGACTGAAACTCAACGGACTGGATTCCCGCCTGCGCGGGAATGACGAATTTTAGGT
TGCTGTTTTTGGTTTTCTGTTTTTGCGGGAATGACGAATTTTAGGTTTCTGTTTTTGGT
TTTCTGTTCTCGCGGGAATAACGGAATTTTAAGTTTTAGGAATTTGTCGGAAAAACAGAA
ATCCCCCCACCGTCATTCCCGCAAAAGCGGGAATCTAGAAATTTAACGTTGCGGTGATTT
ATCGGAAATGACTGAAACTCAACGGACTGGATTCCCGCCTGCGCGGGAATGACGAAGTGG
AAGTTACCCGAAACTTAAAACAAGCGAAACCGAACGGACTAGATTCCCGCCTGCGCGGGA
ATGACAGTGTATCCATTTCTAATTTTAATCCGCTATATTTTACACAAACTATTTGAACGA
TATGACCCGCCTGCCGTAAGCTTTCTCAAGCTCCGCCTGCCTTTGACGCTCCATTCTTTT
CTTCTTTTCCCTACCGAATTTACCCAAAGCACGCTTCAAGTCAAACATCACCTTCAACGA
ACGGCGGTGTCTTCTTTCTTGTTCCCTATCTTTTTCCAAATCGCTACCCAACATACTGTT
TTTACTGAGGAACTTGGCATAATGCAATTCTTGGGTACATAAGGCGGGATTAACCTGATA
AACAGGCATCCCCTCCTTATCAAAGAAATAAGTAAACATCATCCAATCTACCGCTTTAAT
CCACTCTGCCGGCAAAACGGCAAACCTTTCCAAGAAAAACCGCATCGCCTCACGCGAAAT
GATATAGCCAGCCGTCCCCCAATGTTCGCTCTCCAGCAAAGGAAATGACCGATTCTCATA
ATTCAGGACTTTATCCGGTCTGACAATAACTTTCGCAAACATCGTTTCCAAACGAACGAT
AAAGGCAGAATCCTTATCAAAACGCTCTTCCAACCAAGTATCTTCGGCAAGGAACTTTTC
TGCGTCTTTGCCAAGCAGGACATCATCCTCAAATACGGCAACATAGGGCAGACCTTCATC
CAATGCCTGTTTCCACAATACGGCGTGGCTCATAAAGCAGGCTTTTTCCACTTCGCTCAA
CAGGTGCTGTTTTGCCAATCCCGGCACCAATTCCGCCATCATCCGATTCAGTTCTTCAGA
CGGCATCAGTGCGTCGAAAAACTGAAACGGGATGCCGCGCACGCCGAAGGTTGCGGCAAT
GTGCGCCCTGCGTTCTGCGGCGGAAGCTAAGCTGATAACATGGTTTTGCATAATTTATCC
```

```
TGTTTTTTGTCTGTTGGATAAAGCGGCGTTTTTCAACGGTTTTTCAGCAATCGGCGCAAA
ATGCCGAAGTATTGCCTCAAGGTAAACAGCCGCCGCATCCTGCCGTCTGCTGCAAATACG
ATGTCCATCTCTCCTCCTTTTATTGGAAAGGCACAATGAACTGTTCGCGCCTTTGCCGGC
GTTTTTCCCTTTCCCTGCTGATTTTGGTCAAGGCGCGGATCAGGCGGTGTTTGAATGTGT
TGGCGGGGGAATCGCGCCTTTGCTGTTTGCGGTTCAGGAGGCGGTCGTGTTCGATCAGGC
TGCCCAATGCGCTGTTTTGGTCGTGAAACTTGGCATAATGCAGCTCTTGGGCGCACAAGG
CGGGATTGAGCTGGCAAACCGGCATTCCTTCCCTGTCGAAAAAATCGCTGAACATCATCA
GATCGACGGGGTGCAGCCCTTCGGGCGGCAGGGCGGCAAACCTGTCCAGGAAAAACCGCA
TCGCTTTTCGGGAAATGATATAGCCCGCCGTCCCCAGTGTTCGCTTTCCAACAGCGGAA
AGGCGCGCCCGCAGTAATCCGCCACGCCGGAGGGCGAGGTCAGGACGTGCATAAACATCG
TTTCCAAGCGGACGATAAAGGCGGTATCCGGGTCAAAGCGTTCTTGCAGCCAAGCGTCTT
CGGCAAGGAATTTTTCCGCACCTTCGCCGAGTAAAACGTCGTCCTCAAATACGGTGATAT
ACGGCAGACCTTCGTCCAATGCCTGCTTCCACAATACGGCGTGGCTCATAAAGCAGGCTT
TTTCCACTCCGCTCAAATAGGGGTGCGCCGACAAGCCGGGGACGAGTTCCGCCATTGCCT
GTTCCAGCCTTTCAGACGGCATCAGTGCGTCGAAAAACTGAAACGGGATGCCGTGCCTGC
CGAAGGTATCGGCAATGTGCGCCCTGCGTTCTGCGGCGGAAGCTAAGCTGATAACGTGGT
TTTGCATAATTTATCCTGTTTTTTGTCTGTTGGATAAAGCGGCGTTTTTCAACGGTTTTT
CAGCAATCGGTGCAAAATGCCGAAGTATTGCCTCAAGGTAAACAGCCGCCGCATCCTGCC
GTCTGCCGCAAAATCCAGCCACGCGCCGGCGGGCAGCGTGTCCGTCCGTTTGAAGCATTG
GTACAAAAACCGGCGGGCGCGTTCAAAATCTTCTTCCGGCAAATGTTTCTCCAGCAATTC
ATACGCTACTGCTTTTATTTGGCGGTATTCAAGGCTGTCGAACCGGGTTTTAAAACCCAT
AGACTGCAAAAAATCGTTTCTGGCGGTTTTTTGGATGCCTTGCGCGATTTCGTGTTGGCG
GATGCTGTATTTGGATGAAACCTGATTGGCGTGAAGGCGGTATTTGACCAAGGCTTCGGG
ATAATAAGCCAGCCTGCCCAATTTGCTGACATCGTACCAAAATTGGTAATCTTCCGCCCA
ATCCCGCTCGGTGTTGTAACGCAAACGCCGTCAATGACGCTGCGCCTCATAATCATCGT
GTTGTTGTGTATGGGGTTGCCGAAAGGGAAAAAGTCGGCAATGTCTTCGTGTCGGGTCGG
TTTTTTCCAAATTTTGCCGTGTTCGTGGTGCCGCGCCAGCCGGTTGCCGTCCTTTTCTTC
CGACAAAACTTCCAGCCACGCACCCATCGCGATGATGCTGCGGTCTTTTTCCATCTCACC
CACGATTTTCTCAATCCAGTCGGGGGCGGCAATATCGTCTGCATCGGTGCGCGCAATATA
TTCCCCCCCCCCCCCCGACTTTGCCAATTCATCCAGCCCGATGTTTAAAGAGGGAATCAG
ACCGGAATTGCGCGGCTGCGCGAGGATGCGGATGCGGCCGTCCTGTTCTTGGAAACGCTG
GGCAATGGCAAGCGTACCGTCCGTCGAGCCGTCATCGACAATCAAAATATCCAAGTTGCG
CCAAGTTTGATTCACGACGGCGGCTAATGATTGGGCGAAATATTTTTCTACGTTGTAGGC
GCAAATCAATACGCTGACTAAAGGCTGCAATTTATTCTCCCGATAGGCACGATGCCGTCT
GAAGGCTTCAGACGGCATTTGGACTGTACAACGGTTACTCGCCCAAAAGCGCGATATCCG
CTACCGCGTTCATTTGTTCTGCCAAGCGGTTCAGCAGGTTCAGGCGGTTTTGTTTCACGG
CGGCATCTTCCGCCATCACCATCACGCCGTCGAAGAAGGCATCGACTTGCGGTTTGACGG
AAGCCAGTTCGGACAAGGCGGTCTGGAAATTGCCTTCGGCAACGGCGGCGGCAATTTTCG
GCTGCAAGCCTTGTGCGGCGGCAAAGAGGGCTTTTTCTTCGTCCTGTTGCAGCAAGCTTT
CGTTAACCGCGCCCAACTCGGCATCGGCTTTTTTCAGCAGGTTTTGCACGCGTTTGTTGG
CAGCGGCGAGCGCGGCGGCTTCGGGCAGTTGTTTGAACGCGGCGACAGCCTGCAGTTTGG
CGGTCAAATCGTCCAAACGGCGCGGCTGCTTGGCAAGTACGGCGGCAACGATGTCTTGCG
GATAATCGTTTGCAGCAATACGGCAAGGCGCGCCTGCATGAAGTCGGCGGTTTCAGACG
GCGTTTTTTCGTTGAGCAAACCTTGCGGGAAGCTGTTGAAGGCCGTCTGAATCAGTTCGT
TTACGTCCAAACCGTACTGCATCAGCATACGCAAAATACCCAATGCGGCGCGGCGCAGGG
CGTATGGGTCTTTGTCGCCGGTCGGAATCAGGCCGATACCCCAAATGCCGACCAAGGTTT
CCAGTTTGTCGGCAAGCGCAACGGCGGCGGCAATTTTGCCCTCAGGCAGGTTGTCGCCGG
CAAAACGCGGTTGGTAGTGTTGCTCGACGGCTTCGGTAATTTCTTCGGTTTCGCCGTCCA
AGCGGGCGTAGTATTTGCCCATCGTGCCTTGCAGTTCGGGGAACTCGCCGACCATTTCGG
TTACTAAGTCGGCTTTTGCCAAACGCGCGGCGCGTTCGGCTGCGGCGGCATCCGCGCCCA
AAGCCTTGGCGATATGGGCGGCGATGCTTTGCAGGCGTTCGATGCGTTCGGCTTGCGAAC
CGATTTGTTGTGATAAACCACGTTCGTCAGTTTGGGCAGGCGGCTTTCCAAAGTCGCTT
TTTGGTCTTGTTTGTAGAAGAACTCGGCATCAGACAGGCGCGCGCGCAAGACACGTTCAT
TGCCTTGGATGATGTGTGACGGATCTTCGGTTTGCAGATTGGACACCAGCAGGAAGCGGT
TCATCAGCTTGCCGTTTTGGTCGAGCAGCGGGAAGTATTTTTGGTTTTGCTGCATCGTCA
GAATCAGGCATTCTTGCGGTACGGCGAGGAAGTGTTCTTCAAAACCGGCTTCCAATACCA
CAGGCCATTCGACCAGCGCGGTTACTTCGTCCAACAAGGCTTCATCGGCGGCGGCGGTCG
CGTTCAGACGGCGTGCCTGCCCTTCCAATACCGTCTGAATCGCGGCTTTGCGCTCGGCAA
ACGAAGCGACGACTTTGCCTTGCTCGCGCATTTGTGCGGCGTAGCTGTCGGCGTTTTCAA
```

```
TGGTAATTTCGCCGTCGGAGAGGAAGCGGTGTCCCAAGGTTTTGTTGCCGCTTTGCAGAC
CCAAAACGCTGACGTTCACAATGTCGCCGCCGTGCAGTACAACTAGCCCGTGAACGGGGC
GCACAAAGGTAAACGTGCTGCTGCCCCAACGCATTACTTTGGGAATCGGCAGCTTCTTAA
CCGCTTGATTGATAATGTCTTCCAAAAGTCCGCCCAACGGTTTGCCGATTTGGACGTATT
CGTAGGCGTACACGTCCTGCTTGCCGTCGTGGACGATGGTCAAGTCTTCGATTTTCGCGC
CCGCACCGCGTGCGAAACCTTCCAAAGCCTTGGTTGGCGCACCGTCTTTCATGGCATTCG
CTACGGCAGGGCCTTTTTTCACAATTTTTTGATCAGCCTGAACGGCTTTGACGTTTTTGA
CTTGAACCGCCAAACGGCGCGGCGAGGCATAAGCCGTAAATTCGGCTGCGCCGTCAACCA
GTTGCGCTTTTTCCAAGCCTTCGGCAACGGAAGCGGCGAAATGGTTGCCCAGATTATTCA
GGGCTTTGGGCGGGAGTTCTTCGGTAAGGAGTTCGATTAAAAGGGTTTGGGTCATCATTC
GGCTTTCTTTGAATTTGGTTAATCTGCCTGTTTATAGGTTTCGCTGTAATTTTCCCAGCC
GTCATCCCCATAAAAACCGTCAACCAGCGGGGTGGCGTACAAAGTGGCAACATCTTCGCG
GTCTGCCAGCCAAGAGATAATGGCTTTTTTCTCGGTTTCTCCCAAGCTTCGGGCACCGGA
TTTTTGAAACAGGCACGAAAAATCGCCGCAATCGCCCCCCCGCCATTTCAAAGCCGTTTG
CCGCAAGATACGCAATCAGCTCGTCCATAAAGCGGTCGAACGCTTCGGCATCGTCCTCAG
CTTGGTGCAAACTGCCTTGAACGCCGAAAATCAATGTTTGAAACTCGCCCAAATGCAGCT
TTTTATGCTGGCGGCGGTTCATTTTGTGCAGGCGTTTCCTGCTTGGGGTGCGGAAATAGA
CAGGCATGATTTTCCTAAAAAATATAATGGCTTCCGGACGGCTGCCTTATCGTGCCGCCC
GAACGTAAAAAATCGTCGCCCCCTTAGGCGGCGTTTGCCTTCATTAAAGGGAAGCCCAGT
TTTTCGCGGCTTTCAACATATTTTTGCGCCACGGCGCGGCTCAATGCACGAATACGTCCA
ATATAAGTTGCCCGCTCAGTTACGGAAATCGCGCCGCGTGCGTCTAAAAGGTTGAACGTA
TGCCCCGCTTTGAGGACAAGCTCGTAGGCAGGCAGGGCGAGGGCGGCGTTTTCTTCGGCA
AGCAGGCGTTTGGCTTGCGCTTCGTAGTCGTTGAACTGGCGCAGCAGCCAGTCGGCATCG
CTGTATTCGAAGTTGTAGGTGGATTGCTCGACTTCGTTTTGGTGGTACACGTCGCCGTAG
GTGACGGTGTTGCCGTCGAGCGTTTTTGCCCAAACGAGGTCGTAGACGTTTTCTACACCT
TGCAAGTACATCGCCAAGCGTTCGATGCCGTAGGTGATTTCGCCGAGTACGGGCGTGCAG
TCGATGCCGCCGACTTGTTGGAAATAGGTAAACTGGGTTACTTCCATGCCGTTGAGCCAG
ACTTCCCAGCCCAAACCCCACGCGCCGAGGGTGGGGTTTTCCCAGTCGTCTTCGACAAAG
CGGATGTCGTGGACTTTGGGATCGATGCCCAATTCGCGCAGAGAGTCGAGATAGAGGTCT
TGGATATTGGCGGGAGCGGGCTTGAGGGCGACTTGGAATTGGTAATAGTGTTGCAGGCGG
TTGGGGTTGTCGCCGTAGCGGCCGTCTTTGGGGCGGCGGCTGGGTTGGACGTAGGCGGCA
AACCAAGGCTCGGGGCCGAGTGCGCGCAGGCAGGTGGCGGGATGGGATGTGCCGGCACCG
ACTTCCATGTCGAAGGGTTGGATGACGGTGCAGCCTTTGTCTGCCCAGAATGTTTGCAGT
TTGAAGATGATTTGTTGGAAGGTAAGCATGGCTTATGATTCGATAAAATAAAGGGTTTAT
TTTACTGTTTCCATTGCTGTTTGGATAGGTTTATCTCAAAGACAGACTGATTTGAAAACA
CGGCATACATGATATAGTGGATTAAATTTAAACCAGTACAGCGTTGCCTCGCCTTAGCTC
AAAGAGAACGATTCTCTAAGGTGCTCAAGCACCAAGTGAATCGGTTCCGTACTATTTGTA
CTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCGCTATATGTTTCGGTTAG
GCGGCAGGCTGCCCTATTGAATACCTTAAAGCAGGCTATGCCTGCCAACGCCATATCCAA
ACACAGTCTTTAATTTAAATCCGGAAAATAAAAAGCACGACCAAACGGTCGTGCTTTTCC
AAACCAAACAAGTTTATTTCTTGTGCGAACGGATATAGTCCAAAGTTTTGAGCTGTGCAA
TCGCAGCAGCCAATACTTTATGCGCTTCCGCCAAAGCCTTATCGTCTTTAGCTTGGGAAA
TGCCCGCTTCTGCGGCTTTTTTCGCCTCTTCCGCACGTGCCCGATCCATCTCCGCACTGC
GGACGGCAACATCCGCCAAGACAGTTACTTTATCAGGCTGTACTTCCAAAACACCGCCGG
AAACAGCAACCAAAACCTCTTTATCCTCGCCCGGAACGGTCAAACGCAAAGCCCCCGGCC
GCACCAAACTCATAATCGGCTCGTGTCGCGGATAAATACCGAGTTCGCCCTGTACAGTCG
GAACAACGATAAATGTTGCCTCGCCTGAATAGATTTCTGCTCGCTACTTACCACCTCAA
CTTGCATGATGCTCATGCCGACCTCCTTAGTTTAAGGTTTTCGCTTTCTCTACTGCTTCT
TCAATGCTGCCGACCATATAGAATGCCTGCTCGGGCAGATGATCGTATTCGCCGTTCAAG
ATGGCTTTGAAGCCGGCAATGGTATCGCGCAGGGCGACATATTTACCCGGAGAACCTGTA
AACACTTCGGCAACGTGGAACGGTTGGGACAGGAAGCGTTGGATTTTACGCGCACGCATT
ACGGTCAGTTTGTCTTCATCAGACAATTCGTCCATACCCAAGATGGCGATGATGTCGCGC
AATTCTTTGTATTTTGCAGGGTGGACTGCACACCGCGCGCCACGTCGTAGTGCTCTTGA
CCCAATACCATCGGATCCAGTTGGCGCGAAGTAGAATCAAGCGGATCGACTGCCGGGTAA
ATACCCAAAGAGGCAATATCGCGGCTCAATACGACGGTTGCGTCCAAGTGGGCGAACGTT
GTTGCCGGAGACGGGTCGGTCAAGTCGTCCGCAGGTACATATACGGCTTGGATGGAAGTA
ATAGAACCGGTTTGGGTAGAGGTAATACGCTCCTGCAAACGACCCATTTCTTCTGCCAAT
GTCGGTTGGTAGCCCACTGCAGACGGCATACGACCCAACAATGCGGATACTTCGGTACCA
GCCAGGGTGTAACGGTAGATGTTGTCCACGAAGAACAATACGTCGCGGCCTTTGCCGTTT
```

```
TCGTCTTTTTCGTCACGGAAGTATTCCGCCATGGTCAAACCGGTCAATGCGACGCGCAAA
CGGTTGCCCGGAGGTTCGTTCATCTGACCGTAAACCATTGCCACTTTATCCAATACGTTG
GAATCTTTCATCTCGTGGTAGAAGTCGTTACCTTCGCGGGTACGCTCACCCACGCCTGCG
AACACGGACAAGCCGCTGTGCGCTTTGGCGATGTTGTTGATCAATTCCATCATGTTCACG
GTTTTACCCACACCGGCACCGCCGAACAGACCTACTTTACCGCCTTTGGCAAACGGACAC
AGCAAGTCAATCACTTTAATGCCCGTTTCGAGCAATTCGGTTGTGGAAGACAGTTCGTCA
AACTTAGGGGCAGCTTGGTGGATGGCACGGCTCTTGTCGGTATCGATCGGACCTGCTTCG
TCAACAGGCGTTCCCAATACATCGACAATGCGTCCCAACGTACCTTTACCTACCGGCACA
GTAATGGGCGCACCGGTATTGCTCACAGTCATGCCGCGTTTCAAACCGTCCGAGCTGCCC
ATCGCAATGGCACGGACTACGCCGTCGCCCAAAAGCTGTTGGACTTCCAAAGTCAGACCG
TTTTCGTCTAATTTCAAAGCGTCGTAAACGCGCGGAATCATGTCGCGTGGAAATTCCACG
TCAACAACCGCACCGATAATTTGTACGATTTTGCCTTGGCTCATTATCGTATCCTAATTT
CCGTACAGGATTCAGACGGCATCAGACAGCCGCCGCACCTGCTACAATTTCTGACAATTC
CGTGGTAATCGCAGCTTGACGCGATTTGTTATATACCAAACGCAACTCTTTGATGGCATT
GCCTGCATTGTCTGTTGCAGCTTTCATGGCAACCATGCGGGCTGCCTGTTCGGATGCCAT
ATTGTCGCTCAACGCCTGATAAACCACAGACTCTAAATAGCGGCGAACCAGATATTCCAA
CACTGCAAGTGCAGTCGGTTCGTAGCGGTATTCCCAGCTGAACGGTGATTTGGGAGCTGA
ATCGCCAATCACGTTCTCACCGATAGGCAGCAATACTTCCATTCTCGGTTCTTGACGCAT
GGTATTGACAAAACCCGAATACACCAGATGGATTCTGTCAATTTCATGTTTCTCATACCG
TTGGAAGAGTTCTGTCAAAGGTCCGAGCAGCATTTCCATTTTTGGGGTATCGCCCAAATT
TACGGCACTGGCAACCACATTCAGACCAATGCTCTGACACGCCATCAGACCTTTACTGCC
AAAGCATACGATTTCCTCTTCAATACCTTGATTCCGATACTCTTGAACTTGTGCCAAAAA
CTTTTTCAGCACGTTGGCGTTCAAACCGCCACACAAACCCTTATCAGACGTAATCAAAAT
AAAACCGACACGTCTGATTTCCCGATGAGATTCCAGTAACGGAATACCATGATCGGTATT
GGTTTGCGCAAGATGGCTCATCACCATACGCACTTTTTCGGCATACGGACGCGCCAAACG
CATCCGTTCCTGAGTCTTCCGCATTTTAGAGGTTGACACCATCTGCATCGCTTTAGTGAT
CTTTTGGGTATTCTGAACACTGCGGATTTTGGTGAGAATCTCTTTTCCTACTGCCATTTC
AGACTCCTTTCACTTCAAGCCTTATGCCTGATAGGCGTAAGAAGATTTGAAGGATTTCAT
GGCTGCTTCAAGCGTTTTCTCGCTCTCGTCGGACATTGCACCTGAAGCATTGACGGCTTC
CAAAACTTCCGGATGTTGGGTACGGACAAAGCTCAAAAATTCAGATTCAAAAGCCAGAGC
TTTGGCAACCGGAACATCAGAATACGAACCGTTGTTGATTGCCCAAAGGGTCAAAGCCAT
TTCAGCCGTATTCAACGTACTGAACTGTTTCTGTTTCATCAGTTCGGTTACGACTTCGCC
ATGCTCCAATTGTTTGCGCGTAGCTTCATCCAAATCGGATGCAAATTGCGAGAACGCCGC
CAATTCACGATATTGTGCCAACGCCAAACGGATACCGCCACCCAGCTTTTTAATCACTTT
GGTTTGTGCAGCACCGCCTACGCGGGATACGGAAATACCGGCATTGATTGCAGGACGGAT
ACCGGCGTTGAAGAGGTCGGTTTCCAAGAAAATCTGACCGTCGGTAATCGAAATGACGTT
AGTCGGAACGAAAGCAGATACGTCGCCCGCTTGGGTTTCGATAATCGGCAACGCGGTCAG
AGAACCGGTTTTGCCTTTTACTTCGCCGTTGGTCAATTCTCCACTTCGTGTTCATTGAC
ACGTGCCGCACGTTCCAACAGACGGGAGTGCAGGTAGAACACATCGCCGGGATAGGCTTC
GCGGCCGGGCGGACGGCGCAAAAGCAGGGAAATTTGACGGTAAGCCACAGCCTGTTTGGA
CAAATCGTCATAAACAATCAAGGCATCTTCGCCACGATCGCGGAAGAATTCACCCATCGT
ACAACCGGAGTAAGGTGCGATATATTGCAATGCCGCCGCTTCAGATGCAGTTGCAGCAAC
CACGATGGTATGCTCCATCGCGCCATGCTCTTCCAATTTGCGGACCACGTTGGCAATAGA
AGATGCTTTTTGACCGATAGCGACATAGATACAGATAACACCCGTACCTTTTTGGTTGAC
GATGGCATCCAATGCTACGGCCGTTTTACCTGTCTGACGGTCGCCAATAATCAACTCACG
CTGACCGCGACCGACAGGAACCATAGAGTCAATCGCCTTCAGACCGGTTTGCATCGGCTG
GTCAACCGATTTGCGCGCAATCACGCCCGGTGCGATTTTTTCGATAGGGGCGGTCAAAGT
TGTATTAATCGGGCCTTTGCCGTCGATAGGCCGACCCAATGCATCAACGACGCGTCCGAC
CAGTTCGCGTCCGACCGGCACTTCCAAGATACGACCGGTACAGGTAACCGTGTCGCCTTC
TTTAATGTGTTCGTACTCGCCCAACACTACGGCGCCGACGGAGTCGCGCTCCAGGTTCAT
CGCCAAGCCGAAAGTGTTACCCGGGAATTCGAGCATCTCACCTTGCATTGCATCTGACAA
ACCATGGATGCGAACGATACCGTCAGTTACCGAAATTACCGTACCACAGGTACGCACTTC
GGCATTTACAGACAGATTTTCGATCTTGGCTTTAATCAAATCGCTAATTTCAGCAGGATT
AAGCTGCATGAAAACTCTCCTAATTCGTCATAGTCGTGTACAAGGCACTCAATTTGCCTT
GTACAGACAAATCCAAAACCTGATCACCCACTTCAACTTTTATGCCGCCAATCAGCTCCG
GTTCGATTTCGACAGAGATTTTCAGCTCGCTGTCGAAACGCTTATTCAGCATTTGCACCA
ACTCGCCGACCTGTTTGTCGGTCAACGGATAGGCACTGTAAATGACGGCAGATTTGATAT
GGTTGAATGATAAGGTCAAGTCTTGATATTGAGCATATACTTCCGGCAATATCGACAAAC
GTTTCTGCCCGGCCAAGACGATAACAAAGTTTTTCAACTCCTTGTCTTTCAAACCGACCA
```

-568-

AATCGATGAGGATATCTGCTTTTTCTGAAGCATTCGTTTCAGGACGGTCAATCAATGAAG
CCACCTTCCCTTCCTGAACAACCGCCGCAAGTTTTTCCAGTCCGCCCAACCAAGACTCAA
TTTGGTTTTTTTCCTGAGCCAGACCGAACAATGCCTTTGCATAAGGTCTGGCAATCGTTG
CGAACTCTGCCATAAGATTACAGCTCCTGTTTCAGGGTATCGAGCAGTTTTGCGTGTTTG
GAAGCATCGACTTCGCTGCGCAAAATAGATTCGGCACCTTTGACAGCCAACACGGCAACC
TGCTCGCGCAGGGATTCGCGTGCGCGGAACAATTCCTGCTCCACATCGGCCTTTGCCTGA
GCTGCAATGCGCGCCGCCTCGGAAGAAGCCTGTTCTTTGGCTTCTTCGACAATTTTGGCG
GCACGTTTTCGGCGTTGGCAACCATTTCGGAAACCTGATTACGCCCTTCTGCCAAGAGT
TCTGCAACCTTTTTTTCAGCCTGCTCAAAATCGCTTTTACCACGCTCGGCGGCAGCCAAG
CCTTCGGCGACTTTTGCGGCACGCTCATCCAAAGCTTTTGCAATCGGCGGCCACACGAAT
TTCATGGTAAACCATACCAAACCGAAAAAGACGATGATTTGAGCGAATAATGTTGCATTG
ATATTCACGTTACTTAACCTTCGTACTGGGGTTAATCAAACAGGCTGCGCCTGTACGGAA
CGGACGAATCCGTCCTGATTATGCACCTGCAAACGGGTTAACGAAGGCGAACAGCAGTGC
AATGGCGACACCAATCAAGAATGCGGCATCAATCAAACCGGCAATCAGGAACAGTTTGGT
TTGCAGCGGACCGATCAGTTCGGGCTGACGGGCAGAAGACTCCAAATATTTAGAACCGAC
CATTGCGATACCGATAGAGGCACCCAATGCACCCAATGCAACGATCAAACCACATGCGAT
AGCAATCAAACCCATTTTAAACTCCTTAAAGAAACAAAGGTTAAACTACAAAAACAAACT
ACTTAGGAAAATCAGTGCGCATCATGTGCCTGTCCGATATAGACGAACGCCAACGCCATG
AAAATAAACGCCTGCAGGGTAATCACCAAAATATGGAAAATCGCCCATGCCAAACCGGCA
ATAATGTGGAATACAAACAGAATCGGATCCATGACTTCGACGCTGCCGGAAGCCGCCCAA
GCACCGCCAAGCAAGGCTATCAACAAGAATACCAATTCGCCCGCATACATATTGCCGAAC
AACCGCATACCGTGGGATACGGTTTTAGAAAGAAACTCGACCAAATTCAACAGAAAGTTC
GCAGGTGCGAGTTTTGCACCGAACGGCGCGCTGAACAACTCGTGAAACCAGCCACCCAAT
CCTTTGATTTTGATGTTGTAATAGATACAAATCAGCAACACGCCGACAGCGAGTGCCAAA
GTGGTGTTCAAATCGGCAGTCGGTACGACGCGCAGCAGGGCGTGATGGTTGCCGGTAATG
CCCTGCCATACCATCGGCAGCAAATCGACCGGCAGCATATCCATCGCGTTCATCAGAAAA
ATCCAGACAAACAGCGTCAGACCCAACGGCGCGACGGCTTTTCTAGACTTTTCGTTGTGA
ATGATGCTCTTACACATATCGTCCACAAACTCAAACAAGATTTCCACTGCGGCCTGGAAA
CGTCCGGGAACGCCTGCCGTCGCTTTTTTTGCACCGCGCCACAACAGAAAGCTGCCGATT
ACGCCCAACAGGACGGCAAAAAAGACGGCATCAAGGTTAATAAACGAAAAATCAGCAATG
TTTTTCAGTCCCTGACCCTGAGTAACATCCGACAAACTGGTCAAGCTCTGCAAGTGGTGC
TTGATGTAGTCGGCAGCGGTAATGGTTTCACCTGCCATAATCTTTCACTCTCAACAATAC
TAAAAAAACCAAATGGCTGACACCGAGCAGCCCCATCAGAAACGGGGCGAACACCAGCGA
TTGATGCCATATTGCAAATACGGCAAGCATGGACAACAGCGACAGCACTACTTTTAAAAT
CTCTCCGAAGACGAACATCCTGCTTTGCAGGAAGGGGTTTCCCCTGAAAAGTTTTAAAAG
TAAAACTGCAACAAACGTGGGAAGCAGGTAGGACAAACCGCCACCGACCGCCGAAAGGAA
TCCGGCAAAACCCCATACAGCAAAGGCAACTGCGGCGCATATGGACAATACGGCGGATTG
TAGGATGATAATCTGCTTCATAAAGGGAATGTTTCCGCCTCGGATTTGGGGCGCGGCTAA
TATAATTTAGAAGCCTTATTACGTCAAGCGACAGTTAATCTTTGTGAAACAACGTATCCC
AATCCGCCGCGCTCGCCGCCTGAATAACGGCGACAGGTGTCATTCTAACACACATTACAT
ATAATTACAGGATATTAAGGAGTTTGTCCGCAATTTCTTTACATTTTTAATGTTCTTACG
TGATTTGTTTGCTTTACGTGGAAATAATAAAAAATCAACGCGAAATTGTAGCAGTTTATC
GGTCGGATTGTCGGCAGTTTGGGGAATTTGCTCAATAAATAAAAGGTCGTCTGAAAATAT
TTTCAGACGACCTTTTCCGAATAAAGGATTAGCAACTGCCTGCCGCTTTAAGCAAAGCAT
TGCATTGACTTTTGCCTTTGTGCGTTCCGCCTCCCAAACAAATTGCATCGGAAGTGGTAA
CGCCGATTGTGCTGATTACACTGGTAACATAGCATTGGCTCACGCGCTTACCCACAGTTG
CGGTAAAGTTGATGCGTATGCCTTCATTGTTGCGGTTGCTGATTTTTACGGCATTTGGGC
TGACGCCCAAGGCAAACGCGGCACGTTCCTGAAGTTTCTAGTCGGAAACGGTTACATTAT
TGATTGAGCCGCAACCTGCTAATGCCAACGCAACGAACGCAGCCGAAACGATGATGCGTG
TGTTCATAATTTCCTCGAAAATTAAAAATGAAACAGGAAACGATTCTTACGTGAAGCA
GAAAAAATGTCAATAGAATTATATTTCCCACTTAAAATCTGGAAAGCTATTCTCTATATT
TCAGACGGTATATCCCGCAAAATTAAGGCCGGTAATCTATGCCCAACTGCTCCAGCAGGT
GGCCGAACGTTTCAGGCGTATCGAAATACAGGACAATCCTGCCTTTTTTGTGGTTGGCGG
TTTTGACTTCAGCGTTGACACCCAGTTTTTCAGTCAGCAAATCATTCAGGCGGCCGATGT
CGGCGGCGGCAGTCTTTTTGGGCTCGGGACGTTTGTTTTGAAGGGCGGCCTGGCTGCGGC
GTTCGACTTCGCGCACCGACCAGCCGTTTTTGACGGCCTTTTGCGCCAATTCGAGCTGTT
CGACGACGGGCAGGGTCAGCAATGCGCGGGCGTGCCCCATTTCGAGGCGGCGTTGGTAAA
GCATTTCCTGCACGGGTTCGGGCAGGCTTAAAAGGCGCAGGCTGTTGGAAATCGCGCTTC
GGCTTTTACCGACGGCTTGGGCGATGGTTTCGTGGGTCAGCCCGAACTCGTCGGCAAGGC

GTTTCAAGCCTTGTGCTTCTTCGATGGGGTTGAGGTTTTCGCGCTGGAGGTTTTCGATCA
AACCCATTGCCAATGCGGTTTCGTCGCTGATGGTTTTGATAACGGCGGGGATTTCGGTCA
GGCCGGCAATCTGTGCGGCGCGCCAACGGCGTTCGCCTGCAATCAGTTCGTATCGGGACA
GTCCGTGTTCGCGCACGATGACGGGCTGTATCACGCCTTGCGCCTTAATCGAATCTGCCA
GTTCCTGCAAGGCTTCGTCATCGATTTGAACACGCGCCTGATAGCGGCCGGGCCGGATAT
CTTTAACCGCAACCGTGGTCAATCGGTCGCCGCTGCTGTTGTCCGCGCCGTTGGCGAGCA
GCGAATCCAAGCCGCGCCCCAATCCGCCTTTTACTTTTGCCATACCGCCCTCCCGTGCCT
ATTCAGATAGGATGTTAAATCGGGTATTTTATCGGATATTGGGTGTTGCCGACAATTTGT
ATCCGCGTTTATCGGATTTCTGTTTTTTCACTATAATAGCCGGTTTGCCGTTGCAGGCGG
TTTTATGGGAAAGGCGGATGATGGTACGGCGTTTGATAATCGGCATCAGCGGGGCGAGCG
GTTTCCAATACGGCGTGAAGGCTTTGGAACTTTTGCGCGCGCAAGATGTCGAAACGCACC
TTGTGGTATCGAAAGGTGCGGAGATGGCGCGCGCTTCGGAAACGGCTTATGCGAGAGACG
AGGTATATGCCTTGGCGGACTTCGTGCATCCGATCGGCAATATCGGGGCGTGCATTGCCA
GCGGTACGTTTAAAACGGATGGGATGCTGGTCGCCCCCTGTTCGATGCGGACGCTTGCCT
CTGTCGCGCACGGCTTCGGCGACAATCTGCTGACGCGTGCGGCGGATGTGGTTTTGAAGG
AAAGGCGGCGGCTGGTGCTGATGGTGCGCGAAACGCCGCTGAACCTTGCCCATTTGGACA
ATATGAAGCGGGTAACGGAAATGGGCGGCGTGGTGTTTCCCCCTGTTCCTGCGATGTACC
GCAAACCGCAGACGGCGGACGACATAGTGGCGCACAGTGTTGCACACGCTTTGTCGCTGT
TCGGAATCGATACGCCGGATTCGGCGGAATGGCAGGGAATGGCGGATTAAAGGACAAAAA
TGCCGTCTGAACACGGATACAGTTCAGACGGCATCATTTTATACGACTGCCTTATTTGGC
TGCGCCTTCATTCCATGCGGCAGGGGATTTGTAGCCCTCGAAGCGTTTGTGCGCGTAGGC
TTTGAACGCGTCGGAGTTATAGGCCTCGGTTACGTCTTTAAGCCATTGGCTGTCTTTGTC
GGCGGTTTTGACGGCAGACCAGTTGACATAGGCAAAGCTCGGTTCTTGGAACAGGGCTTC
GGTCAGCTTCATGCCGCTGCTTATGGCGTAGTTGCCGTTGACGACGGCAAAATCCACGTC
GGCGCGGCTACGCGGCAGTTGCGCGGCTTCAAGCTCGACGATTTTGATGTTTTTCAGGTT
CTCGGCGATGTCCGCTTTGGATGCGGTCAACGGATTGATGCCGTCTTTGAGTTTGATCCA
ACCCAGTTCGTCGAGCATCACCAAGACGCGGGCGAAGTTGGACGGGTCGTTGGGCGCGGA
TACGGTGCTGCCGTCTTTGACTTCTTCCAGCGATTTCAGCTTGCCCGGGTACAGTCCCAA
AGGCGCGGTCGGCACTTGGAAGACTTCGGTGATGTCCAGATTGTGTTCTTTTTTGAAGTC
GTCAAGATAGGGTTTGTGTTGGAAGACGTTGATGTCCAACTCGCCCTCAGCCAATGCCAG
ATTCGGGCGTACATAGTCGGTAAACTCGACCAGTTTGACGGTGTAGCCTTTTTTCTCCAG
CTCGGCTTGGATTTGTTCTTTGACCATATCGCCGAAGTCGCCGACGGTCGTGCCGAAGAC
GATTTCTTTTTTCGCCGCGCCGTTGTCGGCGGCGGCAGAAGCGGATGCGGCGGGCGCGCT
GTCTTTTTGACCGCCGCAGGCGGCGAGGATGAGCGCGAGTGCGGCGGCGGAAAGGGTTTT
GAAGAAGGTTTTCATATTTTCTCCTGATGTTGTGGCAGTTTCAAACAAAAATGACGGGCA
GGGAGTCCTGCCGTCCGGATTCGGCGTTCAGACGGCATTTGCCGCGAACAGGGGGATTTT
ATAGCATTTTTCGGATAGCGGTGGGGGTTTTGGCGTTCAGACGGCATTCGGGTTCAACGT
TTGTCGAGTTTCCGCGCCAACGCGTTGCCGGTGCTTTGAATCAGGATGACCAGCAGCACG
AGGAGGGCGACGATGAAGATGATGACTTCGGTTTGGTAGCGGTAGTAGCCGTAGCGGATG
GCGAGGTCGCCCAAGCCGCCGCCGCCTATCATCCCTGCCGCCGCGCTGTATGACAAAAGC
CCGATGGCAAGCACGGTAATGCTGGAAACCATGCCCGCGCGCGCTTCGTTCAAGAGGACT
TTGCAGACGATGGCAATCGGCGGCGCACCCATCGCGGCGGCGGCTTCAATTACGCCTTTG
GGGACTTCGCGCAGGTTTTGTTCCACCAGTCGGGCAAAATAAAACAATCCCGACACGCTC
AACACCAGCGAGGCGGCAACCGGACCGATGGTGCTGCCGACGATGGCGCGTGTGGCGGGT
ATCATCGCAATCATCAGGATGACGAAGGGGAAGGCGCGCATGAGGTTGACGAGGTTGTCG
AGCAGGAAGTTCACCAGCTTGTTGTAATGCAGTTGGCGGCTGGAGGTTACGAAGAGCAGC
ACGCCCAGCAGCGTGCCGAAGATGACGGCGAATGTGGTGGACAAGCCGACCATCACGAAG
GTTTCGCCCAAGGCGCGGAAGATTTCGTCTTTCATGCCGACGATGGTGGAAACGGCTTGT
TGGAATGTTAAGTCTGCCATATCAGTCCTCCCGAATCAGTTCGCGCCCGATGTCGGATTG
GGCGTGGATTTGGTTGCCGCGTACTTCGACGATTTCGACGACTTTGCCTTTATCCAAGAG
GGCGGCGCGGTCGCACAGGCGGCGGATGACGCTCATTTCGTGGGTTACGATGACGATGGT
TACGTTGAAGCGTTTGTTGATGTCTTCCAAACATTCCAAGACGCTGCGCGTGGTGGCGGG
GTCGAGGGCGGAAGTGGGTTCGTCTGCGAGGATGACTTGGGGTTTGGGCGCGAGTGCGCG
GGCGATGCCGACACGTTGTTTCTGCCCGCCGGAAAGCTGGGCGGGATAGTGGCCGGCGCG
TTCGGTCAAGCCGACGATTTCAAGGCATTCTTTAACGCGCGCTTTGATTTTTTCAGACGG
CCATCCGGCGATTTCCAAAGGAAAGGCAACATTGTCGGCAACGGTGCGGTTGCTCAAAAG
ATTAAACTGCTGAAACACCATGCCGATATTCTGCCGAGCCTGACGCAATGCGGCGGCATC
GAGCGCGGTCAGCTCTTGTCCGCAGACGTTGACCTTGCCGCTGTCGGGGCGTTCCAACAG
GTTAATCAGGCGCAACAGGGTGGATTTGCCTGCACCCGAATAACCCATCAGCCCGAAGAT

```
TTCGCCGTCGCGGATTTCGAGGCTGGTCGGCTCGACGGCGGCAAAACGGGTCTTGTCGCG
CGTTTGGTAATGCTTGGAAACCTTGTCCAAAATAATCATTGTCTTTCCCATACAACAAAG
CCCGATGTCGGACACAACGGGCGCGGAAGATAAAGCTGAAATTGTCGGAACGCTTTAGCT
GTTATGCCCGCAAGCTGTGTCAAATCGGCAGGTTAATTTTCGTAGGATATTATCGGGAAA
GCATTTTTTGTCAATAAAGCAGGAAGCGGGCAACCATTTCGGACAATGCCGTCTGAAAC
GGGCAAAGGCAGCGGTTCGCACCAAAACGGCAAATAATTGAAAAACATATAGTGGATTAA
CAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCAC
TTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTAC
TGGTTTTTGTTAATCCACTATAAATTATGTCGGAAACATTCCAAAGGCGGTGCAGTTTCG
GCATATAATTCGGGCAAACGCCTGTTCAGACGGCATTTTGTCTTTTCCAACCCTGACCGT
TCAGGGTTCCGATTCTTAAGGAAATCCGATGTACCTACCCTCTATGAAGCATTCCCTGCC
GCTGCTGGCGGCCCTGGTGCTTGCCGCGTGTTCTTCGACAAACACACTGCCAGCCGGCAA
GACCCCGGCAGACAATATAGAAACTGCCGACCTTTCGGCAAGCGTTCCCACCCGCCCTGC
CGAACCCGAAAGAAAAACGCTGGCAGATTACGGCGGCTACCCGTCCGCACTGGATGCAGT
GAAACAGAAAAACGATGCCGCCGTCGCCGCCTATTTGGAAAACGCCGGCGACAGCGCGAT
GGCGGAAAATGTCCGCAACGAGTGGCTGAAGTCTTTGGGCGCACGCAGACAGTGGACGCT
GTTTGCACAGGAATACGCCAAACTCGAACCGGCAGGGCGCGCCCAAGAAGTCGAATGCTA
CGCCGATTCGAGCCGCAACGACTATACGCGTGCCGCTGAACTGGTCAAAAATACGGGCAA
ACTGCCTTCGGGCTGCACCAAACTGTTGGAACAGGCAGCCGCATCCGGCTTGTTGGACGG
CAACGACGCCTGGAGGCGCGTGCGCGGACTGCTGGCCGGCCGCCAAACCACAGACGCACG
CAACCTTGCCGCCGCATTGGGCAGCCCGTTTGACGGCGGTACACAAGGTTCGCGCGAATA
TGCCCTGTTGAACGTCATCGGCAAAGAAGCACGCAAATCGCCGAATGCCGCCGCCCTGCT
GTCCGAAATGGAAAGCGGTTTAAGCCTCGAACAACGCAGTTTCGCGTGGGGCGTATTGGG
GCATTATCAGTCGCAAAACCTCAATGTGCCTGCCGCCTTGGACTATTACGGCAAGGTTGC
CGACCGCCGCCAACTGACCGACGACCAAATCGAGTGGTACGCCCGCGCCGCCTTGCGCGC
CCGACGTTGGGACGAGCTGGCCTCCGTTATCTCGCATATGCCCGAAAAACTGCAAAAAAG
CCCGACCTGGCTCTACTGGCTGGCACGCAGCCGCGCCGCAACGGGCAACACGCAAGAGGC
GGAAAAACTTTACAAACAGGCGGCAGCGACGGGCAGGAATTTTTATGCGGTGCTGGCAGG
GGAAGAATTGGGTCGGAAAATCGATACGCGCAACAATGTGCCCGATGCCGGCAAAAACAG
CGTCCGCCGCATGGCGGAAGACGGTGCAGTCAAACGCGCACTGGTACTGTTCCAAAACAG
CCAATCTGCCGGTGATGCAAAAATGCGCCGTCAGGCTCAGGCGGAATGGCGTTTTGCCAC
ACGCGGCTTTGACGAAGACAAGCTGCTGACCGCCGCGCAAACCGCGTTCGACCACGGTTT
TTACGATATGGCGGTCAACAGCGCGGAACGCACCGACCGCAAACTCAACTACACCTTGCG
CTATATTTCGCCGTTTAAAGACACGGTAATCCGCCACGCGCAAAATGTTAATGTCGATCC
GGCTTGGGTTTATGGGCTGATTCGTCAGGAAAGCCGCTTCGTTATAGGCGCGCAATCCCG
CGTAGGCGCGCAGGGGCTGATGCAGGTTATGCCTGCCACCGCGCGCGAAATCGCCGGCAA
AATCGGTATGGATGCCGCACAACTTTACACCGCCGACGGCAATATCCGTATGGGGACGTG
GTATATGGCGGACACCAAACGCCGCCTGCAAAACAACGAAGTCCTCGCCACCGCAGGCTA
TAACGCCGGTCCCGGCAGGGCGCGCCGATGGCAGGCGGACACGCCCCTCGAAGGCGCGGT
ATATGCCGAAACCATCCCGTTTTCCGAAACGCGCGACTATGTCAAAAAAGTGATGGCCAA
TGCCGCCTACTACGCCGCCCTCTTCGGCGCGCCGCACATCCCGCTCAAACAGCGTATGGG
CATTGTTCCTGCACGCTGACGTACCGATGCCGTCTGAAACCCGCCCGGTCTTTCAGACGG
CATTTTTATCCCGAACGGCATTGACGGCGAACCATAAATATAAGACAATCCGAAAATTGT
TTTTCCTGCTTTTTCAAGCAGCTTGACACGGCACAAGCCGACCCGTTAGGAGGTGATGTT
TCCGTCACGGCGCGTATCCCGCCGCCGCAAGGCACAGCGATACGGTAAACTTTCAACACC
GTCTGCCCTACCCTTTCCACCGATATGATGGGCAGATGAAACAACCGAATTTATTAAAGG
AAATAAAATGCCTGCAATCCGCGTAAAAGAGAATGAACCATTTGAAGTCGCTATGCGCCG
TTTCAAACGCGCCGTAGAAAAAAACCGGCCTGCTGACCGAGCTGCGCGCCCGCGAAGCCTA
CGAAAAACCGACTACCGAACGCAAACGCAAAAAAGCGGCAGCCGTAAAACGCCTGCAAAA
ACGCCTGCGCAGCCAACAACTGCCGCCCAAAATGTACTAAACGTTCAAGTACAGATTACA
GGTCAGCCCTGTGATATGAGGACACACCGCAAGACCTGCTCTGCGGTGTGTTTTGCTTTT
CAGACGGCATCGAAACCCGCCGTTTCCATCCGACATCCCAGCGAGGACATCATGAGCCTG
AAAATCCGCCTTACCGAAGACATGAAAACCGCGATGCGCGCCAAAGACCAAGTTTCCCTC
GGCACCATCCGCCTCATCAACGCCGCCGTCAAACAGTTTGAAGTGGACGAACGCACCGAA
GCCGACGATGCCAAAATCACCGCCATCCTGACCAAAATGGTCAAACAGCGAAAAGACAGC
GCGAAATCTACACTGAAGCCGGCCGTCAGGATTTGGCAGACAAAGAAAACGCCGAAATC
GAGGTACTGCACCGCTACCTTCCCCAAATGCTTTCCGCCGGCGAAATCCGTACCGAGGTC
GAAGCTGCCGTTGCCGAAACCGGCGCGGCAGGTATGGCGGATATGGGTAAAGTCATGGGG
CTGCTGAAAACCCGCCTCGCAGGTAAAGCCGACATGGGCGAAGTCAACAAAATCCTGAAA
```

```
GCCGTGCTGACCGCCTGATTGCCCGAATATCGGACAAAATGCCGTCTGAAGCCCGTATCG
CAGGTTCAGACGGCATTTTCAATATCCCAATATCGAATCGGCAGGGGCAACACGGTTTTG
ATACGCCGAAACGGGTTTTGCCGATAAACAGATTCCGTTTGCGCCCCATCGGACAAAATG
CCGTCTGAAACACGATTCCGTTCAGACGGCATAGATTTATTTGACCAATTTCAAGCCTTT
TTTGGCGGGTCGGGGCGCGGTTTCGGCAGAGGTGTTTTCAGGCGGCGTATCGGGGCGGTA
CGCTTCCAACTCAAACCCCATACCTTCTCCGGTCTCCCGTGCGAAAAGGCTGAGGACGTG
TCCGACAGGTATCCATATATCGTGCGCCTGTCCGCCGAAGCGGGCGGAAAAGCTGATCCA
ATCGTTGTCGATTTGAAGGTTTTGCGTGGCGGTCGCGCCGATGTTGAGCATAATTTCGTT
GTCGCGGACGTACTGCATGGGGACGCGCGTGTGTTCGTTGACCCAGACAAGGATGTGCGG
TGTGAGGCTGTTGTCGCTGCACCATTCGCAGAGGGCGCGGAGGATGTAGGGTTTGGTGGA
AGTGGGCATAATGGGTTCCGTGTTGTACGCCAAAATAGGAAAATGCCTGCAAAACGGTGG
GTTTTGCAAGCATTTCGGACTTATTTGCGCATGGCTTTTTCGGCGGGTGTCAGTGCTTCG
ATAAAGGCTTCGCGCTGGAAGATGCGCTCGGCGTATTTGAGCAGCGGCGCGGCACTTTTG
CCCAGTTTGACATCGTAGTGGTCGAGCCGCCACAGCAGCGGAGCAAGGGCGACATCAATC
ATAGAAAAATCTTCGCCGAGGATGTATTTGCTTTTGCTGAACGAAGGGGCAAGCATGGTC
AGACCGTTGCCGATGGCTTCGCGCGCTTTTGCCTGTTCCTTGTTGGTGGCGGCGGGGTTT
TCTAACACTTGGACGTGGTTGAACAATTCTTTTTCCATACGGTACAGCACCAGCCGGCCC
CGACCGCGCATAACGGGATCGCCGGGCATCAGCTGCGGATGGGGGAAGCGTTCGTCAATG
TATTCGTTGATGATATTGGACTCGTGCAGCACCAAATCGCGCTCGACCAGCACGGGAACT
TGGTTATACGGATTCATGACGGCGAGGTCTTCGGGTTTGTTGTAAATATCGACGTCTTTG
ATTTCAAAATCCATACCTTTTTCGTACAAAACGAAGCGGCAGCGGTGGCTGAAGGGGCAG
GTAATGCCGGAATAGAGGGTCATCATAATAATTGTCGGCTCCTGTGTGATGCCTGCAAAAC
GGCTGATTTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGA
GAACGATTCTCTAAGGTGCTGAAGCACCGAGTGAATCGGTTCCGTACTATTTGTACTGTC
TGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATAAAGGTTTAATCGCGC
AATTATACGCGATTTCCGGCACTTAATCCAGAAATTCGGCTCAATCTGTTGTTTTTTATA
TATTTTCCCCGATTTTCCGTATCAGTGCGAACTTACTGTCTTTGTTGCGCGGACGCGCAC
CCTGCCAAACCGTCTGCCAGCCTTGCGGCGCATCCGCATTTTGGGGCAGGAGGACGATGC
GGTAGCGGCATTGTACATCGCCGACGCGGTGCGGCAATGTGCCGTACTGCGTCCAAACAA
TCCGCGTGTGCAGGTCGCCGCCGCCTATGCCGATACACTCGATGCCGTCTGAAAGCTCCC
GTTTCAATTCCGGGGAAAGCGATGCCTCCATACTCCGGACGACCGGCGCGTGGCTTTTCG
CCGCGTCCAGCCACGGCAGGAACAGCGTCATCAGCAAAGCCCAGGTCAGGGTAACGCCTG
CCGCCCAGTTGGTAACCGCCTGCCTGCCGCGTATGTTTTTCCGGGTAATCGCCCACAGCC
ACAAGGGTGTGAACAGTACGGCAACCGCCATCGGAATGGGATCGATATCAGGAACATAAT
ACGGGCTGAAATAGGCGGCGCGTTCGGCAAGCTTGGCGGGCCAGCCGTAATTCATGGCGA
AAAAGCCCGTCCACAGGAACACGGCAAACAGTCCGAACGCCATAATGCCGAACCAGTTGA
CAAACGCCGCCGCGCCGCGCCTCAGGCTGTCCAGTTGCGCCGCGCCGAACAGGGCAAGCG
GCGGAAGCAGCCAGACGAGGTTATCCTGAAAACGCTGCGGATTGACGGCAAGCAGCACCA
AAACGGCAAGCATCCAGACGACGCCCAAAATCCCCCAGTCGGTCGAAAACAGGCGCGTGC
GGCAAACCGTCCAAACCGCCAGCGGCAGCGCGGGCAATGCAAACCAAAGCAGGTTTTTCA
GATAGTAAAACAAACTGAATGCCGTCTGAACGTGCCGCACGCCGCCGAACGTACCGAAAA
CGTGATAGTCGAGCCATTGCGCGAACAGCGCGGGCTGCGTTTTTGCCAAGAGCAGCGGGT
AAACGGTCATAAGCGGCAGGGCAAAGGCAAGTGAGGCGACTGCCGTCAACATCAAACGCC
TGCTTTGCCACGGACGGAAAAACATCAGTACGGGCAAGGGCAGCATCAGGGCAAATGCTG
CCGGATAAGCTGCTGCCAACGACATCAGCGTCCAGCCCGTACCGAGCAGAAAAGAGGCGG
CAATCACGCGCCGGCGAGCCAAAGAATAACCGTGCAGCACCAGTCCGGCGGCGGCAAAGG
CGGCGGCAGCGGGGTTGAGGAAATGGGCAACTGGAATCAGCCCGATACAGCCGATGAGAA
TCAGGACGACGCTGCGCCCGTGGTGTCTGCCCAAAAAGTTGAAACCGGCAAAGCCGCAGG
AAGTCAGTCCGATAACGGCAAAAAATACGCCTGCAAAGCGTGCGGCATCGTATGAGTCGG
CAGCCCACGGCGACAGCAAATGTTTGAACGCGGCGGCAACCCAAAGATACACGGGCGGTA
TGCCGAAATCGGTTTGACCGAACAGATGGGCAACCAAGGGGGTGGGGCTGCCTGCCAGTG
CTTCGACGGCGGTATAGACGGCAGGTTCGTCAGGATTCCACAAATCGTGGGAAAACACGC
CGGGCCACAACCAGGCAAACGCCATCAACAGCAGCAGCCACGGCTTTTCGTGGGTTTTGG
CGGGCGGGCGGGCATCGGGCGGGGTATAGGTCAGCATAAGCGTGAGAAAAAATGGACGGA
TTGCCAAGTGTAGCAAATATTCGCACAAAGGTCGTGCAGAGACTGCTTCAGACGGCATCA
GACACAAAAAGACCGGCAACAAAAAGACTGCACATGGCAGTCTTTGCAGATACTATCTT
TTTCATAATATTTTTTCCTAGCCCAACACAGTCCATAGCATATCAAAACTGTTGTTTTCA
ACCAGGATATATATCCCCAATCCTAAATAAACAACAGCAACAAACCATCTGCTATATTTT
TCCAAAGTTTCTCCAACAGAAGGGACTTGTGCTAATTTTTGGGCAGAAAAAAACCAAGAGA
```

```
TAAATCATGACTAGAAAGGTAAGTAAAGCCACTATCAAATTCGCTAAATTTAAGGTAGTA
AAATATGGGACAAAGACACCAATATTGTCAGCACCACAACTTGCAAAAGTAATCATAGCG
ACTAGAAAAATCAGGTTTTTATTATCTTTGCGCAAACCCTCTTTGGCAATAGCCTCTCCA
TCAGAATCTCCTAAAAGCAAAACTTTGATGCCTAGGAGAATTGGAATCAAGCCGAGCAAA
CCTAAAATCTCTTTACTAGGAATATAATCTAAGACAAATGCAAAAAGTAAACTTAGCAAT
ATCAGACTAACAGAGCCTAGAAATTGTCCTAAATAGATGTTAATGATGTCTTTTCTACTT
TTTCTTTTGGCAAAAAATAACATTAGGATAATAAGTAAGTCTACGGCTGTCCCAGAATAC
AGGATTATTGAAGTAACGACATTTTGAATCATAAAACATCTCATTCAAATATATTTTTAA
ATGTATTCAAACATTAAACCTTGTAGATGTCAACTTCAACCCCGTCAAAATATAGTGGAT
TAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTG
CTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTG
TCCTGATTTTTGTTAATCCACTATATAGATAAGAAGTCAGTGTGCCAAATATTAAAAAGC
CCTGCCATCGAAATGATGGCAGGGCTTAATTCTTGCAAAGCGGCAATCAGCGTTTGAACA
GGTTGCCGAATTTGTTGTTGAATTTGTCCACGCGGCCGGTGGTATCAACGATTTTTTGGG
TGCCGGTATAGAACGGGTGGCACAGGGAGCAAACCTCGATATTGAAGTTTTCTTTTTCCA
TCGCGGATTTGGTTGCGAATTTGTTGCCGCAAGAGCAGGTAACGTTGACTTCGTGGTAGT
TCGGGTGAATACCTTGTTTCATTTGATTTCCTTTCAAAAAAGCGGGCATAGGGGATGTAC
CTATGCTACAGACAAGTCCGACATTCTCGCTATTTTCTGTTGTTACGTCAAGAGTATATT
CGATAAAATGTATAGTGGATTAACAAAAACCAGTACAGCGTTGCCTCGCCTTGCCGTACT
ATCTGTACTGTCTGCGGCTTCGTTGCCTTGTCCTAATTTTTGTTAATCCACTATAAAAAG
TTCTTTTGAGGGAGGTTTGATGGGATCAAAATTCTTTTTCCTGCTGCTGCGTTTTGCCGG
TTCGGGGTTGCCGCCGTCACATATGCGCGGCATCGGCATCGTCGGCAGACGGGTGCGCGG
TTTTTTGGCGCGGCGGGTTTCTCCGCATATCGGACGCGGGGTCAATATCGAACGCGGGGC
GTATGTGTTTCCGGATACGGTTTTGGGCGACGGCTCGGGCATCGGGGCAAACTGTGAAAT
CTGCCGTGGGCTGGTGGTCGGCAAAAATGTGATGATGGAGCCGGAATGTCTGTTTTATTC
AAATAACCACAAGTTTGACCGTTCAAAAAACGCTTTGAGGGCTACACGGAAATCCGTCCG
ATTACGTTGGAGGACGATGTCTGGCCGGGGCACAGGGTGATTGTAATGGCGGGCGTAACC
GTCGGACGCGGTTCGGTCGTGGGCGCAGCGCGGTGGTTACAAAAGACATTCCGCCCTACT
CTTTGGCGGCAGGCAATCCGGCAGTGGTGAAAAAGAATCTGCCGGAAGGTTGAATGCCGT
CTGAACGTGTCGGGGCGGATGATCTGAAAAAACAGGAACATCGTTTCTGTTTTTTGCGCT
TCAGACGGCATCGCTATTGCGCCACGCGGTATCGATTTCTTGGTAGAGTTTGCCGAAATC
GGGTTCGCCGACGTAGGTTTTGAGGATTTCGCCTTTTTTGCCGATAAGGACGGAAGTCGG
ATAAACCTGTGTGCCGAACGCCTGTCCGACAGCTTTGTCCGCATCATACATGACGGTAAA
CGGCAAACCGTAGTCTTTGACATATTGGCGGACGCTTTCTATCGGATCGATGGGCTGGGC
GACGGCAAGTACTTGGAAGTTTTTGTTTTTATAGTCATTTGCCGTTTTAATGATTTTGGG
CATTTCGCTCACACAACCCGGACAGGAGGGAAACCAAAAATTAATCAGGGTTACTTTGCC
TTGCAGGTCGGCGTTGGAAACGGTTTTTCCGTGCAGGTCGGGCAGGGAGAAGGCGGGCGC
GGTTTTGCTGTCGGGGATGAGGACGATGGCAAGGAGGATGCCGATCAGTGCGACGACGGC
GGCGGTGAGTATTTTTTTCATTCGGACAAGGCTTCCAATGCGCGGGCAAGGGTGGCGGGC
AGGCTGACGGTGCGTTGTGTGGCGGCGTGGACGGGCATCAGGGTGATGTCGGCTTCTGCG
GCGGTTTTGCCGTTTGGCAGTGTAATCGTCTGGGTCAGCACAATACGGCGCGTGCCGGGG
GTTTTCAGGCGGCATGAAAACTGCAATACGTCGCCTTCGACGGCGGGGCGGCTGTATCGG
ATGTCGATGCGGGCGACAATCAGTATGAGGCCTGCCAACTCGTGCAGCAGTCCGCGTTCT
TCAAAAAACGCCCAGCGCGCTTCTTCGAAAAATTCGAGGTAGCGCGCATTGTTGACATGG
CCGTAGCCGTCGAGATGGTAGTTGCGGACGGTCAGCTTCATCAGTTCAGGTTGATGGGTT
GGAAGGCTTCGCGGGCAAGCGGTTCGTGTTCGAGGTCGGTGATGACGGTAGAAAGCTGGA
TGTCGAACCATTCGTTGAAAATGTCGGCATCGAGCGCAGGCCACTCGCGTTCGTCTTCGC
ACCAGTCGGCAAGTTCGGCGGCGAAAATGTCTTCAAAACGGGCTTCGATTTCGTCCCATA
CTTCGTCGGCGGTTTCGCACGGGCGGACAAGGTAGGAATTGGCGTCGGCTTGGATGTCTT
CAAGAGTCAGTCCGTCGAGGTGGTTGCCCGGCAGGGTTTGCAGCCAGTTCCAAAAAGGTT
CTAAAGGGATGAGGACGAATACGCTGCGGTTGACTTCGTACATGGTTTTTCCTTTGCTGT
CGCGCGGTATGCGCAAAAAAGAGATTATAGCCCAATCTGTGGTTTCGGACTGTCCGTTCC
GACAGAAGGGAATGCCGTCCGAACACGGATTTTCAGACGGCATGGCTTTAAGGTTGTGTT
CCAGGTTGCGTTTCGGCTTCCCCTGCTGCTTCTGCCTGTGTTTCGGATACGGAATCTTCT
TGAACGGCAGTTTCCGCCGCGCCGGTTTCGGCACTTTCGACCAATTCGTCGATGTCGATG
TTATCTTCCGTACCTTCGGCAGGTGTTGCACCGGTCTGCCGCGCACGGACTTTCATATAG
AGGTCGCGCGTGTAGCTGTATTTGTCGATGGCGGCTTCGTCCAGACTGTCGGTCAAATCG
AGCAGGCCTTCGCGCGTACTGACGGCGGATACGGCAGTCGTGCCCCAGCGTCCGACAGGG
GTGCGGAAGACGATATTCTTGGGCGAATAAACGGAGGTAATACCCGTGCCGAGCGCGTCG
```

-573-

CGGACGGTGGACGGCCCTAAGACGGGCAACACGAAATAATTGCTGTTTTTCCATCCCCAC
GAGGCAAACGTGTCGCCCAAGGTGTTTTTATTGTCGGGAATGCCGCCCGCGCCGGCGATG
TCGATAAGCCCGCCCAAACCGAAAGTGGTGTTGATGCCGACGCGGACAAGGTCTTCGCTT
GCGCGTTTGATGTCCAAGCGCAAGATATTGCTGCCGAAGCTGACCACGTCGCACAGGTTG
TTAAAAAAATTGGACACGCCGGCGCGGACGGGTTTCGGCGCAACTTTGCGGTAGCCGCGC
GCGGCAGGGGCGAAAATGTAGCGGTCGGCTTGGTCGTTGAATTTGAAAACGGCGCGGTTG
TAGCCTTCATAAGGGTCGGCGGGGCGGGTTTCGGCAAATGCAGGGGCGGAAGCGAACCCG
ATCAGCAGGAGGAAGGCATAGGCGGTTTTTTTCATGATTTCAGCCAGTCTTTGATTTCGT
ACAGTTCGGACAGCGCGCGCACGGATTCGGGAATGCCGGTCAGCCTGACGCTGCCTTTGC
AACCGCGCAGCACTTCGAGCAGCAGCGACACGCAGGCGGAATCGGCGCGTCCGACGCCGC
TCAAATCAACCGCGCAGGTGTCTTTCAGACGACATTGCTGTCTGAAGCGGGTAAAAGCGG
CGGCGGTCAGGGTTTTGACGGTGATGTCGCCGCCGATGTGCAATATTCCGTTTTTGAGTT
CTGTATGCATAGCGTTTGCTCGGAAAACCCATACCGCCCTCGGACGGTATGGTTTGTCGG
TTATTTGCCGCCGTTTTTGGCTTTCAACTCGGCAATCAGTCCGTCCACGCCTTTCGCTTT
GATAATTTCGCCGAATTGGTTGCGGTACACGGTAACCAGGCTCGCGCCTTCGATGGCGAC
GTTGTAGGTACGGTATTTACCGCCGCTTTGGTAGGTGGTGAAGTCCATGTTGACGGGTTT
TTGCCCGGGTACGCCGACTTCGGCGCGGACGATGATTTCTTTGCCGCCTTTATTGACGAT
GGGATTGTCTTTGACGTTGACGTTGGCGTTTTTTAATTTCAGCATCGTGCCGGAATAGGT
GCGGATCAGCAGGGTTTGAAATTCTTTGGCCAACGCTTGTTTTTGCGCGTCGGACGCGGT
GCGCCAAGGGTTGCCGACCGCCAATGCGGTCATACGTTGGAAATCGAAATAGGGAATCGC
ATAGGCTTCGGCTTTTTGGCGAGCGGTGTTGGCATCGCCGTTTTTTAAGATGCTCAATAC
TTGAGTGGCGTTTTGACGGATTTGGCTTACCGCGTCGGCAGGGGCGGCAAATGCCATGCC
GATGCTCAAAATACCGATGCCCAATGCGCTGATGAGGGAGGATTTTTTCATGATTAAGTG
TCCTAGTTTGAATATGATGGCATACGTTTATTCGGCGGCTTTTTCCGCATTGCCGCCGTC
GGCATTTTTCTCGGCAAAACTCGTCATGAATTTGCCGATAAGGTTTTCCAGAACCATTGC
AGAACTGGTTACGGAGATGGTGTCGCCGGCAGCAAGGTTTTCCGTGTCGCCGCCCTGCTG
CAGCCCGATGTACTGCTCGCCCAAAAGTCCCGAAGTCAGGATTTGCGCGGAAACGTCGCT
GCTGAACTGATACTTGCCGTCCAAATCGAGGCGCACCCTCGCCTGATAGGATTTCGGGTC
AAGTCCGATAGCGCCGACGCGCCCGACCAATACGCCTGCGGATTTGACGGGGGCATTGAC
CTTCAAACCGCCGATGTCGCCGAAATCGGCATAAACGGCGTAAGTTTTGTCCGAACCGCC
GAACGCCGCACCGCCGGCCACGCGGAAAGCGAGAAAGGCAACCGCCGCCGCGCCAATCAG
GACGAACAGTCCGACCCAAAATTCCAATATGTTCTTTTTCATTAAAGTTCCTTGAATATC
CGATGTTCCGCGTTTCGTCTTCAGACGGCCTGTCAATCTGTAAACATCCACGCGGTCAAT
ATAAAATCGACCGCCAAAATCGTCAGGGCGGACGAAACCACCGTGCGCGTGCTGGCGCGC
AAAATGCCTTCCGAAGTCGGGACGCAATGGAAGCCCTGATGCACGGCAATCAGCGTTACC
GCCACGCCGAACGCGGCGGATTTGATCAGACCGTTGATTACATCGTAATGTATCGTGATG
TTGTTCTGCATTTGCGACCAGAAAATACCGCTGTCCAAGCCCAGCCAGGTTACACCAACC
AAATACGCACCGAAAATGCCCGCCACGTTGAAAATCGAAGCCAAAAGCGGCATGGAAAAC
ACGCCCGCCCAAAAGCGCGGCGCAACCACGCGGGCGACAGGGTTTACCGCCATCACATTC
ATCGCTTCGAGCTGTTCGGTCGTTTTCATCAGACCGATTTCGCTGGTCATCGCACCGCCC
GCGCTGCTGGCAAACAAAATCGCTGCCAATACCGGACCCAGCTCGCGCAATAGCGAAGCC
GCGACCATATAGCCCAAAATATCGGCGGATTTGAATTTCGACAACTGCGTATAGCCCTGT
AAACCCAAGACCATGCCGACAAACAGCCCCGAAACGGCAACAATCAACACCGACAGCACA
CCGGCGAAATACACTTGGCGCACGCTCAGGCGCGGACGGACGAAAGCCGTACCGGACTTC
GCCAGAATGTTCAGCAGAAACAGCGTGATACTGCCGAGGGATTGAATAAGGCCGAGGGTT
TTCGCCCCGACGGAACGGATAAAGTTCATAAATTTCTATGTGTAAAGTTCAACGGTTTCA
GACGGCATCAACTCATTTATCCCAACAGGTCCTGCTGCAACGACGTTTGCGCCGGATAAC
GGTATGCTACGGGGCCGTCTGCCAGCCCGCCGACAAACTGGCGCACCCAAGGCGAATCCA
GTTCGCGCATTTCCTGCGGCGAGCCGGAGAACATAATTTCGCCGTGCGCCAAGAAAATCA
CCTGATCGACGATTTCCAAAGATTTTTCAATGTCGTGCGTTACCATAATACTGGTCGAAC
GCAAAGCCTTGTTGACGCGGCTGATCAAGTGGGCAATCACGCCCAAGGAAATCGGATCGA
GGCCGGTAAACGGCTCGTCGTACAACATAATTTCAGGGTCGAGCGCAATCGTGCGGGCAA
GCGCGACGCGGCGCGACATCCCGCCGGACAACTCGGACGGCATCAGGTTTTCCACACCGC
GCAGACCGACCGCGTTCAATTTCAACAAAACCAAATCCCGAATCACCGCTTCCGGCAGGC
GCGTCAGTTCGCGCATCGGAAAAGCGATATTGTCGAATACCGACAAATCAGTAAACAGCG
CGCCGTGTTGGAACAATACGCCCATACGGCGGCGGTGTTCATACAACTCGTCAGCCGAAA
AGCCCGCCAAATCCCGTCCTTCAATCAAAACCTGCCCGGACTGCGGACGAATCTGTCCTG
TAATCAGTCGCATCAGCGTGGTTTTGCCGCTGCCCGAACCGCCCATTACGGCAGCAAAAT
TGCCTTGCGGAATGCTGAAATTGATGTTCTTCAGAATCGGGCGGTCGCCATACGCGAAGG

CGACGTCTTTCATTTCGATAAAGGGGGATGGGCTCATGTACGGACGGACGGTAGGTTTGA
CGGCGTGTATTTTAAGGCTTATCGGGAAGACGGGCAATTTTCAGACGGCATACGGACGGT
AAATGTTGTGAAAATGCCGTTGTCGGCGGCGGATTGTTTGCTGTGGCGAAAAATGTTATC
TTTCAAATGATAACCTTTATCAGAAAACTATGGAAAAAGCAGAACATTTGAACAGCAGCC
GGTTCGTCAATCTAGTCAAAAGCGGCGGCGGCAGCTATGTGGAGGGCAGCTACCGTTTCG
ATACTTTGTCCAACGGCATTTCCATCCACGGCGGCACAGTAACGGCACGGTGTGATTTTT
GCAGCAGCCGCCTCGCCGAACCTTATGTGTCGTTCGTGCTCTTGCTGGAAGGCAGTTTGG
ACTTCGGCATCAACCGCTGCCGCTTCCAAATCGATGCGGACGGCGGCAAGATTGTCCTAA
TTGCTGTCGGGGAAGAAGTCCTGTTCAGCCGCTATCTTTACCGAGGCGGCAAAACGGTCA
AAATGACCATTAAAGGTATGGAACAATGGCTGCTGCGTCCGGAATACGCGCGTTTCGCAC
CCCTGCTTTACCGCGAACCGGTCAGGATATGGGATTTGCCCCCGAACCTGCGCGGCTTGG
CGGCATCCTGCCTGAAAGCCGTCCCAAAGGGGCATTTGGGCGAAACATTGCGCCGCGAGG
CGGACGTGTTGCGGCTGCTGTCGGACTTGTGGGACACGGTTTCAGACGGCATCGGGCCGG
CGGCGGGGCAAACGGCGGAAGCAGACGCTATGCCGTCTGAAGACTTCAGCCGCACCCTAA
ATGCCGCGTTTGCCGACGGCGCACACCAAGTCAACCGGCTGACAGACGCGCTGAACATCA
GTGAAAGGACGCTGCAACGCCGTATGCGCGACCATTTCGGCATTACGGCAAGCGAATGGC
TGCACCACAAACAAATGCAGCACGCGCTCTATCTGTTGCAAAACGGGGGAAAAAGCATAG
GCGAAACCGCATATTTATGCGGCTACCGCCACGTTTCCAGCTTTACTCAGGCATTCAGGC
AATATTTCGGCAGCACGCCTGCGGAAACCAAAAAAGAAAACCGGTAAGCCGCATTTGATT
TCAAACCCGAAATCCGCGTGTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCC
TTAGCTCAAAGAGAACGATTCTCTAAAGTGCTCAAGCACCAAGTGAATCGGTTCCGTACT
ATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATAAAAAA
CTTGTACGGCAATTTATTTGGGAATAAACTAAAACTACATCTAACTACAAAACTGGAGAA
CCCGAAATGAAACAATTGGCCATGTACATCAACGGACGCTTTGAAAACGATTTCAACGGC
GAATGGCGCGACGTATTGAACCCGTCCACCGAAGAGGCCATCGCCCGCGAACCCAAAGGC
GGCAAGGCGGACGTTGACCGCGCCGTCGCGGCGGCGCGTGCGGCGCAACCGGCTTGGGAG
CGTCTGCCTGCGGTCGAACGCGGCGCGTATTTGCGTAAAATCGCCCAAGGCATACGCGAA
CGTGCCGACGAGCTGACCGACACCATCGTTGCCGAAGGCGGCAAAACCAAAGACTTGGCA
CGCGTGGAAGTCATGTTCACCGCCGACTATCTCGATTATCAGGCCGAATGGGCGCGCCGC
TACGAAGGCGAAATCATCCAAAGCGACCGCCCGCGCGAAAATATTTTATTGTTCAAACGT
CCGCTGGGCGTAATTGCCGGCATTTTGCCGTGGAACTTCCCCTTCTTCCTGATTGCCCGC
AAAATGGGCCCCGCTTTGGTAACGGGCAACACCATCGTCGTCAAACCCAGCAGCGTAACC
CCGATCAACTGCCACATCTTCGCCGAAATCGTCGATGCGGTCGGACTGCCCGCAGGCGTG
TTCAACGTGGTGAACGGTCCCGGCGCGGAAATCGGCAATGCCTTGTCCGCCCATCCGCAA
GTCGATATGGTCAGCCTGACCGGCTCCGTCGAAGCAGGCCGCCAAGTGATGGAAGCCGCC
TCCGCCAACATCACCAAAGTTTCGCTGGAACTCGGCGGCAAAGCGCCTGCCATCGTTTTG
AAAGATGCGGATTTGGACTTGGCGGTGAAATCCATCTTGGCTTCGCGCGTCGGCAACACC
GGTCAAATCTGCAACTGCGCCGAGCGCGTCTATGTCCACAGCAGTCTGAAAGACGCATTC
ATTGAAAAAAATGACCGCCGCGATGAAAGGCGTGCGCTACGGCAACCCTGCCGAAGCCGAA
GCAGGCGCGCTGGAAATGGGCCCGCTGATTGAAGAACGCGCCGTCAAAGCCGTTGCCGAA
AAAGTGGAACGGGCAGTCAAACAAGGTGCGAAATTGGTTTGCGGCGGCAAACGCGCCGAA
GGACGCGGTTATTTCTTCGAGCCGACCCTGCTGACCGACACCGACAACAGTATGGACATT
ATGAAAGAAGAAACCTTCGGCCCCGTGCTGCCCGTTTCCGCTTTCGACACGCTCGACCAA
GTCATCGCCTTGGCAAACGATTGCGAGTTTGGTCTGACCAGTTCTGTTTATACGACTAAT
TTAAACGAAGCCTTCTACGTTACCCGCCGCCTGCAATTCGGCGAAACCTACATCAACCGC
GAAAACTTTGAAGCGATGCAGGGTTTCCACGCCGGTTGGAAAAAAATCCGGTATCGGCGGC
GCGGACGGCAAACACGGTTTGGAAGAATATCTGCAAACCCAAGTCGTTTATTTGGAAACC
GACATTTAATGCCGCTTTAAAACCCCGATAGAAAATGCCGTCTGAACCCGTTTTCAGGTT
CAGACGGCATTTTTATTGCTTCACCGGCAATCAGTCATGACCGAGGTCGATGTTTTTGTC
TTTGTATAGTGGATTAACAAAAATCAGGACAAGGCGGCGAAGCCGCAGACAGTACAAATA
GTACGGAACCGATTCACTCGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTCGAGCTAAG
GCGAGGCAACGCTGTACTGGTTTTTGTTAATCCGCTATATTCCGCCATCTCTAAGATTTA
CAGCGATACACGGGTAATTTAAGGAATGCCCAAACCGTCATTCCCGCCACTTTTCGTCAT
TCCCGCGAAAGCGGGAATCTAGAATCTCGGACTTTCAGATAATCTTTGAATATTGCTGTT
GTTCTAAGGTCTAGATTCCCGCCTGCGCGGGAATGACAAATCCATCCGCACGGAAACCTG
CACCACGTCATTCCCACGAACCCACATCCCGTCATTCCCACGGAAGTGGGAATCTAGAAA
TAAAAAGCAACAGGCATTTATCGGAAATAACTGAAACCGAACAGACCTAGATTCCCGCCT
GCGCGGGAATGACGGCTGCAGATGCCCGACGGTCTTTATAGCGGATTAACAAAAATCAGG
ACAAGGCGACGAAGCCGCAGACAGTACAGATAGTACGGAACCGATTCACTTGTTAAAGAA

-575-

```
TCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTCATCCACTATAAC
TAGGGAAATTCAAATTAAGTTAGAATTATCCCTATGAGAAAAAGCCGTCTAAGCCGGTAT
AAACAAAATAAACTCATTGAGCTATTTGTCGAAAGTTCAAATTTCCATTTTAAAACAATT
AGTAAAATCGAGTTTATCCTAGTTGTCCAAGACAACCCCTATAATAATATAATTCAAAAT
ATAAAAATGGGTTACATCTAAACATTACGGAATTTTTATTCCCTCGCCTGAATTCTATTG
TCAGATTCAAGGAGACCTCATCATGCGAACGACCCCAACCTTCCCTACAAAAACTTTCAA
ACCGACTGCCATGGCGTTAGCTGTTGCAACAACACTTTCTGCCTGCTTAGGCGGCGGCGG
AGGCGGCACTTCTGCGCCCGACTTCAATGCAGGCGGTACCGGTATCGGCAGCAACAGCAG
AGCAACAACAGCGAAATCAGCAGCAGTATCTTACGCCGGTATCAAGAACGAAATGTGCAA
AGACAGAAGCATGCTCTGTGCCGGTCGGGATGACGTTGCGGTTACAGACAGGGATGCCAA
AATCAATGCCCCCCCCCGAATCTGCATACCGGAGACTTTCCAAACCCAAATGACGCATA
CAAGAATTTGATCAACCTCAAACCTGCAATTGAAGCAGGCTATACAGGACGCGGGGTAGA
GGTAGGTATCGTCGACACAGGCGAATCCGTCGGCAGCATATCCTTTCCCGAACTGTATGG
CAGAAAAGAACACGGCTATAACGAAAATTACAAAAACTATACGGCGTATATGCGGAAGGA
AGCGCCTGAAGACGGAGGCGGTAAAGACATTGAAGCTTCTTTCGACGATGAGGCCGTTAT
AGAGACTGAAGCAAAGCCGACGGATATCCGCCACGTAAAAGAAATCGGACACATCGATTT
GGTCTCCCATATTATTGGCGGGCGTTCCGTGGACGGCAGACCTGCAGGCGGTATTGCGCC
CGATGCGACGCTACACATAATGAATACGAATGATGAAACCAAGAACGAAATGATGGTTGC
AGCCATCCGCAATGCATGGGTCAAGCTGGGCGAACGTGGCGTGCGCATCGTCAATAACAG
TTTTGGAACAACATCGAGGGCAGGCACTGCCGACCTTTTCCAAATAGCCAATTCGGAGGA
GCAGTACCGCCAAGCGTTGCTCGACTATTCCGGCGGTGATAAAACAGACGAGGGTATCCG
CCTGATGCAACAGAGCGATTACGGCAACCTGTCCTACCACATCCGTAATAAAAACATGCT
TTTCATCTTTTCGACAGGCAATGACGCACAAGCTCAGCCCAACACATATGCCCTATTGCC
ATTTTATGAAAAAGACGCTCAAAAAGGCATTATCACAGTCGCAGGCGTAGACCGCAGTGG
AGAAAAGTTCAAACGGGAAATGTATGGAGAACCGGGTACAGAACCGCTTGAGTATGGCTC
CAACCATTGCGGAATTACTGCCATGTGGTGCCTGTCGGCACCCTATGAAGCAAGCGTCCG
TTTCACCCGTACAAACCCGATTCAAATTGCCGGAACATCCTTTTCCGCACCCATCGTAAC
CGGCACGGCGGCTCTGCTGCTGCAGAAATACCCGTGGATGAGCAACGACAACCTGCGTAC
CACGTTGCTGACGACGGCTCAGGACATCGGTGCAGTCGGCGTGGACAGCAAGTTCGGCTG
GGGACTGCTGGATGCGGGTAAGGCCATGAACGGACCCGCGTCCTTTCCGTTCGGCGACTT
TACCGCCGATACGAAAGGTACATCCGATATTGCCTACTCCTTCCGTAACGACATTTCAGG
CACGGGCGGCCTGATCAAAAAAGGCGGCAGCCAACTGCAACTGCACGGCAACAACACCTA
TACGGGCAAAACCATTATCGAAGGCGGTTCGCTGGTGTTGTACGGCAACAACAAATCGGA
TATGCGCGTCGAAACCAAAGGTGCGCTGATTTATAACGGGGCGGCATCCGGCGGCAGCCT
GAACAGCGACGGCATTGTCTATCTGGCAGATACCGACCAATCCGGCGCAAACGAAACCGT
ACACATCAAAGGCAGTCTGCAGCTGGACGGCAAAGGTACGCTGTACACACGTTTGGGCAA
ACTGCTGAAAGTGGACGGTACGGCGATTATCGGCGGCAAGCTGTACATGTCGGCACGCGG
CAAGGGGGCAGGCTATCTCAACAGTACCGGACGACGTGTTCCCTTCCTGAGTGCCGCCAA
AATCGGGCAGGATTATTCTTTCTTCACAAACATCGAAACCGACGGCGGCCTGCTGGCTTC
CCTCGACAGCGTCGAAAAAACAGCGGGCAGTGAAGGCGACACGCTGTCCTATTATGTCCG
TCGCGGCAATGCGGCACGGACTGCTTCGGCAGCGGCACATTCCGCGCCGCCGGTCTGAA
ACACGCCGTAGAACAGGGCGGCAGCAATCTGGAAAACCTGATGGTCGAACTGGATGCCTC
CGAATCATCCGCAACACCCGAGACGGTTGAAACTGCGGCAGCCGACCGCACAGATATGCC
GGGCATCCGCCCCTACGGCGCAACTTTCCGCGCAGCGGCAGCCGTACAGCATGCGAATGC
CGCCGACGGTGTACGCATCTTCAACAGTCTCGCCGCTACCGTCTATGCCGACAGTACCGC
CGCCCATGCCGATATGCAGGGACGCCGCCTGAAAGCCGTATCGGACGGGTTGGACCACAA
CGGCACGGGTCTGCGCGTCATCGCGCAAACCCAACAGGACGGTGGACGTGGGAACAGGG
CGGTGTTGAAGGCAAAATGCGCGGCAGTACCCAAACCGTCGGCATTGCCGCGAAAACCGG
CGAAAATACGACAGCAGCCGCCACACTGGGCATGGGACGCAGCACATGGAGCGAAAACAG
TGCAAATGCAAAAACCGACAGCATTAGTCTGTTTGCAGGCATACGGCACGATGCGGGCGA
TATCGGCTATCTCAAAGGCCTGTTCTCCTACGGACGCTACAAAAACAGCATCAGCCGCAG
CACCGGTGCGGACGAACATGCGGAAGGCAGCGTCAACGGCACGCTGATGCAGCTGGGCGC
ACTGGGCGGTGTCAACGTTCCGTTTGCCGCAACGGGAGATTTGACGGTCGAAGGCGGTCT
GCGCTACGACCTGCTCAAACAGGATGCATTCGCCGAAAAAGGCAGTGCTTTGGGCTGGAG
CGGCAACAGCCTCACTGAAGGCACGCTGGTCGGACTCGCGGGTCTGAAGCTGTCGCAACC
CTTGAGCGATAAAGCCGTCCTGTTTGCAACGGCGGGCGTGGAACGCGACCTGAACGGACG
CGACTACACGGTAACGGGCGGCTTTACCGGCGCGACTGCAGCAACCGGCAAGACGGGGGC
ACGCAATATGCCGCACACCCGTCTGGTTGCCGGCCTGGGCGCGGATGTCGAATTCGGCAA
CGGCTGGAACGGCTTGGCACGTTACAGCTACGCCGGTTCCAAACAGTACGGCAACCACAG
```

```
CGGACGAGTCGGCGTAGGCTACCGGTTCTGACGGACAGGAAGCAGACAGCCGCAAAGATC
ACGGTCTTTGCGGCTGTTTCTTATGAAAAGAAACCCTATTCCAATTGCCTGCTTCTATT
GTTTCAAGACTTCTTCCAAAGATTCGGCATTAATCAGATGTATAGCGGATTAACAAAAT
CAGGACAAGGCGGCGAAGCCGCGGACAGTACAAATAGTACGGAACCGATTCACTCGGTGC
TTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTT
TGTTAATCCGCTATATTCCACCATCTCTAAGATTTACAGCGATACACGGGTGATTTAAGG
AATGCCCGAACCGTCATTCCCGCCACTTTCCGTCATTCCCGCGAAAGCGGGAATCTAGAA
TCTCGGACTTTCAGATAATCTTTGAATATTGCTGTTGTTCTAAGGTCTAGATTCCCGCCT
GCGCGGGAATGACGAATCCATCCGCACGGAAACCTGCACCACGTCATTCCCACGAACCCA
CATCCCGTCATTCCCACGAAAGTGGGAATCTAGAAATGAAAAGCAACAGGCATTTATCGG
AAATAACTGAAACCGAACAGACTAGATTCCCGCCTGCGCGGGAATGACGGCTGCAGATGC
CCGACGGTCTTTATAGCGGATTAACAAAAATCAGGACAAGGCGGCGAAGACGCAGACAGT
ACAGATAGTACGAAACCGATTCACTCGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTCG
AGCTAAGGCGAGGCACCGCTGTACTGGTTTTTGTTAATCCACTATACTTGGAGCTGGTCT
TGCTTTTCGCCTAATTCTACGTTTTCAAACGGTTGCAGCTGGTGGTCTGCCATAAAGGTC
TCCTTATTGTATTTCAGGTTGGAAATCGGAATTTGTTTTCACAATTTTACACCTTCGCCC
CCGCTTTCTCTACATAAAATTACATTTTGCCGATATTTGCCGAATTGTCTGAAAATATGT
GTAATAAGGGGCGTATAATCAAAACATTTGCCCCGGATTGCCATGCCTTATTTCGCCCTG
TTTGACGATGCCGTAAGCGGCCGCGCAAAACGCTATCAAAATCATGTGGAAAGCCGTTTT
TTCCGTCCCGAAGAACTCGATGCTTTGGACGGCGCGCTGCAATCGGGCTGGCAAAAAGGG
CTGCATTCGGTGTTGTTTGCAGACTACGGATTCGGTTTGCCGCTGACGGGGGTTGAGTCC
GAACGCGGCGGCAATCTTGCCCTGCACTGGTTTGCCAACTGCGCCGACATCGATGCCGAA
AGCTGGCTTGCCCGACACTCAGACGGCCTCCCCGCCGGCATTTCCACGCCGCAACCCTCC
GTATCCGAAACCGATTACCTCGACCGCATCCGCCAAATCCACGAAGCCATCCGGCGCGGC
GACACCTATCAAATCAACTACACCACCCGCCTGCACCTGCAAGCCTACGGCAATCCCGTC
AGCCTCTACCGCCGCCTGCGCCAGCCCGTCCCCTATGCCGTCTTGTCCCACCTGCCCGAT
GCGGAGGGGCAATCCGCGTGGACGCTGTGTTTCTCGCCCGAACTCTTCCTCAAAATCGGT
TCGGACGGCACCATCAGCACCGAACCGATGAAAGGCACCGCGCCGATTTTGGGCGACGGA
CAAGACGAACGCCGCGCCGCCGAGTTGCAAGCAGACCCGAAAAACCGCGCCGAAAACGTG
ATGATTGTCGATTTGCTGCGTAACGATCTCGGCAAAAATCGCCCAAACCGGCACAGTATGC
GTACCCGAACCGTTTAAAGTATCGCGTTTCGGCAGCGTTTGGCAGATGACCAGCACCATC
CAAGCCCAAGCCTTGCCGCACACCTCGTTCGCCGACATCCTCCGCGCCGCCTTCCCCTGC
GGCAGCATCACCGGCGCGCCCAAAAAAATGAGTATGCAGATTATCGAATCGCTCGAAGCC
GAAGCGCGCGGACTTTATACGGGCAGCATCGGCTATTTGAACCCGTGTTCCGGCGGCTTG
GGGTTTGAAGGCACGTTCAACGTCGTTATCCGCACCTTGTCGCTCACGCCGCTTTCAGAC
GGCATTTATCAAGGCGTGTACGGTGTCGGTTCCGGCATCGTCATCGACAGCGACCCCGCC
GCCGAATATCGCGAATGCGGCTGGAAAGCCCGTTTCCTCAACGAATTGCGCCCCGACTTC
GGCATTTTTGAAACCCTGCGCGCGGAAAACGGACGCTGCACCCTGCTCGACCGCCACCTA
TGCCGTCTGAAAACCTCCGCCCAAGCCCTCAACCTGCCCCTGCCCGACGGCTGCGAAAAT
CAAATCAAACAATACATTGCCGACTTGCCCGATGGCGCGTTCCGCGTCAAAGCCCTGCTC
GCTTCAGACGGCATCAGCCTGTCCCGCGCCGTTTTAAACCGTCTGACCGACAAACAACGC
GTCATCATTTCGCCCGCCGTCCTGCCCGCACAAAACTACCTGCGCCGCTTCAAAACCACC
TGCCGCGCCCTCTTCGACCAAGCGTGGCAAACCGCCGAAACACAAGGCGCGTTCGACAGC
CTGTTTTTCAATTCAGACGGCATCCTGCTCGAAGGCGGCAGAAGCAACGTCTTCATCAAA
CATCGCGGACAATGGCTCACACCCTCTTTAGATTTAGACATTTTAAACGGCATAATGCGC
CAAGCCGTATTGGACGAACCGCAAAAATATTTGCAAACAAATCAAGTAATCGAAACACAC
ATCACACAAAAAACACTGCAAGAAGCCGAAGAAATCCGCCTCTCCAACGCCTTGCGCGGC
GTATTTGCCGCCGCCCTTGCCTGAACGCGCAAAAATGCCGTCCGAACCTGTTTCCAAAGT
TCGGACGGCATTATCCCACCATTCAAAACCGCCAATCCGCCGACACAAACACCTCGCTGT
TGCGGCGTTTCGCATACGGCACATTACTTTCCGTCCTGCCGAAACGATAATTCAACGCCG
GCACGATACCTTTGTACGACAACTTGTCGTGGCTCAAAGCCAGCGAGACATTCCATTCGC
GGTTGCGTTGCGCCTCTGTCGAGAAAGCCGCAATGCCCTTATAGTTGCGGCGGGCATAAG
ACGCGGAAACCCGACTGTTCAAACCGCCCAACTGCCGCCACTCCTGCGCCCAACCGGCAT
AAACACCGTTGCGCCGGTAGGCGGCATTATTGACCGCGCCGCCCACCGTTTCGCGTTTCG
GCACAAACCGCACAAACTGCCAGCCGCCGAACACAGTTGCCGATTCGCCCAAACGTTTTG
CCGACGAAACATAAAACCCGTCCTGCCTGCCGTTATTGTATTCCGCCCTATCCTGTTCGC
GGTAGCGTTGGCGGTAATGTTCCAGCGCGACCGAAAATTGCCATCCCGGGTTTGGGCGGT
AAGTATGGGACAGCTGCACGCCGACTCCGTGCGCCAGCATATACGGCGGCAGGCGGCGGT
TGTTTACCCGTTTTGTTTTCGCATCAAAGCCGTCGCTGCCCGACAACTGCACCTGATAAA
```

```
ACGGCAAAATCCCCGCCGTCTGCCGTGCATTTTTATACTGCCAACCCAAATACGCCCTGC
CGAACCCGTCATCATAAGCTGATTTTTTACTGAAATAATAGCTCGTGCCGCCGATATTGG
AACGGAACAACAAATAATGATTATCTGCCAACGGCGTCAGCTTTTCCGCCTCGATTTCAT
AATTCAACCCTGCCGCCCGCTCCGCCCGGCTGACACTGCATATCTGCCGGCCTCCGTTTT
GCCGGCAATATTGCGGCGCGGCATTATTGGCATTTCTATTGACCGCCGGACTGATGCCGC
CCGAAAAACGCCAGCCCGTCAGCCCCTCCGTTTTTTTCCGAAAACGCCCCACATTTTCCA
AAACCGGTGCCGGCAAATCCAATTTTGCCGCCTCCGCAAAATGCCTTTCTGCCGACTTCA
GCCGGAAATCGTCAAACTCCGCCGCCGCCAAATCCAGCAAAATCCGCTCGTCTGCCGCAT
TTTCCCCGTGCAGTTCCCGATACCGCGCCACCGCCTCCGCCGGCCTTCCCGCCAATTTCG
CCAGCAAAGCCCGCGCCCTGCCGTACAAAACCGCGTCATAATCCGGCAGCTTGGCATACA
AATCCGCCAACGAAGCGATTAAATCCGCCTGATTGCCGTTGAGCGCGTCGCGCAAACTAT
GTTCCAACATTTTCGGATGCGCCAACAAAAAATCCCCGTCAACCACGCGCGGGGCATCAT
TTTCAACTTTCCAATCTGATTCCGCCCACTTATCCGACACCGACCGCTGCACCTGCAACA
ATGCCTTGTCATCCAAAATCGCGGGCGCATCCGCCCCATAGGCGGCAGAAACACCTGCCG
CACACCAAACAACCAAAAAGCCGTATCTGAAATACAACATACCCTGTCATTTACCTTTCT
GGCAAACACGCCGCCGAAGCACGTCAAACCATCCGAAAAACAGGCAGAAACCCGTGAAAA
CCGGCTTTGCCGCGTCGAAAGCAGGCAAACAAAAACCGCCGCCCGATTTTCAAAGGGCGGA
TTTCACATTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTAC
AAATAGTACGGAACCGATTCACTCGTGCTTAAGCACCTTAGAGAATCGTTCTCTTTGAGC
TGAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATAACAGCAACCCTGTCGCC
GTCATTCCCGCAAAAGCGGGAATGACGAAGCTATCCGCACAGAAACCTGCACCACGTCAT
TCCCACGAAAGTGGGAATCCAGAACGTAAAATCTGAAGAAACCGTTTTATCCGATACGTT
TCCGCACCGACAGACCTAGATTCCCGCTTTCGCGGGAATGACGGCGGAAAGGTTGCTGTT
TTTCCGATAAATTCCTGCCGCTCTTCGTTTTTGGGATGGCGGGAAATAAAACAAAAGCGC
GCGTATCAAAAAACAAAAATGCAAAGAACGGCGTTGGCAATTTTAAGGTTTGCGCCTTAG
CCGCACTTATTCGCAAAAAAAACCGCACGGCGTTGACCGTGCGGTTTTTTATCTGAAAGC
TTCAGACGGCATTGCTTACATCATGCCGCCCATACCACCCATGCCGCCCATATCAGGCAC
AGCCGGTTTGTCTTCGGGGATTTCAGCGATCATGCAATCAGTGGTCAGCATCAAGCCGGC
GATAGATGCGGCGTGTTGCAGCGCAGAACGGGTTACTTTGGCGGGGTCGAGTACGCCCAT
TTCGATCATATCGCCGTATTCGCCGCTGCCAGCGTTGTAACCGTAGTTGCCTTTGCCTTC
CAATACTTTGTTCACAACCACGCTGGGTTCGCCGCCTGCGTTGGCAACGATTTGGCGCAG
CGGAGACTCAACGGCGCGCAAGACGATTTGTACGCCTGCGTCTTGGTCGGCATTGCCGGT
GTGCAGGTTTTCCAAAGCAGCACGGGCACGCAACAGGGCTACGCCGCCGCCTGCAACCAC
GCCTTCTTCAACGGCTGCGCGGGTAGCGTGCAGCGCGTCTTCCACGCGGTCTTTTTTCTC
TTTCATTTCGACTTCGGTCGCGGCACCGACTTTGATGACTGCCACGCCGCCTGCCAATTT
AGCCACGCGCTCTTGCAGTTTTTCTTTGTCGTAATCGCTGGTTGCGGTTTCGATTTGTTG
GCGGATTTCGGCAACACGCGCTTCGATTTGGGCTGCGTCGCCAAAGCCGTCGATGATGGT
GGTGTTTTCTTTACCGATTTCGATGCGTTTGGCTTGACCCAAGTCGTCCAAAGTCGCTTT
TTCCAAAGACAGACCGACTTCTTCGGAAATCACCACGCCGCCGGTCAGGATGGCGATGTC
TTGCAACATCGCTTTGCGGCGGTCGCCGAAGCCAGGGGCTTTGACGGCAACGGTTTTCAG
GATGCCTCGGATGTTGTTCACGACCAAAGTCGCCAAGGCTTCGCCTTCTACGTCTTCAGC
GATAATCAACAGCGGACGGCTGGCTTTTGCCACTTGTTCCAAAACAGGCAGCAGGTCGCG
GATGTTGCTGATTTTTTTGTCGAACAACAATACAAACGGATTGTCCAAAGCAGCGATTTG
TTTTTCCGCATCGTTGATGAAGTAAGGAGACAGGTAGCCGCGGTCGAACTGCATACCTTC
AACTACGTCCAGCTCGTTTTCCAAAGACTTGCCGTCTTCAACGGTAATCACGCCTTCTTT
GCCGACTTTTTCCATCGCTTCGGCGATAATCGCGCCGACTTGTTCGTCGGAGTTGGCGGA
AATAGAGCCGACTTGGGCGATTTCTTTAGAAGTGTCGCAAGGTTTGGCGATGTTTTTCAG
TTCGTCAACCAAAGCGGCGACGGCTTTATCGATACCGCGTTTCAGGTCGGTCGGATTCAT
ACCTGCGGTAACATATTTCATACCTTCGGCAACGATGGATTGCGCCAGTACGGTGGCGGT
AGTCGTACCGTCGCCTGCCACGTCGTTGGTTTTGGACGCAACTTCTTTCACCATTTGCGC
GCCCATATTTTCAAACTTGTCTTTCAGTTCGATTTCTTTGGCGACGGTTACGCCGTCTTT
GGTGATGTGCGGGCCGCCGAATGCGCGGTCAACGACTACGTTGCGACCTTTGGGGCCCAA
GGTTACGCGGACGGCGTTTGCCAGAATGTTCACGCCGTTTACCATTTTTTGACGGACTTC
ATTGCCGAACTGTACGTCTTTTGCTGCCATTTCAATTCTCCAAAAATCATTAAAACTGTC
TGATAAAACCGTTTATGCCGTCTGAAGGCGGTTTGCCGTTTCAGACGGCATCGTGTCCGT
ATTTATTTTTCAACGATGCCGAAAATATCTTCTTCGCGCATTACCAACAGCTCTTCGCCG
TCGGCTTTTACGGTTTGGCCGCTGTATTTGCCGAAGATGATTTTGTCGCCGACTTTGACA
TCCAGCGGACGGCGGCTGCCGTCTTTACCGATTTTGCCCGCGCCCACGGCGATGACTTCG
CCCATATCGGGTTTTTCGGCGGCCGCACCCGGCAAAACGATGCCCGATGCGGTTTTTTCT
```

```
TCAGCTTCCAAGCGTTTGACGACAACGCGGTCGTGTAAAGGACGGATGGTCATATTTATG
CTCCGATAAAATAGTTTGAAAACAATCATCTGCCCGAACGGTTCAGGCAGATTGAAGTGG
AAACCGGACAGCCGTCAAGCAGCTGCCCGTATAAGTCGGCAAAATTAGGGTGTGTGCGGG
TAAATTCAAGTGAGGCGGAAAAAATTTATTTCCGCCGTTTTTTATAGTGGACTAAATTTA
AGGGGCTGTACTAGATTAGCAGATATGTTACCCTCGAAATATGAAGATAACGCACTGCAA
ATTAAAGAAAAAAGTACAGAAAGAACTGCTCCGTTTTTTGTACTGGAAGTTACCGCCCGT
TCTGCCGCCGATATTTTGGGTATCCATCCCAATTCGGCAGCACTGTTCTACCGTAAAATC
CGCACGGTTATCAACCATCATTTAGCCTTGGCTGCCGATGAGGTTTTTGAGGGCCCTGTC
GAGCCGGACGAAAGCGATTTCGGCGGACGGCGTAAAGGTAGACGTGGTCGCGGTGCAGCA
GGAAAAGTGGTTGTCTTCGGCATTCTGAAACGCAACGGACGGGTCTATACCGTTGTGGTG
GATAATGCCAAGTCTGAAACGTTACTCCCTGTCATCAAGAAGAAAATCATGCCGGACAGT
ATTGTTTATACCGATAGTCTGAGCAGCTGCGACAAGTTGGACGTGAGCGGTTTCATTTAT
TACCGCATCAACCATTCCAAGGAATTTGCAGACCGTCAGAACCACATTAACGGCATTGAG
AATTTTTGGAATCAGGCAAAACGTGTCTTGCGAAAATACAATGGAATCGATCGTAAATCT
TTCCCGCTGTTCTTGAAAGAATGCGAATTTCGATTTAACTTCGGCACACCGTCTCAACAG
CTTAAAATCCTGCGGGATTGGTGTGGGATTTAGGGCTAATCTAGTACAGCCCCTAAAATT
TTTCGTTTTCAAGCCTTCACCGCTTGCCATCAGCGTTAAATTTTTTTACGATAAGCACAT
AGATTGTAAACAATCGGCCACAAGCCGGTTTGTTTTTTCAGAAGACATTATCCCTGTCAG
ACGCTATTTCTATATATTTCGCCTATAATGGCTTGTTTTTAATAAATAATTCAAGAGGTA
TCAACGTGTCTGATTCCAAGACGAAAGAACGCGCCACATTCGGCACGCGCCGCGCGTTTA
TGATTGCCGCCATCGGGTCCGCCGTCGGCTTGGGCAATATTTGGCGTTTCCCCTATATTG
CTTTTGAAAACGGCGGCGGCGCGTTCATCCTGCCCTATCTGGTCGCGCTTCTGACGGCGG
GCATCCCGCTGCTGCTGCTCGATTATGCCATCGGCCACCGTTACCGTGGTTCTGCGCCCT
TGGCTTTCCGCCGCCTCGGACGATGGTTTGAGCCGGTCGGCTGGTGGAACGTGATGACCA
ATATCGTCATCTGCATCTATTACGCGGTAATTATCGGTTGGGCGGCAAGCTATACCTATT
ATTCGGTCAACGCCGCCTGGGGTGCGGATCCGCAGGGTTTTTTCTTTAAGGACTTCCTGC
AAATGGCGGGCCCGGAAGCCTTGGGTTTGGATTTTGTCGGCAAAGTCGCCGGTCCTTTGG
CGGGCGTGTGGGTTTTTTACCGCCGCCATTATGGCGTTGGGCGTGCAAAAGGGCGTGGCGC
GCGCCTCGTCGTTCTTTATGCCGCTGCTTTTGGTGATGTTTTTGATTATGGTCGGCATTT
CACTAACCCTGCCGGGTGCGGCAAAGGGCTTGGACGCATTGTTTACGCCCGACTGGTCGA
AACTCGCCGATTCCAAGGTCTGGGTGGCGGCATACGGGCAGATTTTCTTTTCGCTTTCCA
TCTGCTTCGGCATTATGGTTACCTATTCTTCTTATTTGAAGAAAAAAACCGACTTGGGCG
GAACGGGGCTGGTGGTCGGTTTTGCCAACAGCAGCTTTGAACTGCTCGCGGGCATCGGCG
TGTTTGCCGCATTGGGCTTTATGGCGCAGGCGGGCGGTAAGGCGGTCAACGAGGTTGCCT
CAGGCGGCATCGGTTTGGCGTTTATCGCCTTTCCGACCATTATCAACCAGGCACCGATGG
GCTGGCTGATCGGCATATTGTTTTTCGGTTCGCTGGTGTTCGCCGGCGTTACGTCGATGA
TTTCCATCCTTGAAGTGATTGTGGCGGCGATTCAGGACAAGCTGAACATCGGGCGCGTCA
ACGCCACGCTGCTGGTCTGCATTCCGATGGGCATTGTTTCCACGCTGCTGTTCGGTACGG
CGACGGGGCTGCCGGTTTTGGACGTGATGGACAAATTCGTCAACACCTACGGCATTGTTG
CCGCCGGCTTTGTTTATGTTGCCGCCATCATCATCAGCGGCAGGCTGCCGGAATTACGCA
AGCACCTGAACGCTTTGTCCTCCATCCGCATCGGCGGCTTGTGGACGGTCTGCGTCGTGG
TTACCGTCGTGATGCTCGGCTATATGCTGTTTAAAGATACCAGCGGCCTGATGGAGAAAA
ATTACGAAGGTTATCCGGATGGTTTCCTCAGTATTTTCGGCTGGGGGATGTCGGCGGCGT
TGGTCGTGTTCGGGCTGCTGCTGTCGTTGCTGCCTTGGAAACACGGTCAGGATTTCAACG
TCAAAGACGAACACGAACATGAACAAGGAGAAGAAAAATGAGTACTTCCGCCATTGTGAT
GATGATTGTCTCAATCGTGATAATCTGGGGAGGGCTGCTGCTTTCCCTGTTAAGGCTGCC
GAACGAGTAAGCCTTTAGAGCGTTAAAAATGCCGTCTGAACCGCTTCAGACGGCATTTTG
ATGTTCGGCTTGCAGGCAGGCGAGTTCGTTTGCCATTTGCTGTTCCAAGGTTTCGCGCCG
GCGGATGAGTCGGTATTCGTTGCCGTCCACCAACACCTCTGCCGCACGGTTGCGCGCGTT
GTAATTGCTCGCCATACTGGCCCCGTATGCGCCCGCGCTGCGGATAAGCAGCAAATCCCC
TTCTTCGCAGGCGATGGTGCGGTCTTTGCCGAGGAAGTCGCCGGTTTCGCAAATCGGACC
GACGATGTTGGCGGTCAGCGTCGCGATGTCTTTGGTTTCGACCGCCTCGATGTGATGATA
GGCATCATAAAGCGCCGGGCGCATCAAATCGTTCATCGCCGCATCGACCATCACAAAGTT
TTTCTCTTCGCCGTATTTGACAAACTCGACGCGTGTCAGCAGCGAACCTGCGTTGCCGAC
CAGGCTGCGGCCGGGCTCAAGAATGAGTTTCAGACGGCGTGTGCCGATCAGTTTTTGAAC
GGCTTGGGCATACGCGCCCAAATCAGGCACATTTTCGTCTTGGTAAACAATGCCGACGCC
GCCGCCTAAGTCTAAATGTTCCAAAACAATGCCTTCGGCGGCAAGCGCGTCAACCAAAAT
CAAAATGCGCTCGCAGGCTTCGACCAGCGGGCTTAAGTCGGTCAGTTGCGAACCGATGTG
GCAGTCGATGCCGATGATTTTCAAATTGGGCTGTTGTGCGGCATAGTGGTAGGCTTCGAG
```

```
CGCGTCGGCGTAGGCGATGCCGAATTTGTTGGCTTTCAGACCTGTGGAGATGTAGGGATG
GGTTTTTGCATCGACATCGGGGTTGATGCGCAGGGAGACGGGCGCGGTTTTACCCAAACG
TGCGGCAACTTTCTGAATACGGTCGATTTCGGGGATGCTTTCCATATTGAAGCATTTCAC
GCCTGCATTCAGCGCGAACTCGATTTCCGCCTCGCTTTTGCCTACGCCTGAAAATATGGT
TTTTGCCGCGTCGCCGCCTGCCGCCAAAACGCGTGCCAATTCGCCGCCGGACACAATGTC
AAAACCGCTGCCCAGCGAGGCGAAGTGTTTGATAATGCTCAGATTGCCGTTTGCCTTGAC
GGCGTAACAGACGAGCGGGTTCAAAGCGGCAAACGCGGTTTGGTAGTGTTCAAATGCTTC
GGTCAGCGCGGATTGGCTGTACACATAAAGCGGTGTGCCGAATGCTTCAGCAAGGCGGGG
GTAGGGGACTTGTTCGCAAAATAGGGTCATGTTTTCGTTTTCATTTTTGGGTTTGTGGAG
CGGATTGCGGTTTGCTTTGAAGTTGCAAACCGGTTTGGATTACGCCGAAACGCGCCTTGT
CGCCTTCTTTGGGCAGGTAGAGGTCGCCTTTGTAACCGCAGGCCGAGAGCAGGAGGGCGG
TTGCCGCCGCAAAAAATACGCCGTATTTCATCGGTAAACTTCCTTCATAAGCGCGAATGT
GGCAAGATTCGGCATCTTAAACAAAAAACACGCAAAAAGCTATGATGACCGAAAGCGAGT
TTATCCGCGCGAGCGAAGCATTATTTGAACACATCGAAGACCAAATCGACGAAAACGGCT
GGGATTTCGACTGCCGGTTTGCCGGAAACGTCCTGACCATCGAAGCCGGAGACGGCGCCC
AAATCATCGTCAACCGCCACACGCCCAATCAGGAATTGTGGATTGCCGCAAAAAGCGGCG
GCTACCATTTCGCCGAGCAAAACGGCAAATGGCTGGCAACGCGCGACGGACGCGATTTTT
ATGACGTTTTAAACGAAGCCCTGAGCGCGGCTTCGGGCGAAGCGGTGGAAATTGCGGAAT
TGTGATTTGGGTGTTATCACGGAAAGAAAAAATGAACACACGTCCCTTTTATTTCGGACT
GATATTTATCGCGATTATCGCTATACTTGCTAACTATTTAGGAAACACTGATTTTTCCCA
TCATTATCATATCAGTGCTTTAATTATTGCTATCTTGCTGGGAATGGCAATCGGCAATAC
CATTTATCCGCAATTTTCGACACAAGTGGAAAAAGGCGTTTTGTTTGCCAAAGGCGCGCT
TCTTCGCACTGGCATTGTGTTGTATGGTTTTCGCCTCACTTTTGGCGATATTGCCGATGT
AGGATTAAATGCGGTTGTCACTGATGCAATCATGCTAATTTCAACCTTCTTTTTTACCGC
ACTTTTAGGCATTCGTTATCTAAAAATGGATAAACAATTGGTTTATCTCACTGGGGCAGG
TTGCAGCATTTGCGGTGCGGCAGCAGTGATGGCGGCAGAGCCTGTTACTAAAGCAGAATC
CCATAAAGTTTCAGTGGCGATTGCCGTAGTGGTCATTTTCGGGACGCTTGCTATTTTTAC
TTACCCCTTGTTCTACACGTGGTCACAACATTTAATTAACGCCCATCAATTCGGTATTTA
TGTTGGTTCTAGTGTACACGAAGTGGCTCAAGTGTATGCGATTGGGGAAAATATTGATCC
TATCGTGGCGAATACTGCCGTCATTTCCAAAATGATCCGAGTGATGATGCTCGCCCCCTT
TTTATTAATGCTTTCTTGGTTATTAACACGTAGTAATGGAGTATCAGAAAATACATCACA
CAAAATTACAATTCCTTGGTTTGCTGTACTTTTTATTGGTGTTGCCATTTTTAATTCTTT
TGATTTATTACCAAAAGAACTCGTGAAATTATTCGTTGAAATCGATTCTTTCTTATTAAT
TTCATCAATGGCTGCGCTTGGCTTAACGACGCAAGCAAGCGCAATCAAAAAGGCAGGATT
AAAACCGTTTGTTTTAGGAATACTAACTTATTTATGGCTAGTGGTTGGTGGATTTTTAGT
GAACTATGGAATATCAAAATTAATATAAAATTCACTAAAGAGAGCGTTACCCAATGGCAC
AATTACCGCTATATCTGACTTCTGAAATCAAAGACTTTACTGTCGGCACGCCTAAAGTTT
TAGAATCATTTTCCAAACATATCCCTTATGGTGTCGTCTTTGAAGACGACGGCGACACAG
GCTACTTCTATGCCGCTTCGCAAGACGGGATTTTAGATGCCTTGCACATCTATAATGTCG
AAGATGTATCCGACAAACATATCCCCAATCATGTCTTGATTTTATGGGATGATGCCTGCA
CCATAGCCGCATTGTGTATCAACGACTACATTCATGCCGTCTATGATTTTGTCGAACAGG
CAGGATATTGCCGCAACGGCTTCCCTGAAGCAGGCGGCGAATGGGTGAAAGTCGAAAACC
GCGTCTTGGATGATGAATTGCTGGACAAAATCCTATCCCGAAATCTACATAACCCTCAC
AAAAGGATACCCAAATGCCCCTACTAGACAGTTTCAAAGTCGATCACACCCGTATGCATG
CCCCCGCCGTACGCGTGGCGAAAACCATGACTACGCCCAAAGGCGACACCATTACCGTGT
TTGACCTGCGCTTTTGCGTTCCCAACAAAGAAATCCTGCCTGGAAAAGGCATACACACGC
TGGAGCATTTGTTCGCAGGTTTTATGCGCGACCACTTGAACGGCAACGGCGTGGAAATCA
TCGACATTTCCCCGATGGGCTGCCGCACCGGTTTTTATATGAGTCTTATCGGCACGCCTT
CCGAACAGCAGGTCGCCGATGCGTGGCTGGCTTCGATGCAGGATGTTTTGAATGTCAAAG
ACCAAAGCAAAATCCCCGAGTTGAACGAATACCAATGCGGCACTTATCAAATGCACTCGC
TCGCCGAAGCGCAGCAAATCGCGCAAACGTGTTGGCGCGCAAAGTGGCGGTGAACAAAA
ATGAAGAGCTGACGCTGGATGAAGGGCTGCTGAACGCCTAATCCGCCAAAAATGCCGTCT
GAACAAGGGTTTCAGACGGCATTTGCCTTTTCCGTTATAATCCGGGGTTGTCCGGGGGCG
GGTTTTAAGCCGGCATCGTCCTTCCCTATTTTTTTCTGTCCCTTATCGGTTTTAAGCGGG
TTTTTTATGTCCAACAGACCTACACTCCTCCTCGTTGACGGATCGTCCTACCTCTACCGT
GCGTATCACGCGATGGGGCAAAACCTGACCGCCCCCGACGGCGCGCCGACGGGTGCGCTG
TATGGTGTATTGAATATGTTGCGCCGTTTGCGGTCGGAATATCCGCACGATTATTGCGCG
GTGGTTTTTGATGCGAAAGGCAAAAATTTCCGCCATCAAATGTTTGAAGAATACAAGGCG
ACGCGCCCGCCGATGCCCGACGATTTGCGCCCGCAGGCGGAAGCACTGCCGGATTTAGTG
```

```
CGCCTGACAGGCTGGCCGGTATTGGTGATTGGGCAGGTGGAGGCGGACGATGTGATCGGC
ACGCTGGCGAAACAGGGGGCGGAACATGGTTTGCGAGTCATTGTTTCGACCGGCGATAAG
GACATGGCGCAGTTGGTGGATGAGCGCGTTACGCTGGTGAACACGATGAGCAGCGAAACG
CTGGACATTGAAGGCGTGAAGGCAAAATTCGGCGTGCGCCCCGACCAAATCCGCGATTAT
CTCGCGCTGATGGGCGACAAGGTGGACAACGTGCCGGGCGTGGAAAAATGCGGCCCGAAA
ACGGCGGTGAAATGGCTGGAAGCCTACGGTTCGCTGGCTGGTGTGATGGAACACGCTTCG
GAAATCAAGGGCAAAGTGGGCGAAAACCTGCAAGCCGCGCTGCCCCAACTGCCGCTGTCG
TATGATTTGGTCACGATTAAAACCGATGTGGACTTGCACGCCGAGCTTTCAGACGGCATC
GAAAGCCTGCGCCGTACTACGCCGAAATGGGCGCAGCTGGTTGTCGATTTCAAACGCTGG
GGCTTCCGCACCTGGCTGAAAGAAGCGGAATCAAACATGAATACCGGCTCGACCGATGAT
TTGTTCGGCAGCGACAGCATCGGCGAGCAGGCGGCTTTGAATGCGGAAATGCCGTTTGAA
AAACAAGCCGAAAAAGCCACCGCCCCCGAAAAACTGGATTATCAAGCCGTTACCACCGAA
GCGCAGTTTGCCGCTTTGTTGGACAAACTGTCGCGGGCGGACACAATCGGCATCGATACG
GAAACCACGTCATTAGACGCGATGAACGCCTCGCTGGTCGGCATCAGCATCGCTTTCCAA
GCAGGCGAAGCGGTTTACATCCCCGTAGGACACAGCCTGACCGCCGCGCCTGAACAGCTT
GATTTACAAGACGTATTAGGCCGTCTGAAACCGCATTTGGGAAACCCCGCCCTAAAAAAA
ATCGGGCAAACCTCAAATACGACCAACACGTTTTCGCCAACTACGGCATCGCCCTGAAC
GGCATTGCCGGCGACGCCATGCTCGCTTCCTACATCATCGAGAGCCATCTCGGACACGGC
TTGGACGAATTGTCCGAACGCTGGCTCGGCTTGGAAACCATTACCTACGAATCGCTGTGC
GGCAAAGGCGCGAAGCAAATCGGTTTTGCCGATGTCGCCATCGGGCAGGCGACCGAATAC
GCCGCCCAAGACGCCGATTTCGCCCTGCGCCTCGAAGCGCACCTGCGCGCGCAAATGGAC
GAAAAACAGCTTGAAATGTATGAAAAAATGGAGCTGCCCGTCGCGCAGGTATTGTTTGAA
ATGGAACGCAACGGCGTGCAAATCGACCGCGCCGAACTCGCCCGCCAAAGCGCGGAACTC
GGCGCCGAGCTGATGAAGCTCGAACAGGAAGCCTATGCCGCCGCAGGCCAGCCGTTCAAC
CTCAATTCGCCCAAACAGCTGCAAGAAATCCTGTTCGACAAAATGGGCATCCCCACCAAA
GGCCTGAAAAAAACCGCCAAAGGCGGCATTTCCACCAACGAAGCCGTGCTCGAACAGCTC
GCGCCCGACTACCCCCTGCCTAAAATCATCCTGCAAAACCGCAGCCTGGCGAAGCTCAAA
TCCACCTACACCGACAAACTACCCGAAATGATTTCCCCCAAGGACGGCCGCGTGCATACC
ACCTACGCCCAAGCCGTCGCCATTACCGGCCGCCTCGCCAGCAACAACCCCAACCTGCAA
AATATCCCCATCCGTACCGAAGAAGGGCGTAAAGTCCGCCGCGCCTTTACCGCACCGCAA
GGCAGCGTCATCGTTTCCGCCGACTATTCCCAAATCGAGCTGCGCATTATGGCGCACCTC
TCCGGCGACAAAAACCCTGATTGCCGCGTTCCAAAACGGCGAAGACGTACACCGCCGCACC
GCCGCCGAAGTGTTCGGCACTGCGCCCGAAAACGTCTCGTCCGAGCAACGCCGCTATGCC
AAAAGCATCAACTTCGGCTTAATTTACGGTATGGGGCAATACGGTTTGGCAAAATCATTG
GGCATCGACAACCTTTCCGCCAAAAACTTTATCGACCGCTACTTCGCCCGCTACCCCGGC
GTCGCCGAATACATGCAGCGCACCAAAGAACAAGCCGCCGCCCAAGGCTACGTCGAAACC
CTGTTCGGCAGAAGGCTCTACCTGCCCGACATCCGCAACAAAAACGCCAACGCCCGCGCC
GGAGCCGAACGCGCTGCCATCAACGCCCCCATGCAGGGCACCGCCTCCGACCTCATCAAA
CGCGCCATGATAGACGTGTCCCGCTGGCTTTCAGAGTGCGAAGCCTCCCCGTGGGACGAA
CTCTTACAAAGCAAACTGATTATGCAGGTGCATGACGAACTGGTGCTGGAAGTCGTTGAA
ACCGAACTGGATTTTGTCAAAGAAAAACTGCCGCAGATTATGGCGAAAGTGGACGGCGGA
TTATTGGATGTACCGCTGGTGGCTGAGGTTGGCGTAGGGGAGAATTGGGAAGAGGCACAT
TGATTGAAAGGTGTTATATGCTATCTTTATTTAAATAAAATTTAATTTTTGGTATATTTT
TTCTAAATGTTCCTATAGTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGC
AGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTT
CTCTTTGAGCTAAGGCGAGACAACGCTGTACTGGTTTTTGTTAATCCGCTATATTCCGCC
ATCTCTAAGATTTACAGCGATACACGGGTGATTTAAGGAATGCCCGAACCGTCATTCCCG
CAACTTTTCGTCATTCCCACGAAAGTGGGAATCTAGAAATAAAAAGCAGCAGGAATTTAT
CGGAAATAACTGAAACCGAACAGACTAGATTCCCACCTGCGTGGGAATGACAATTCGAGA
CCTTTGCAATAACATAGGTTACTAAAATTTTATGCTCAATCTCATTTTCAAAATGCAAAA
CTTTTCTGATTTTTCCTACTTTTTGCTCAATATTAGGAAGGTTTTAGGCAATTGAAAATT
TTTTGGCGCATTTTTATGCGTCAAATTTCGTTAACAGACTATTTTTGCAAAGGTCTCAAT
TCATAAGTTTCCCGAAATTCCAACATAACCGAAACCTGACAATAACCGTAGCAACTGAAC
CGTCATTCCCGCGCAGGCGGGAATCTAGACCTTAGAACAACAGCAATATTCAAAGATTAT
CTGAAAGTCCGAGATTCTAGATTCCCGCTTTCGCGGGAATGACGAAAAGCAAGCCGTAGG
TCGGATACTTGTATCCGACAAAAGCCTGCCATCTCAAATAGCCGTCGGATTCGAGAATCC
GACCTGCCAAACCGGGCGCGGACGCTCCGGCCGGCAGTTAGTACGCAAATCGAACAGAAC
ATCACAAAAAAGCCCGATTCGGATTTTCCAATCGGGCTTTTTTGCGCCCGTTTTGTCATC
CCGTGAAATATCCGCATGACAAAAAATATAGTGAATTAACAAAAAATCAGGACAAGGCGACG
```

-581-

AAGCCGCAGACAGTACAGATAGTACGGTAAGGCGAGGCAACGCTGTACTGGTTTAAATTT
AATTCACTATAATGCAAAATCATGACAAAACCGGCGCGAGGTTACACAAACGGATGAAAT
CAACCGATATTCAAACACAGTCATTTTTAGCGCATTTTCAGCGTATCGTTAATGCGGAAA
ATTTCGTGAACAGGTTTTTTGCACAGGCCTCCGCCTCGTTTCGCGGGATGGGAAACCGTA
TTAGAAAACGGACGCACGCAACATAAACCCCGAAAGTGATGATAAGATGATGATTTAACG
TACTGCTTTAATTATTTAAGGAATTATCGTGTTTCCCGACAAATACAAGTTGAGTTTGAA
AGAAAATATTTTTTTGGCAAAGAAAGTATTGGTTGCCCAAATTCACAACCTCAGTCGTTT
TGAGAATTGTCAGACGACCTTGTTGCAGACCGAACAAATTATCCATGGCAAAAATGTAGC
CTCCGCGTCACTGGAAGACATCCAAACCATCTTGAACCTGAAACGTGCCTATCAATATGT
GATTTCGCATATTTCAAACGGCGAACCGGTCGATATTTCACTCCTTAAAAAAATCAACAA
CATTGTTGCCAAGGACGATTCTTTGGCACCCGGTGATTTCCGTACCGGTTCGGTCGGCGT
AACGCTATTGGACGGTTCCCGTCATGCCCCGAATCCAGTGAAGGAAATTGAAGTGGCCCG
CGTGTTACAAAATATCGGACTGCAAAGCGGTTCGACGACGGAGGCAGCCGTCCGTTTTAT
GCTTTATTGTATGCGGCAGCAGGTTTTTTGGGACGGCAACAAACGAACGGCAACCTTATT
TGCCAACGGTCTGATGATGGCGGGGGGCTGCGGCATCTTGGAAATCTCCGAAATGCAGAT
GCCGCAATTCAATGAAAAACTGTCCGCATTCTATCGCTCCGGCGACGATACCGATATTTC
CAAGTTTGTGTATCAAAATTGTATATCGGGCATAGACTGAGACCTTTGCAAAATTCCCCA
AAACCCCTTAAATTCCCACCAAGACATTTAGGGGATTTTCCATGAGCACCTTCTTCCAGC
AAACCGCCCAAGCCATGATTGCCAGACACATCGACCGTTTCCCGCTATTGAAGTTGGACC
AGGTGATTGATTGGCAGCCGATCGAGCAGTACCTGAACCGTCAAAAAACCCGTTACCTTA
GAGACCACCGCGGCCGTCCCGCCTATCCCCTGCTGTCCATGTTCAAAGCCGTCCTGCTCG
GACAATGGCACAGCCTCTCCGATCCCGAACTCGAACACAGCCTCATTACCCGCATCGATT
TCAACCTGTTTTGCCGTTTTGACGAACTGAGCATCCCCGATTACAGCACCTTATGCCGCT
ACCGCAACCGGCTGGCGCAAGACGACACCCTGTCCGAACTGTTGGAACTGATTAACCGCC
AACTGACCGAAAAAGGCTTAAAAGTAGAGAAAGCATCCGCCGCCGTCGTTGACGCCACCA
TTATTCAGACCGTCGGCAGCAAACAGCGCCAGGCTATAGAAGTCGATGAGGAAGGACAAA
TCAACGGCCAAACCACACCGAGTAAGGACAGCGATGCCCGTTGGATAAAGAAAAACGGCC
TCTACAAACTCGGTTACAAACAACATACCCGTACCGATGCGGAAGGCTATATCGAGAAAC
TGCACATTACCCCCGCCAATGCCCATGAGTGCAAACACCTGCCGCCTTTGTTGGAAGGAC
TGCCCAAAGGTCGACCGTCTATGCCGACAAAGGCTACGACAGTGCGGAAAACCGGCAACA
TCTGGAAGAACATCAGTTGCAGGACGGCATTATGCGCAAAGCCTGCCGCAACCGTCCGCT
GACGGAAACGCAAACCAAACGCAACCGGTATTTGTCGAAGACCCGTTATAGTGGATTAAA
TTTAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGCAAGGCGAGGC
AACGCCGTACTGGTTTAAATTTAATCCACTATATGTGGTCGAACAGAGCTTCGGTACGCT
GCACCGTAAATTCCGCTACGCTCGGGCAGCCTATTTCGGACTGATTAAAGTGAGTGCGCA
AAGCCATCTGAAGGCGATGTGTTTGAACCTTTTGAAAGCGGCCAACAGGCTAAGTGCGCC
CGCTGCCGCCTAAAAAGCAGCCCGGATGCCTGATTATCGGGTGTCCGTGGAGGATTAAGG
GGGTATTTGGGTAGAATTAGGAGGTATTTGGGGCGAAAATAGACGAAAACCTGTGTTTGG
GTTTCGGCTGTCGGGAGGGAAAGGAATTTTGCAAAGGTCTCAGACTATTTCGGCACGGAC
GAAGATATAGATTTCCCCGACCCACCAAACATGGGCTAAAAATCAATTTGACGGTTATCA
GACAATGGAGCAGGCACAAGGCGGCGGCAGAAAAAGGGTTTGACAGCGCACGGTGGCATC
GTCAGACCCCTTTCGGCATATCCGGCGGTTACCAGCGGTAGCCTAATTTGATGCCCGCGC
TGTGTTGCGCTTCCAGTTGCGGGCCTTTGGCGGCGGCAGCGTGGAGGGACAGCGTGAAAC
CTTTGATTTCGGCGTTTACGCCCCATTCCGCACTGCGGGTTTTGCCGAAATCCTGAGCCA
ATACGGCGGTATTGACGCGTGTTCGGACTTTGCCCGAAGCGGCATCGGTATAGGACAGGC
TCAAATAAGGCGTGATGGAAATGTGTTGCGCCGGTTTGAATGAATAATCTGCCTTAATGC
CCGCGCGGTAGCGGTTGAATGCAAGGCCGGGGGTGGCGATATTGACGTTTTCGTAGCGGT
AATCCGCTTTTTGGACGAAATAGCGCGTTGCGCCGATGTGCGGTTCGATGCCGAATCCGC
CGAAACCGGCGCGGTATCGTGCCTGAATGCCGTAATGCAGCACGCGGCGGCGGATTTTGC
CTCCGATGCCGTCTGAAAGGCTGCCGCTGCTAAAACCCGCGCCCGCGCTGATGCCGATGT
AGAACCTGTCGATGCCGTATTGCCCGAAAACGGCGCCGTGGGCAAGCCGTGCCGAGTTGC
CGATGCCGTCGTCGAAGGTGTTTTCGGTCCGGTTGTGCGAAAACAGGATGCCGACGCGCC
CGCTGCCGAGGTTTTTCTGCATACCGATTTGGCGCAGGTCGGTTTGTTGGCGGTAGGCGC
GGAAATCTTGCGAACGGTAGTGTTTGGTGTCCCGGATGCCGCTTGTCCAAACGGCGTTGC
GGCGGTCTTCGGCAAATACGCGGTCTAATTCGTCCTGTACGGCGAAAACGCTGTTGAGCG
TGGCGGAAAATTCACTCAAACCGCTATTGGCATAACGGCTGATCAGGTCGCGCTGCGGTT
GGGGCTGCGGTTGGGGTTGCAGTTGCGGCAAATCCCGGCGGGCGCGGCGGGCGCGGGGGA
AGGCGGTGGTAGCCGGCCGGGTTTCCGCTTCGCGCTGTTTCGCCAAGGCGGTGTCTTTAT
CCGCCTGCACCCGTTTTTTCTCTTCCTCCGCCTGCATAATGCCGACATTTTCCCCGCCTG

```
CCTGCCGGGCCGGTTCGGCAACGCTTTCTGTCTTTTCGACGGCATCGCGCCCGGCCGCAA
TCAGCGCGTCAAGGCTTTGCGCGTTGTCTTTTTCCGCCTGTTTTTTGGCTTCTGCCTTGC
CGAGTTTGTCGGAAAGCTCTTGTTCTTTGACCGGATTATGCAGGCGGAACTCGCCGTCTT
TGCGGATGAGTTGGTAACGCCACGCGCCGGCATCGACGTGTTCGTTTTGCAGGGTGAAAT
TAAGGTTTTCGGACAGCGGTTTGTTGTCTTTTCCTTCCACTACCGTCAATTGTTCGAGGC
TTGCAGGTTCGTTGCCGGTATTGTTGACCGCCAAGGTGTAAGTGCCTTCGGAACTTTCCG
CCAGCTTCAATTTGTCGCTGCGGTAGCCGAAGAGTTCCGACATAAAGCGGAATGTTCCCT
GACCGTTCAATTTGCCGTTTACCGTCAGCGTGTTGAAACGGGATTCTACCGAAGTTGGCG
GTGTAACGGATAATAGGGAACGGCGCGAACGGCGCGAACGGCGGCGCGGCGCATCTGTCG
CACTGCCGGTTTGCGCCCCTGCCGCATCGTGGCGATAGGCGGAATTGAGTGTAATGGTGG
CGTTGTCAAGGTTTAAATTGCCTAATTCCGTGCCTGACGGCAGCGTCCATTCGCTGTCTT
TTAAGTGTAATGCCGTATCCTTGCCGCCGCTGATTTGTCCGGTAAAGCGGCTGCTTTCAA
AATGGAATACTGCCTTATCGGCTAGGGAGACATTACCGTTGAGTGCGGAATGGCTTACGT
TTGCCTTAGCGTTGCCGGAAAGCGTCAGACTGCCGTTTTGTACGGCGTGGTCGCTTAGAT
TAAATGAAGCATTGCCCGAAGCCGATGTGTTGCCGTTTAATGTGGCTTGATTAAATGTTG
CTTGGGCATTGCCCACGAGGCTAAGGTTGCCGTTTTGGGTGGCGTTGTGGCTGACTGTAT
AACGTGTATCGCCATTTGCACTAAGATTGCCGTTGAGTGTGGCAAGCCCTGTGAGATTTA
AATGAGCGTGATCGGCAAGATCGACATTGCCGCTGATGTCGGTCTTAGTCAATGAAGCAA
TCACTTTATCGTCGGTAATGGTTTTTTCGACACAATTTGTCAGACCCGTCCAGTCCGAAC
GTGTACAGATTGTGTGGCTTTGATGCGGTGCGACACCAAAAACTGCTTGGGCGTGATTGC
TCAAATGCCAATCGCCTTTCACTTTGGCAACATTGCGGGAAACCACCGCCTGTCCGCCTT
TAATTTGGAAGTTTTCCGCTTTAAATGTGCGGTTGATCCAGTCGTTGTCCCACACGATTT
CCCCGCGAGGAATGCCCTCTTTTTGCGACCAATGGTCGTTTAAATGATTGTAGGCGTGCG
GTGTTGGTCTGCCGCTGAAAAACAGTTTGCCGTTTGTTTGCGTGATGTTGCCGTTTAAAT
TTGTTCCGCCGGAAAGCAGCAGGGTGCGGTCTTCTGCGGCGGGCTGGTAAACAAGGTTGA
GCCGCCCGTTCGTTTTGGTCGTATCTTTCTCGCCAAACCAACCGTTGTAGGCAATTTCTT
TTTTGCTATCCAAGCTGTTGTTATTGCCGGTTGTAGCAATATCTTTATTGCCTGTAATGG
TAACGGTGGATTCTTTGTCTTGATTGTGGTTGACAATCATCGCCCCTTCATCGGTATTTT
GAATACGGTGGAACGAAAGCGAATGCCCGTTTAAATCCAAACGTCCGCCGCGAAAGCCGA
AATAGAGTTTGTCGGGGTTGAACTGATTATCGGCATTCAGTTGCACCGTACCCCTGCCGC
TGACCAAGCCGATTTCACTAAAGGCTTGTTTTTTGCCTTTATCGTCTGCCTGCTGATCCA
AAATGACTGTACCGTCGCCCACGCTGATCGAGCCTTGGTTTTCCCCTTTGGCTTGAACGT
GCAGCGTGCCTTTGCCGATTTTGGACAGGCGGTCGTTTGCCACGCCGTTTACTTTCCAAG
TAACGGTACTGTCTTCACTGATATGAACGCCCGCGCCTTGCCAAGTTTCGTTATTTTCAG
GCGAGACCGTAAAATCTCCTTGGAAATATAATCCTCCAGCACCTTGATTGATGTTGCTGG
TAAGTATCAATTCGCCTTTTCCTTCGTCAATAAAGGAAATATTTTCTCCATTATTCAGTC
TGGGTCGATAACTGTTGACACCACCTGCAGCATGATAAACAGGTTCTCTTGCTGTCTCGG
ATAAAGAAACATTAAACAATTGAACGGTTCGTGTTTTTAATCTATTAGGCAGAGAATTGT
GTTCATGTTTGGCATTGATTTTTCCTGTGCCATTATTATCGTCGTTAAAAGAGTATTTCC
CATTTTGACGTGGTTCGTAGAATACTGAATGGGTATCTCCAGCAAAGATTTCATCATAGA
ACCAATCTTTACGAACCAGCTGGAAGCCATTGCTTTTTCCTATATAGGGGTTGCCCGTTT
GCAATACCCCATTAATTAACCACTTTTGCTTTTGGGCATCATAGATAAACATTGGTGAGC
CACTGTCGCCAAATGAGCCTCCTGTTGGTAAAAAACCATATGGGCTATGTTTAATTTTTT
CACTACCTAAGTTGACTGTGCCACCACCTGATCCATTTGTGCAAAGGTATTGCCACCAA
CGAGCCAAGAATACGCACTTGCAATATGATATGAACTTTCGCGGTTATTGGGCTCATCTT
CATCAGATCGCCAATATTGCCTGCCTGCCCCAATACGAACACGGTCAGGGTAATTATTTT
GATCGATATATTTCCGCCCATCCATATAACTGGTCATTTCAACAGGTTCTGCATCTGTGA
CAAATTTATGCAAACGCGGCATATGATAATCGCCGCCATAAGGATGGCCTTTAGTCCCTG
CTTTATAATTATTCCGTTTCACAATTTTATAAGTAAAACGATGTTGATCGGGATTTCTTC
CTTCCGCACCAAAATCAACGTTGTTATAGCCGCCGTTATGTGCCACGCTCACAATATATT
GATCGCCCACCAATGCCGCCACGCCGTTACGCGACACCACAGAAAAATCAATCATCGGGG
CTTTTGTCATTGATTTGCCGACCAACTCCCCTTTTTTGTTGTAAACCTCAATATCTTTCG
CCCCGACTGCAAACTTGCCTTTATTTTCGGCAAAGTCGCGATAGTATTGGTAGTTGATGC
CGAAATAAGTGTGTCCCGCCCAGGCTTGGGGAAGAATGCCGAACGACAGGCATATGGCTA
AGTAAGCAGGCGAGAAGCGGATGCGGCCGGTTTTCGGGGCTTTGCGGTGTGTTTCGGTTG
TCCGTTTGTCGGTTGTTTTCATTATTTTTCCTTATCTGACGGGATTCGGGTTTGTTTGGG
AGGGCGCGGCTTCCGCTTCCGGGCGGCGCGCGGGATGTGCCTATATGTGCGGTTCGGCGT
TCGGGCGGATATGAAGCACGCCCTAGGATTTGTCATTAATTTTTGCCTTGGTCTCGGCTT
CTTCCAATCACGAAAGCACCCGCCAAGGCAAACACTGTGCCGCCGGCAAGGGAGGCGGCG
```

-583-

```
GTTGCGGGGTAGCCGCTCCATACGAGGAAGACGGCAAAAAGCAGTATCAGGATGGCGCTG
ATGAAGCCGTACAGTTGCCCGCGCCTGTTGAAGGTTTGGTCTTGCCGTATGGTTTCGTGC
CGGACGGCTTGTTCTTTTTCCGCCATTGCCATAATGCGGTCTGCCCCGTTGCTGATAATG
TCGTTGTATTGCGCCAAGTCGGACGGCGGCGGCAACGGTCCCGAATGGAAACACCGGGCT
ATCATTATTTGCACGTACTCGTCGGACAGGATTTGCTCGACAAGCTCCGGGGATTTGACG
ACGGTTTCGACAGCCTGCCGCGCCTTGTCCTGTGCGTTTTCGGTCATTTTCGCGCTTTCT
CTATGGCGCGTTGAAAATCGCCGCCGATGTTTTTGAGATCGTCGGCGGGATTGGGGCGGA
TGGCGGTTTTTGCGGGATGGAACAGACCCAGCAGCGAGCCTATACCGAGCAGGAGGGCGT
ATGTGTTTCGTTTTTTCATATGGTTATATATTAGGTCAGGCGGACGGATTTATCAAGCAT
TTTTGCGGTTTTATACCGTCTGAAAGCCAAACCGTCGGACTTCAGACGGCATTTGCTATA
ATCGCGGCTGTTTTGAATTTTCGGGGGTTTTATGTCGGATAACGTTCCAACGATTGCGGC
AGTCGCTACCGCACCAGGGCGCGGCGGCGTGGGCGTGATACGCATATCGGGGAAAAACCT
GCTGCCGATGGCGCAGGCTTTGTGCGGGAAAACGCCCAAGCCGCGTACCGCAACCTATGC
TGATTTTACGGACACGGACGGACAGGCAATCGACAGCGGGCTTTTGCTGTTTTTTGCCGC
ACCGGCAAGTTTTACGGGTGAAGATGTCATCGAGCTTCAGGGACACGGCGGGCCGGTGGT
GATGGATATGCTGCTGAACCGCTGTTTGGAATTGGGCGCGCGCCTTGCCGAACCGGGCGA
GTTTACGAAGCGTGCGTTTTTGAACGACAAACTGGACTTGGCACAGGCGGAAGGCGTGGC
GGATTTGATTGACGCATCCAGCCGTTCGGCGGCGCGTCTGGCTTTGCGCTCGCTCAAGGG
CGATTTTTCGCGGCGGATACACGGTCTGGTCGAAGACTTGATTACCTTGCGGATGCTGGT
CGAAGCGACGTTAGATTTTCCCGAGGAAGACATTGATTTTCTCGAAGCGGCAGACGCACG
CGGCAAACTGGACGGCTTGCGCCGCGCCGTGGATGATGTGCTTGCCAACGCGCAGCAGGG
CGCGATTTTGCGCGAAGGTCTGAATGTCGTATTGGTCGGCGCGCCGAATGTGGGCAAGTC
CAGCCTGCTGAACGCGTTGGCGGGCGACGAAGTGGCGATTGTTACCGATATTGCCGGAAC
GACGCGCGACGCGGTCAGGGAACGTATCCTGATTGACGGCGTGCCGGTGCATATTGTCGA
TACGGCAGGTTTGCGCGAGACGGACGACGTGGTCGAGCGTATCGGCATCGAACGCAGCCG
CAAAGCCGTATCCGAAGCCGATGTCGCGCTGGTGTTGGTCGATCCGCGCGAGGGTTTGAA
TGAAAAGACACGGGCGATTTTGGACGCGTTGCCGCCGGAGTTGAAACGCATCGAAATCCA
CAGCAAATCCGATTTGCACGCACACGCGGCAGGCGGGTTCGGTACGGGCGCGGAAACCGT
CATCGCGTTGTCGGCGAAAACCGGCGACGGCTTGGACGCGCTGAAACGGACGTTGTTGCG
CGAGGCCGGTTGGCAGGGCGAAAGCGAAGGGTTGTTTTTGGCGCGGACGCGGCACGTCAA
CGCACTCAAAGCAGCGCAGGAAGAATTGTCGCTGGCGGCATTGTGCGGCAACCATCAAAT
CGAGCTGTTTGCCGAACACTTGCGCTTGGCGCAGGTCGCATGCGGCGAAATCACGGGCGA
GTTTACGGCGGACGACCTGCTCGGCGTGATTTTTTCGAGGTTTTGTATCGGAAAATAAAC
GGATCGAAAGCATCGTGGTGGTGTCCGGCTGAACATTCCGTTATCCCATAAAAACGGGAA
TCCGATCCGTTTGGTTTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCA
GACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTGAGCACCTTAGAGAATCGTTC
TCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATAGTTTTTTT
GAATTTCGGGCAACGCTTGAATCTTCATTCCGCGCAGGCGGAAATTATCGGTGCGGTACG
GCAACTTTTTTCGATATGAAAAGACCGTCATTCCTGTAAAAACAAAAAATCAAAAACAGA
AAAATTGAAATTCGTCATTCCCGCGCAGGCGGGAATCCAGGACGTAAAATCTATAGTGGAT
TAACAAAAACCAGTACAGCGTTGCCTTGACTTAGCTCGAAGAGAACGATTCTCTAAGGTG
CTGAAGCACCGAGTGAGTCGGTTCCGTACTATCCGTACTGTCTGCGGCTTCGTCGCCTTG
TCCTGATTTTTGTTAATCCACTATAAAGAAACCGTTTTTCTCGATAAGTTTCCGTGCCGA
CAGACCTGGATTCCCACTTTCGTGGGAATGACGGTGGAAAAGTTGCCGTGATTTCGGATA
AATTTTCGTAACGCATAATTTCCGTTTTACCCGATAAATGCCCGCAATCTCAAATCCCGT
CATTCCCCAAAAACAAAAAATCAAAAACAGAAATATCGTCATTCCCGCGCAGGCGGGAAT
CTAGACCTTAGAACAACAGCAATATTCAAAGATTATCTGAAAGTCCGGGATTCTAGATTC
CCACTTTCGTGGGAATGACGAATTTTAGGTTTCTGTTTTTGGTTTTCTGTCCTTGCGGGA
ATGATGAAATTTTAAGTTTTAGGAATTTATCGGAAAAAACAGAAACCGCTCCGCCGTCAT
TCCCGCACAGGCTTCGTCATTCCCGCGCAGGCTTCGTCATTCCCGCATTTGTTAATCCAC
TATATTCCCGCCGTTTTTTTACATTTCCGACAAAACCTGTCAACAAAAAACAACACTTCG
CAAATAAAAACGATAATCAGCTTTGCAAAAATCCCCCCCCCCCTGTTAATATAAATAAAA
ATAATTATTAATTATTTTTCTTATCCTGCCAAATCTTAACGGTTTGGATTTACTTCCCTT
CATACTCAAGAGGACGATTGAATGAATACCCCATTGTTCCGTCTCAGCCTGCTCTCGCTT
ACCCTGGCGGCAGGTTTTGCCCATGCGGCAGAAAATAATGCCAAGGTCGTACTGGATACC
GTTACCGTAAAAGGCGACCGCCAAGGCAGCAAAATCCGTACCAACATCGTTACGCTGCAA
CAAAAAGACGAAAGCACCGCAACCGATATGCGCGAACTCTTAAAAGAAGAGCCCTCCATC
GATTTCGGCGGCGGCAACGGCACGTCCCAATTCCTGACGCTGCGCGGCATGGGTCAAAAC
TCTGTCGACATCAAGGTGGACAACGCCTATTCCGACAGCCAAATCCTTTACCACCAAGGC
```

```
AGATTTATTGTCGATCCCGCTTTGGTTAAAGTCGTTTCCGTACAAAAAGGCGCGGGTTCC
GCCTCTGCCGGTATCGGCGCGACCAACGGCGCGATCATCACCAAAACCGTCGATGCCCAA
GACCTGCTCAAAGGCTTGGATAAAAACTGGGGCGTGCGCCTCAACAGCGGCTTTGCCAGC
AACGAAGGCGTAAGCTACGGCGCAAGCGTATTCGGGAAAGAGGGCAACTTCGACGGCTTG
TTCTCTTACAACCGCAACAATGAAAAAGATTACGAAGCAGGTAAAGGCTTCCGTAATAAT
TTCAACGGCGGCAAAACCGTACCGTACAGCGCGCTGGACAAACGCAGCTACCTCGCCAAA
ATCGGAACAAGCTTCGGCGACGGCGACCACCGCATCGTATTGAGCCATATGAAAGACCAG
CACCGGGGCATCCGTACCGTCCGTGAAGAATTTACCGTCGGCGGCGATAAAGAGCGAATA
AGTATGGAACGCCAAGCCCCTGCTTACCGCGAAACCACACAATCCAACACCAATTTGGCG
TACACGGGTAAAAACCTGGGCTTTGTCGAAAAACTGGATGCCAACGCCTATGTGTTGGAA
AAAGAACGCTATTCCGCCGATGACAGCGGCACCGGTTACGCAGGCAATGTAAAAGGCCCC
AACCATACCCAAATCACCACTCGGGGTATGAACTTCAACTTCGACAGCCGCCTTGCCGAA
CAAACCCTGCTGAAATACGGTATCAACTACCGCCATCAGGAAATCAAACCGCAAGCGTTT
TTGAATTCACAATTTAAAATTGAAGATAAAGAAAAAGCAACTGATGAAGAGAAAAATAAG
AACCGTGAAAATGAAAAAAATTGCCAAAGCCTACCGTCTGACCAACCCGACCAAAACCGAT
ACCGGCGCGTATATCGAAGCCATTCACGAGATTGACGGCTTTACCCTGACCGGCGGGCTG
CGTTACGACCGCTTCAAGGTGAAAAACCCACGACGGCAAAACCGTTTCAAGCAACAACCTT
AACCCGAGTTTCGGCGTGATTTGGCAGCCGCACGAACACTGGAGCTTCAGCGCGAGCCAC
AACTACGCCAGCCGCAGCCCGCGCCTGTATGACGCGCTGCAAACCCACGGCAAACGCGGC
ATCATCTCGATTGCCGACGGCACGAAAGCCGAACGCGCGCGCAATACCGAAATCGGCTTC
AACTACAACGACGGCACGTTTGCCGCAAACGGCAGCTACTTCTGGCAGACCATCAAAGAC
GCGCTTGCCAATCCGCAAAACCGCCACGACTCTGTCGCCGTCCGTGAAGCCGTCAATGCC
GGTTACATCAAAAACCACGGTTACGAATTGGGCGCGTCCTACCGCACCGGCGGCCTGACT
GCCAAAGTCGGCGTAAGCCACAGCAAACCGCGCTTTTACGATACGCACAAAGACAAGCTG
TTGAGCGCGAATCCTGAATTTGGCGCACAAGTCGGCCGCACTTGGACGGCTTCCCTTGCC
TACCGCTTCCAAAACCCGAATCTGGAAATCGGCTGGCGCGGCCGTTATGTTCAAAAAGCC
GTGGGTTCGATATTGGTGGCAGGTCAAAAAGACCGCAACGGCAAATTGGAAAACGTTGTA
CGCAAAGGTTTCGGTGTGAACGATGTCTTCGCCAACTGGAAACCGCTGGGCAAAGCACACG
CTCAATGTTAATCTTTCGGTTAACAACGTGTTCAACACGTTCTACTATCCGCACAGCCAA
CGATGGACCAATACCCTGCCGGGCGTGGGACGTGATGTACGCTTGGGCGTGAACTACAAG
TTCTAAAACGCACATCCCGAAAAAATGCCGTCTGAAAGCCTTTCAGACGGCATCTGTTCT
GATAATTTGATATATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCA
AAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTAC
TGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATAAAGACCGTCGGGC
ATCTGCAGCCGTCATTCCCGCGCAGGCGGGAATCTAGACCTTAGAACAACAGCAATATTC
AAAGATTATCTGAAAGTCCGAGATTCTAGATTCCCGCTTTCGCGGGAATGACGAAAGGTT
GCGGGAATGACGAAAAGTGGTGGGAATGACGAAAAGTGATGGGAATGACGAAAAGTGATG
GGAATGACGGTTCGGGCATTCCTTAAATTACCCGTGTATCGCTGTAAATCTTAGAGATGG
CGGAATATAGCGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAA
CGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCAGTTCCGTACTATTTGTACTGTCTGC
GGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATAGATTATCATTTATCCTTTCT
AAAGCCGTTCCGGTTTGTCCGACCGGCGGCTTTGCCCCAATATCCCCATTTTGGAGACAC
CTATGTTACGTTTGACTGCTTTAGCCGTATGCACCGCCCTCGCTTTGGGCGCGTGTTCGC
CGCAAAATTCCGACTCTGCCCCACAAGCCAAAGAACAGGCGGTTTCCGCCGCACAAACCG
AAGGCGCGTCCGTTACCGTCAAAACCGCGCGCGGCGACGTTCAAATACCGCAAAACCCCG
AACGCATCGCCGTTTACGATTTGGGTATGCTCGACACCTTGAGCAAACTGGGCGTGAAAA
CCGGTTTGTCCGTCGATAAAAACCGCCTGCCGTATTTAGAGGAATATTTCAAAACGACAA
AACCTGCCGGCACTTTGTTCGAGCCGGATTACGAAACGCTCAACGCTTACAAACCGCAGC
TCATCATCATCGGCAGCCGCGCCGCCAAGGCGTTTGACAAATTGAACGAAATCGCGCCGA
CCATCGAAATGACCGCCGATACCGCCAACCTCAAAGAAAGTGCCAAAGAGCGCATCGACG
CGCTGGCGCAAATCTTCGGCAAACAGGCGGAAGCCGACAAGCTGAAGGCGGAAATCGACG
CGTCTTTTGAAGCCGCGAAAACTGCCGCACAAGGTAAGGGCAAAGGTTTGGTGATTTTGG
TCAACGGCGGCAAGATGTCGGCTTTCGGCCCGTCTTCACGCTTGGGCGGCTGGCTGCACA
AAGACATCGGCGTTCCCGCTGTCGATGAATCAATTAAAGAAGGCAGCCACGGTCAGCCTA
TCAGCTTTGAATACCTGAAAGAGAAAAATCCCGACTGGCTGTTTGTCCTTGACCGAAGCG
CGGCCATCGGCGAAGAGGGTCAGGCGGCGAAAGACGTGTTGGATAATCCGCTGGTTGCCG
AAACAACCGCTTGGAAAAAAGGACAGGTCGTGTACCTCGTTCCTGAAACTTATTTGGCAG
CCGGTGGCGCGCAAGAGCTGCTGAATGCAAGCAAACAGGTTGCCGACGCTTTTAACGCGG
CAAAATAATGAAACGGCGGCATTCGATGCCGTCTGAAACACGGATGCAAACCGCCTCCTG
```

TGTTTCAGACGGCATTGCCCGATACGGAGGCTTCAAACAAGGCTTTCCGCTCCGACGGTT
CGGACTGCCTTGTTTGAATCTTCTACGCCTTAACGCTTTTCCCTTCTGTTTATGACTGCC
AAACCTTTTTCCCTCAACCTGACCAACCTGCTGCTGCTGGCGGTGTTGTTTGCCGTCAGC
CTGTCGGTGGGCGTTGCCGATTTCCGCTGGTCTGATGTGTTTTCACTGTCCGACAGCCAG
CAGGTCATGTTCATCAGCCGCCTGCCGCGCACGTTTGCGATTGTGCTGACGGGCGCGTCG
ATGGCGGTGGCCGGCATGATTATGCAGATTTTGATGCGCAACCGTTTTGTCGAACCGTCG
ATGGTGGGCGCAAGCCAAAGCGCGGCTTTAGGTTTGCTGCTGATGACCCTGCTGCTGCCG
GCCGCGCCGCTGCCGGCGAAAATGTCGGTTGCCGCCGTTGCCGCGCTGATCGGGATGTTG
GTCTTTATGCTGCTGATCCGCCGCCTGCCGCCGACCGCGCAACTGATGGTGCCTTTGGTC
GGGATTATTTTCGGCGGTGTGATTGAGGCGGTAGCCACCTTTATCGCGTATGAAAACGAA
ATGCTGCAAATGCTCGGCGTGTGGCAGCAGGGCGATTTTTCGAGCGTGCTGCTGGGGCGG
TACGAGCTGCTTTGGATTACGGGCGGTTTGGCGGTGTTTGCCTATCTGATTGCCGACCGG
CTGACGATTTTGGGGCTGGGCGAAACGGTAAGCGTGAATTTGGGTTTGAACCGGACGGCG
GTGTTGTGGTCGGGTTTGATTATTGTGGCTTTGATTACGTCGCTGGTTATCGTTACGGTC
GGCAATATTCCGTTTATCGGGCTGGTCGTGCCGAACATCATCAGCCGCCTGATGGGCGAC
AGGTTGCGCCAAAGCCTGCCTGCGGTGGCCTTGCTGGGCGCATCTTTGGTGTTGCTGTGC
GACATTATCGGACGCGTGATTGTGTTTCCGTTTGAAATTCCGGTCTCTACGGTTTTTGGT
GTATTGGGTACGGCTTTGTTTTTGTGGCTTTGTTGAGGAAACCCGCCTATGCCGTCTGA
AAAAAATATCGGTTTTATGGCAGGAAGCAGCCGCCCGTTGTGGGTCGCCTTTGCGCTGTT
GCTGGTTTCCTGCGTCCTGTTTATGACGCTCAACGTCAAAGGCGATTGGGATTTTGTTTT
GCAACTGCGGCTGACCAAACTTGCCGCGCTGCTGATGGTCGCCTATGCGGTCGGCGTGTC
CACGCAACTCTTCCAAACGCTGACCAATAATCCGATTCTGACCCCTTCAATTTTGGGTTT
CGATTCGCTGTATGTGTTTTTGCAGACCTTGCTGGTGTTTACGTTCGGCGGCGTGGGCTA
TGCTTCCCTGCCGTTGACGGGCAAATTCGGCTTTGAACTGGTCGTCATGATGGGCGGCTC
GCTGCTGCTGTTCTACACGCTCATCAAACAGGGCGGACGCGATTTGTCGCGCATGATTTT
AATCGGCGTGATTTTCGGGATTTTGTTCCGCAGCCTGTCGTCGCTGCTTTCGCGCATGAT
CGATCCCGAAGAATTTACCGCCGCGCAGGCGAATATGTTTGCCGGATTCAATACCGTCCA
CAGCGAGCTTTTGGGCATAGGCGCGCTGATTCTGCTCGTCAGCGCGGCGGTCGTTTGGCG
CGAACGCTACCGCTTGGACGTTTACCTTTTGGGGCGTGACCAAGCCGTCAATTTGGGCAT
CAGCTACACGCGCAACACCTTATGGATACTGCTTTGGATTGCCGCATTGGTGGCGACGGC
GACCGCCGTGGTCGGCCCCGTAAGCTTTTTCGGGCTTCTCGCCGCCTCGCTTGCCAACCA
CTTTTCCCCGTCGGTCAAACATTCCGTCCGCCTGCCGATGACGGTTTGTATCGGCGGCAT
CCTCTTGGTCGGCGGACAGACCGTGTTCGAACACCTGCTCGGTATGCAGGCAGTGTTGAG
CGTAGTAGTAGAATTTGCCGGCGGACTCGTTTTCCTCTATCTCGTTTTAAAACACAAAAA
ATGACGGATGCCGTCTGAACGGCCGCCGCCCCGAAAGGACAAACCATATGACACAAGAAC
ATTTCCCATCATTCTTCAACCAAGCCCCGACCATTACCGTCCAAGACGCATTGGCCGAAT
TCCTCGGCGCGGCCGAAAACGGCATCCTCACTTACCGCTACGCCGATGCCGTGCGCCTGT
GCGGACATTCCTGCCCGACCGTCGCGGGCGCGTACCTGATGGTTATCAAAGGTCTGAAAG
CACTTTACGGCGAAGAGCTGCCCGAACGCGGCGGCATCGAAGCCTTTATGCAGGGCGCGC
GCGACGAAGGCACGGTCGGCGTAACCGCGTCCGTCGTCCAACTCCTCACCGGCGCAGCCC
CCGAAACCGGCTTTGGCGGCATCGGAATGCAGGGACGCTTTGCCCGCCGCCACCTCTTAT
CCTTTGGTGTAGGCGAAATCAACGGCACACTGACCCTGCGCCGCAAAGACAACGGCAAAA
CCGTCGCCGTCGGCCTCAACGCCGCCCTGCAACCCTTCGCACCCGAAATGCGCGACATCA
TGCCCAAAGCCGTCAGCGGCAGCGCAAGCGCAGAAGAACTCGAACGCTTCGGACAACTCT
GGCAGGCACGCGTTAAAGCATTTTTAACCGAATCGGCGGACGACCCGCAGTTCGTCATCG
TCCGCGAAGTGTGAGCGTTCAGACGGCATTCCGAATTTCAAATGCCGTCTGAACCCCGCC
AAACAACAACAAACCTACGCCCGACAAGCATCCGCCATGATTACCATCCGCAACGTCAGC
TACCGCATCGGCACACGCCCCATCCTCGACAACGTCAGCCTCGACATCCCCGAAGGCGGC
ATTACCGCCCTCGTCGGCCCCAACGGTGCGGGCAAATCCACCCTGTTTCCTTTATGGCG
CGGCTGCGACCGCTTGAAAGCGGCAGCATCGCCTACCGAGGCAAAAATCTTGCCGATACC
CCCACCGCCGAACTCGCCAAAACCCTGTCCATCCTCACCCAAGAAAACAGCATCATGAGC
CGCATCACCGTGCGCGACCTGCTGATGTTCGGCCGTTACCCCTACCATCAAGGCAGACCG
ACTGCCGAATGCCGCCGTATCGTTAACGGTGCAATCGAAGAATTCCACCTGCAAGACCTC
TCCGACCGCTACCTGACCGAGCTTTCCGGCGGCCAACGCCAACGCGCCATGATTGCGATG
GTGTTCTGCCAAAGCACCGACTACGTCCTTTTGGACGAACCGCTGAACAACCTCGATATG
TATCACGCCCGCTCGCTCATGCAAATCCTGCGCCGGCTGACCGACGAACACAAGCGCACC
ACCGTCGTCGTATTGCACGACATCAACCAGGCAGCAGCCTACGCCGACCACGTCGTCGCC
ATGAAAAACGGCCAAGTCGCCATGCAGGGCAAACCCAACGATATTTTCACCGCCGCAAAC
ATCAAAACCCTATTCGATATGGACGTCGACGTCCTCGATTACGAAGGCAAAAAATTGGTT

```
ATCCACCATATCTAAATCCGACAAAAAGGCCGTCTGAACATTCAGACGGCAACCCATATC
CTGACAAAATTAAGACACGACACCGGCAGAATTGACATCAGCATAATATGCACATATTAA
CAGATATTAATGCCGAACTACCTAACTGCAAGAATTAAATAAATAAATAAATAAATAAAT
AAATAAATAAATTGCGACAATGTATTGTATATATGCCTCCTTTCATATATACTTTAATAT
GTAAACAAACTTGGTGGGGATAAAATACTTACAAAAGATTTCCGCCCCATTTTTTATCCA
CTCACAAAGGTAATGAGCATGAAACACTTTCCATCCAAAGTACTGACCACAGCCATCCTT
GCCACTTTCTGTAGCGGCGCACTGGCAGCCACAAGCGACGACGATGTTAAAAAAGCTGCC
ACTGTGGCCATTGTTGCTGCCTACAACAATGGCCAAGAAATCAACGGTTTCAAAGCTGGA
GAGACCATCTACGACATTGGTGAAGACGGCACAATTACCCAAAAAGACGCAACTGCAGCC
GATGTTGAAGCCGACGACTTTAAAGGTCTGGGTCTGAAAAAAGTCGTGACTAACCTGACC
AAAACCGTCAATGAAAACAAACAAACGTCGATGCCAAAGTAAAAGCTGCAGAATCTGAA
ATAGAAAAGTTAACAACCAAGTTAGCAGACACTGATGCCGCTTTAGCAGATACTGATGCC
GCTCTGGATGAAACCACCAACGCCTTGAATAAATTGGGAGAAAATATAACGACATTTGCT
GAAGAGACTAAGACAAATATCGTAAAAATTGATGAAAAATTAGAAGCCGTGGCTGATACC
GTCGACAAGCATGCCGAAGCATTCAACGATATCGCCGATTCATTGGATGAAACCAACACT
AAGGCAGACGAAGCCGTCAAAACCGCCAATGAAGCCAAACAGACGGCCGAAGAAACCAAA
CAAAACGTCGATGCCAAAGTAAAAGCTGCAGAAACTGCAGCAGGCAAAGCCGAAGCTGCC
GCTGGCACAGCTAATACTGCAGCCGACAAGGCCGAAGCTGTCGCTGCAAAAGTTACCGAC
ATCAAAGCTGATATCGCTACGAACAAAGCTGATATTGCTAAAAACTCAGCACGCATCGAC
AGCTTGGACAAAAACGTAGCTAATCTGCGCAAAGAAACCCGCCAAGGCCTTGCAGAACAA
GCCGCGCTCTCCGGCCTGTTCCAACCTTACAACGTGGGTCGGTTCAATGTAACGGCTGCA
GTCGGCGGCTACAAATCCGAATCGGCAGTCGCCATCGGTACCGGCTTCCGCTTTACCGAA
AACTTTGCCGCCAAAGCAGGCGTGGCAGTCGGCACTTCGTCCGGTTCTTCCGCAGCCTAC
CATGTCGGCGTCAATTACGAGTGGTAAGCAGCATCTCCCGATAAAGAAACCGCAGCCCTG
CAAGGCTGCGGTTTTTATTTTCTATCCGGCCGTCAGACTGCCGCGTCCGAACGTTCGCCC
GTGCGGATACGGATTGCCTCCTCAACCGGCAGCACAAAAATCTTGCCGTCGCCGATTTTT
CCCGAACGCGCCACCTCGAAATCACGTCAATCGCGCGTTCCACAGCATCATCCGCCAACA
CCAGCTCGATTTTGATTTTGGGCAGGAAATCGACGGCGTATTCCGCGCCGCGATAGATTT
CCGTATGCCCCTTCTGCCTGCCGAACCCTTTGACCTCGCTGACGGTCATGCCCGTAATGC
CGATTTCCGTCAACGCCTCGCGCACGTCGTCGAGTTTGAACGGTTTGACAATCGCCTCGA
TTTTTTTCATAAAATTTCCTTTGAACAAACAATACAAACACATCCGAAAAACGGGAACCT
CCCGTCAGATTGTCAACATTTTAAGCCAAAATACCCAAGCAATACAGCCCCGTTGCGCGT
ATAATGACAGATTTTCCAACCGCATTTGAGAGCCGAATCCATGTCTGTCGTTTTGCCCTT
GCGCGGCGTTACCGCCCTTTCCGATTTCCGTGTTGAAAAACTCTTGCAAAAAGCCGCCGC
ACTCGGTCTGCCCGAAGTCAAATTAAGCAGCGAATTTTGGTATTTCGTCGGCAGCGAGAA
AGCACTTGATGCCGCGACTGTCGAAAAACTGCAAGCCTTGTTGGCGGCGCAAAGCGTTGA
ACAAACGCCAAAAGCGCGCGAGGGCTTGCATTTGTTTTTGGTCACGCCCCGTTTGGGTAC
GATTTCGCCGTGGGCTTCCAAGGCGACCAATATCGCGGAAAACTGCGGTTTGGCAGGCAT
CGAACGCATCGAGCGCGGTATGGCGGTGTGGCTGGAAGGTCGTCTGAACGATGAACAGAA
ACAGCAATGGGCGGCTTTGCTGCACGACCGCATGACCGAAAGCGTGCTGCCCGATTTTCA
GACGGCCTCCAAATTATTCCACCATCTCGAATCCGAAACTTTCTCCGGCGTCGATGTTTT
GGGCGGCGGTAAAGAAGCTTTGGTCAAAGCCAATACCGAAATGGGCTTGGCACTTTCCGC
CGACGAAATCGATTATCTGGTCGAAAACTATCAGGCTTTGCAGCGCAATCCGTCCGATGT
TGAATTGATGATGTTCGCGCAGGCAAACAGCGAACACTGCCGCCACAAAATCTTCAACGC
CGATTTCATCCTCAACGGCGAAAAGCAGCCCAAATCCCTCTTCGGTATGATACGCGACAC
ACACAACGCGCATCCCGAAGGCACGGTCGTTGCCTATAAAGACAATTCGTCCGTAATCGA
AGGCGCGAAATCGAGCGTTTCTATCCGAATGCGGCGGAAAACCAAGGCTACCGTTTCCA
CGAGGAAGACACGCATATCATCATGAAAGTGGAAACGCACAACCACCCGACCGCCATCGC
GCCGTTTGCGGGTGCGGCGACGGGCGCGGGCGGCGAAATCCGCGACGAAGGCGCGACGGG
CAAAGGTTCGCGTCCGAAAGCGGGCCTGACCGGCTTTACCGTGTCCAACCTCAATATTCC
CGACCTCAAACAGCCGTGGGAACAAGACTACGGCAAGCCGGAACATATTTCCTCGCCGCT
GGACATCATGATTGAAGGCCCGATCGGCGGCGCGGCGTTCAACAACGAATTCGGCCGCCC
CAACCTCTTGGGCTACTTCCGCACTTTTGAAGAAAAATTTGACGGTCAGGTTCGCGGCTA
TCACAAACCGATTATGATTGCCGGCGGCTTGGGCAGCATTCAGGCGCAGCAGACGCATAA
AGACGAAATCCCCGAAGGCGCATTGCTGATCCAACTGGGCGGCCCGGGTATGCTTATCGG
CTTGGGCGGCGGCGCGGCTTCTTCGATGGATACCGGCACAAACGACGCGTCTTTGGACTT
CAACTCCGTGCAACGCGGCAACCCCGAAATCGAACGCCGCGCGCAGGAAGTCATCGACCG
CTGCTGGCAGCTCGGCGGCAAAAACCCGATTATCTCCATCCACGACGTAGGCGCGGGCGG
CCTGTCCAACGCCTTCCCCGAACTGGTCAACGATGCCAGACGCGGCGCAGTATTCAAGCT
```

```
GCGCGAAGTGCCGCTTGAAGAACACGGCCTCAACCCGCTGCAAATCTGGTGCAACGAATC
GCAAGAGCGTTATGTGTTGTCGATTTTGGAAAAAGATTTGGATGCTTTCCGCGCCATCTG
CGAACGCGAACGCTGCCCGTTTGCCGTAGTCGGCACGGCGACTGACGACGGTCATTTGAA
AGTACGCGACGATTTGTTCGCCAACAATCCCGTCGATTGCCGTTGAACGTCTTGCTCGG
CAAACTGCCCAAAACCACGCGCACCGACAAAACGGTTGCACCGTCCAAAAAACCGTTTCA
CGCGGGCGATATCGACATTACCGAAGCCGCCTACCGCGTTTTGCGCCTGCCTGCCGTAGC
CGCCAAAAACTTCCTGATTACCATCGGCGACCGCAGCGTCGGCGGTTTGACGCACCGCGA
CCAAATGGTCGGCAAATATCAAACTCCAGTAGCCGACTGCGCCGTTACCATGATGGGCTT
CAACACCTATCGCGGTGAAGCGATGTCTATGGGCGAAAAACCGACCGTCGCCCTGTTTGA
TGCGCCTGCTTCGGGCAGAATGTGCGTCGGCGAAGCCATCACCAACATCGCGGCGGTCAA
CATCGGAGACATCGGCAACATCAAACTCTCCGCCAACTGGATGGCGGCGTGCGGCAACGA
AGGCGAAGACGAAAAACTCTACCGCACTGTCGAAGCCGTTTCCAAAGCCTGTCAGGCATT
GGATTTGAGCATCCCCGTGGGCAAAGACAGCCTGTCGATGAAAACCGTTTGGCAGGACGG
CGAGGAGAAAAAATCCGTGGTTTCACCGTTGAGCCTGATTATCTCAGCGTTCGCGCCTGT
GAAAGACGTACGCAAGACTGTTACGCCTGAGTTGAAAAACGTCGAAGACAGCGTATTGTT
GTTTGTCGATTTGGGCTTCGGCAAAGCGCGTATGGGCGGTTCGGCGTTTGGTCAGGTGTA
CAACAATATGAGCGGCGACGCGCCCGATTTGGACGATACAGGTCGTCTGAAAGCCTTTTA
CAGTGTGATTCAGCAGCTTGTTGCCGAAAACAAACTCTTGGCGTATCACGACCGCAGCGA
CGGCGGCTTGTTTGCCGTTTTGGTAGAAATGGCGTTTGCGGGGCGGTGCGGCTTGGATAT
AGATTTAAATTTATTGCTTGCACAAACATTTATTACCAACCATACCGCTCTGTCTCAATC
ATTGCGGACTGAAGAGGTAAAAGCGTTGGCTGAATGGCAAGAAACCATTGCCCGCACATT
ATTTAATGAAGAGTTGGGTGCTGTTATCCAAGTTAGAAAACAAGATGTTGCCGATATTAT
CAATTTATTCTATCAACAACAGCTGCATCATAATGTCTTTGAAATCGGTACGTTAACTGA
TGAGAACACGTTAATCATCCGCGACGGGCAAACGCACCTTATTTCTGACAACCTAATCAA
ACTGCAACAAACCTGGCAAGAAACCAGCCATCAAATCCAACGCCTGCGCGACAACCCTGC
CTGCGCCGACAGCGAGTTCGCACTGATTGGCGACAACGAACGCAGCGCATTGTTTGCCGA
CGTGAAGTTCGACGTGAACGAAGACATCGCCGCGCCGTTTATCAACAGCGGCGCGAAACC
CAAAATCGCCATCCTGCGCGAACAGGGCGTAAACGGGCAAATCGAAATGGCCGCCGCCTT
TACCCGCGCCGGATTCGATGCTTACGACGTGCATATGTCCGACCTGATGGCAGGCCGCAT
CCACCTCGCCGACTTCAAAATGCTGGCGGCGTGCGGCGGCTTCAGCTACGGCGACGTACT
CGGCGCGGGCGAAGGCTGGGCGAAATCGATTCTGTTCCACCCTGCTCTGCGCGACCAGTT
TGCCGCCTTCTTCGCCGACCCGGACACGCTGACATTGGGCGTGTGCAACGGCTGCCAAAT
GGTCAGCAACCTTGCCGAAATCATCCCCGGCACGGCAGGCTGGCCGAAGTTCAAACGCAA
CCTGAGCGAACAGTTTGAAGCACGCCTGAGCATGGTTCACGTTCCGAAATCAGCGTCGCT
GATTCTGAACGAAATGCAAGGCTCCAGCCTGCCTGTCGTGGTCAGCCACGGCGAAGGCCG
CGCCGACTTCGCGCTTCACGGCGGCAATATTTCCGCCGATTTGGGCATTGCGCTGCAATA
CATCGACGGACAAAACCAAGTGACCCAAACTTATCCGCTCAACCCCAACGGCTCGCCTCA
AGGCATCGCCGGCGTTACTAACGCCGACGGCCGCATCACCATCATGATGCCCCACCCCGA
ACGCGTGTACCGTGCCGCGCAAATGAGCTGGAAACCGGAAGGCTGGACGGAACTGTCCGG
CTGGTACCGCCTCTTTGCCGGCGCACGTAAAGCCTTGGGCTAACCGCCCTACTCAAACCA
ATGCCGTCTGAAGAATATTTCAGACGGCGTTCCGGCATACCATCCTTTAAACGGTATCCG
TCCACCGAGGAACACTCATGAAAATCACCCCCGTCAAAGCCCTAACCGACAACTACATCT
GGATGATACAGCACGGCAACCATGCCGTCTGCGTCGACCCTTCCGAACCCTCGCCCGTCT
TGGAATTCCTCGTCCGCAACCGCCTCATGCTTGCCCAAACATGGGTAACTCACCCCCATC
CCGACCACGAGGGCGGTGCGGCGGCACTCTGGCGCGGCTACATGGAATCGCCCGTTTACG
GCGAATCCGACATCGAAGCAGCAACCCACACCGTAACGCCGGCACCCAATTCACCTTCG
GCGACGGACAGGTTACCGTTTGGGCAACACCCGGCCACACAGACCGCCACACCAGCTACC
TTCTCGAAACTTCAGACGGCATACACGTCTTTTGCGGCGACACCCTTTTTTCCGCCGGCT
GCGGACGCGTGTTTACCGGCACAATCGAACAGCTTTACGACAGCTTCCAACGCTTCAACC
GCCTGCCTGAAAACACCCTGTTCTATCCGGCGCACGAATACACCGCCGCCAACCTGCGTT
TCGCCGCCCATATCGAGCCGGACAACGCCGACATTCAGACGGCACTGAAAGCGGCGGCGC
ATACGCCTACCCTGCCCGTTACCCTCGCGCACGAACGCCGCGTCAATCCGTTTTTGCGCG
TCGACCTGCCGCACGTCAGAGACCGCGCCGAGGCATTGAGCGGGAAAACGTTAAACAGCA
GCCTCGATACCTTTGTCGCGCTGCGTGAACTTAAAAACCAATACCGGACGAAATAAAACA
ACGGGAAAACGCAGCCATTCCTAGGATTTTTATTAAAATCTTAAATAAAATCATACAATC
ATCGCCAATAGACGAAAGGACACCGTTGCCTTATAATCAAACAAAAACAAAATATATAAT
ATAGTGGATTGAATTTAAATCAGGACAAGGCGACGAAGCCGCAGATAGTACGGCAAGGCG
AGGCAACGCTGTACTGGTTTTTGTTAATCCACTATATTGTTAATCCACTATATAAATCCA
GCACAAAACGGGATCGGTGATTCTTGTCCGCAAGAATCGTTGATTTTCTCTATTACACGG
```

```
ATAATCATCATGCGCTTCACACACACCACCCCATTTTGTTCCGTATTGTCCACCCTCGGT
CTTTTTGCCGTTTCCCCTGCTTACTCATCCATTGTCCGCAACGATGTCGATTACCAATAT
TTTCGCGACTTTGCCGAAAATAAAGGCGCGTTCACCGTAGGTGCAAGCAATATTTCCATC
CAAGACAAGCAAGGCAAAATATTAGGCAGGGTTCTCAACGGCATCCCCATGCCCGACTTC
CGCGTCAGCAACCGCCAAACCGCCATCGCCACCCTGGTTCACCCCCAATACGTCAACAGT
GTCAAACACAACGTCGGCTACGGTTCCATACAATTCGGCAACGACACCCAAAATCCAGAA
GAACAAGCCTATACCTACCGCCTCGTATCACGCAACCCGCACCCGGACTACGACTACCAC
CTTCCCCGCCTCAACAAACTGGTTACCGAAATCTCACCTACCGCACTCAGCAGCGTACCC
TTGCTTGGAAACGGCCAGCCAAAGGCCAATGCCTACCTCGATACCGACCGCTTCCCCTAC
TTTGTACGACTCGGCTCAGGCACGCAACAAGTCCGCAAAGCAGACGGCACGCGTACACGA
ACCGCCCCGGCATACCAATACCTGACCGGCGGCACGCCGCTGAAAGTATTGGGGTTCCAA
AACCACGGCTTACTCGTCGGCGGCAGCCTGACCGACCAACCCCTTAACACCTACGCAATC
GCCGGAGACAGCGGTTCCCCCCTGTTTGCCTTCGACAAGCATGAAAACCGCTGGGTGCTT
GCGGGCGTACTCAGCACCTACGCCGGCTTCGATAATTTCTTCAACAAATACATCGTCACG
CAACCCGAATTCATCCGTTCCACCATCCGCCAATACGAAACCCGGCTGGATGTCGGGCTG
ACCACCAACGAACTCATATGGCGCGACAACGGTAATGGCAACAGCACCCTGCAAGGGCTC
AACGAACGCATCACCCTGCCCATTGCAAACCCTTCGCTTGCCCCACAAAAACGACAGCAGG
CACATGCCGTCTGAAGATGCCGGCAAAACGCTCATCCTATCCAGCAGGTTCGACAACAAA
ACACTGATGCTGGCAGACAATATCAACCAAGGCGCAGGCGCATTGCAGTTCGACAGCAAC
TTCACCGTCGTCGGTAAAAACCACACATGGCAAGGTGCAGGCGTTATCGTAGCCGACGGC
AAACGCGTCTTCTGGCAAGTCAGCAACCCCAAAGGCGCGACCGGCTCTCCAAACTGGGCGCA
GGCACGCTTATCGCCAACGGACAAGGCATCAACCAGGGCGACATCAGCATCGGGGAAGGC
ACTGTCGTACTCGCCCAAAAAGCTGCTTCAGACGGCAGCAAACAAGCATTCAACCAAGTC
GGCATCACCAGCGGCAGGGGCACGGCCGTCCTCGCCGACAGCCAGCAAATCAAACCCGAA
AACCTCTATTTCGGCTTCAGGGGCGGACGGCTCGACCTCAACGGCAACAACCTTGCCTTT
ACCCATATCCGCCATGCGGACGGCGGCGCGCAAATCGTCAATCACAACCCTGACCAAGCC
GCGACACTGACGCTGACCGGCAACCCCGTCCTCAGTCCCGAGCATGTCGAGTGGGTGCAA
TGGGGCAACCGTCCGCAAGGCAACGCGGCGGTTTACGAATACATCAACCCGCACCGCAAC
CGTCGGACCGACTACTTCATACTCAAACCCGGCGGCAACCCGCGCGAATTTTTCCCGTTA
AATATGAAAAACTCAACAAGCTGGCAATTTATCGGCAACAACAGGCAACAGGCCGCCGAA
CAAGTCGCCCAAGCCGAAAATGCCCGCCCCGACCTGATTACCTTCGGCGGATACTTGGGT
GAAAACGCGCAAACGGGCAAAGCCGCGCCGAGTTACAGCAAAACCAATGAAGCAGCCATA
GAAAAAACCCGCCATATCGCAAATGCCGCCGTATACGGCCGGCCCGAATACCGTTACAAC
GGCGCACTCAACCTGCACTATCGTCCCAAACGCACCGACAGCACGCTGTTGCTCAACGGC
GGCATGAACCTTAACGGGGAAGTCTTGATTGAGGGCGGCAATATGATTGTGTCAGGCAGG
CCCGTACCCCATGCCTACGACCACCAGGCCAAACGCGAACCCGTTCTTGAAAACGAATGG
ACCGACGGCAGCTTCAAGGCTGCACGGTTCACCCTGCGAAACCATGCCCGACTGACGGCA
GGGCGCAATACCGCGCATCTGGACGGCGACATAACCGCATACGATCTGTCCGGCATCGAC
CTCGGCTTTACCCAAGGCAAAACACCGGAATGCTACCGCTCCTACCATAGCGGCAGCACC
CACTGCACACCCAACGCCGTTTTAAAAGCCGAAAACTATCGTGCACTACCTGCAACGCAA
GTACGCGGCGACATTACCCTTAACGACCGTTCAGAGCTCCGCCTGGGCAAAGCACACCTG
TACGGCAGCATCCGTGCCGGCAAAGACACCGCAGTCCGCATGGAAGCAGACAGCAACTGG
ACACTTTCCCAGTCCAGCCACACCGGCGCACTGACGCTTGACGGCGCACAAATTACCCTG
AACCCCGATTTCGCCAATAATACACACAACAACCGCTTCAACACACTGACCGTCAACGGC
ACACTTGACGGGTTCGGCACATTCCGATTCCTGACCGGCATCGTCCGAAAACAAAATGCC
CCCCCCCTCAAACTGGAAGGGGACAGCCGCGGCGCATTCCAAATCCACGTCAAAAACACC
GGACAAGAACCTCAAACAACCGAATCGCTTGCACTTGTGAGCCTCAATCCGAAACACAGC
CACCAAGCCCGATTCACCCTCCAAAACGGCTATGCCGATTTGGGTGCCTACCGCTACATC
CTCCGCAAAAACAACAACGGATACAGCCTGTACAACCCGCTCAAAGAGGCCGAACTTCAA
ATTGAAGCCACGCGTGCGGAACATGAGCGCAACCAACAGGCATACAACCAATTACAGGCA
ACCGACATCAGCAGACAGGTTCAACATGACTCTGACGCGACCAGGCAGGCACTACAGGCC
TGGCAGAACAGTCAAACCGAACTTGCCCGCATCGACAGCCAAGTCCAATATCTGTCCGCC
CAATTGAAACAGACAGACCCGCTGACCGGCATTCTGACGCGTGCCCAAAACCTGTGTGCC
GCACAAGGATACAGTGCCGATATCTGCCGTCAGGTTGCCAAAGCCGCCGACACGAACGAC
CTGACACTCTTCGAAACCGAACTGGATACGTATATAGAACGTGTAGAAATGGCCGAATCC
GAACTTGACAAAGCACGGCAAGGCGGCGATGCGCAAGCCGTCGAAACAGCCCGGCACGCC
TACCTGAACGCACTCAACCGTCTGTCCCGACAAATCCACAGTTTGAAAACCGGCGTTGCC
GGCATCCGTATGCCGAACCTGGCCGAACTGATCAGCCGGTCGGCCAACACCGCCGTTTCC
GAACAGGCCGCCTACAATACCGGCCGGCAACAGGCGGGACGCCGCATCGACCGCCACCTT
```

```
ACCGATCCGCAGCAGCAAAACATCTGGCTGGAAACCGGTACGCAACAAACCGACTACCAT
AGCGGCACACACCGTCCCTACCAACAAACTACCAACTATGCACATATCGGCATCCAAACC
GGCATCACCGACCGTCTCAGTGTCGGTACGATTTTAACCGATGAGCGCACAAACAACCGT
TTTGATGAAGGCGTATCCGCCCGAAACCGCAGCAACGGCGCACATCTGTTCGTCAAAGGG
GAAAACGGCGCACTCTTTGCCGCGGCAGATTTAGGCTACAGCAACAGCCGTACCCGATTT
ACCGATTATGACGGGGCTGCCGTCCGCCGCCACGCATGGGATGCAGGCATCAACACCGGC
ATCAAAATCGATACCGGCATCAACCTCAGACCCTATGCCGGCATCCGTATAAACCGCAGC
AACGGCAACCGGTACGTACTCGACGGCGCAGAGATAAACAGCCCGGCGCAAATCCAAACC
ACATGGCATGCCGGCATCCGTCTCGATAAAACCGTCGAACTGGGTCAAGCCAAGCTGACC
CCCGCCTTCAGCAGCGATTACTACCATACCCGCCAAAACAGCGGTTCCGCCCTCAGCGTC
AACGACCGTACCTTACTGCAGCAAGCCGCCCACGGCACACTGCATACCCTGCAAATCGAC
GCCGGATACAAAGGCTGGAACGCCAAACTTCATGCCGCTTACGGCAAAGACAGCAACACC
GCCCGCCACAAACAGGCAGGAATCAAAATAGGCTACAACTGGTAACAAGCCGATAAAAAT
GCCGTCTGGAACCCGCGTTTCAGACGGCCATTTGCGTTAAAAATAGTAAACCGTTCCAAAA
GGGAGTAGAATAGTGCCGTTTCCAACCCTGCGCCTGTACCGTCAGGCTTTTATTATGGAC
CTTCCCAGTTCGTTTTTACTGAACACCCCATCCGATTCAAACCCGCAATAACCATCCCGC
CGGAATGCCTCCCCGCACACGGCGGGCGGAGCATTTATGAGCATCGAACCAACCCCTCCG
AACCTTGAAAACGACGGTATCGAAAACGATGTAGAACGCGTTTCCGCCGATTTCGACCGT
GTCCACTCCCTCTGCGAAATCCTCGAACCTGCTTTTGAACAAATCGAAAACGGTACACCG
CTCGAAGACGCGCCGCTGCGCGACAAGCTGACCGAGCTGACCGTCCTCTTGAGCGAGCTG
CACCCTGCCGACGTGGCGGCGGTATTGGAATCGCTACCGCCGCGCGAACGCAATATCGTC
TGGATTCTGGTCAAACCGGAAGACGACGGCGAAGTATTGCTGGAAGTATCCGACGCGGTG
CGCGAAACGCTGATCGAGTCGATGGACAAAGACGAATTGTTGGCAGCGGTCGATGATTTG
GACGCGGACGAATTGGCGGAACTGGCAGACGATTTGCCGCACCAAGTGGTTTACGAAGCG
CTACAAACCCGCGATGAGGAAGAACGCGCCCAAGTCAAAGCGGCAATGTCCTACGAAGAC
AACCAAGTCGGTGCGATTATGGACTTCGAGTTGGTCAGCATCCGCGCCGATGTCGCCTGT
GAAGTGGTGCTGCGCTATCTGCGCCGCTTCGACAGCCTGCCCGACCATACCGACAAGATT
TTTGTGGTCGATGAAAACGACGTACTGCAGGGCGTGCTGCCCATCCGCAAACTTTTGGTC
GCCGATCCCGAAGACTTGGTGGAAAACGTGATGGCGAAAGATGTCGTGCGTTTCCGCGCC
GAAGATGACGTGGAAGAAGCGGCGCAGGCGTTTGAACGCTACGACTTGGTTACCGCGCCC
GTCGTCGATGAAAACAAAAAGCTCATCGGCAGGATTACCATCGACGAGATGGTGGACGTG
ATCCGCGAAGAATCGGAAGCGGATATGCTGAATATGGCGGGTTTGCAGGAAGAGGAAGAC
CTGTTCGCCCCCGTGTGGGATTCGGTGAAAAACCGCTGGATGTGGCTCGCCGTCAACCTC
TGCACCGCCTTCCTCGCCAGCCGTGTTATCGGCGCGTTTGAAGGCAGCATCGAAAAAATC
GTCGCACTCGCCGCGCTGATGCCCATCGTCGCCGGCATAGGCGGTAACTCGGGCAACCAG
ACGATTACCATGATTGTCCGCGCGATGGCGATGGGGCAGCTGACGGATATGCAGGCGGGG
CGTTTGCTGAAAAAAGAAGTCGGTGTCGCCTTGGTCAACGGCATCATTGGGGAACGGTC
ATGGGCGCAGTATCTTGGCTGCTTTACGGCAGCCTCGGCATCGGGCTGGTTATGATTGCC
GCGATGACGCTCAACCTCCTGCTGGCGGCAACCGTCGGCGTATTAATTCCCGTGGTAATG
GAAAAGTTCGGACGCGATCCCGCACTGGGCAGCTCGGTGCTGATTACCGCCGTTACCGAC
TCCGGCGGCTTCCTGATTTTCTTGGGGCTCGCCACCCTATTCCTGCTTTAAATGCCGTCT
GAACCCGCGCAAAAATGCCGTCTGAAGCGGAAGCTGCTTCAGACGGCATTTGACTATTTA
TCCTTGTTGCACAAGATTATTGGACGGTATGCCGGGGCAGCCCTTTGGCAACGCCGACCA
CATCCTCCCCGAACAGCGCGTTGACATCGGTTTCGTCAAACACATATTTGCTGTGGCAGA
AATCGCAATCGACTTCGATGCTGCCTTGTTCCACCACCACGCCGCCGACTTCTTCCCCGC
CCAGCATCAACAGCATATCGCTGACTTTGCCGCGCGAACAGGTGCATGAAAATTCAAACG
TTTCCGGCTCGAACACGCGCGGCGGCGTTTCGTGGAACAGGCGGTATAAAACGTGTTGCG
CGTCCAGTCCTGCCAGCTCCTCCGCCGTCAGCGTGCGCGCCAGCGTACTGACGTGTTCCC
ATGCCTCTTCATCCAATACCTCTTCAGGCAGACGCTGCACCAGCAGACCGCCCGCCGCTT
CGTCGCTTGCAGACAGGACGATGTGCGTATCAAGCTGTTCGGAACGTTTCATATAGTTCA
CCAACATTTGCGCGATACCGCCGCCTTCCAAAGGCACTACGCCCTGCCAGGGTTCGCCGT
CTTTGGGCTGCAGCGTCAGCACGAATACGCCGCCCTCGCCCAAAAGGTCGCCGAGGCTTT
CGTCATCGGCTATTTCTGCGGTTTCGTCCCAACGCGCGGTTGCACGGACGGTACGGTCGG
AAGCCGCTTCCGCAACCAGCATTTTCAGCCGCCCCGCCCCTGAACCTGCACAATCAGCG
TGCCTTCGTTTTTGAGGTTGCCCGACAGCAACACACCCGCCGCCAACAACTCACCCAAAG
CGCGGCGGATGGCGGCGGGATAGTTTTTCTGTTTTACAATGTGCTGCCACACGTTTTCCA
GACGGACGTGCAGCCCGCGCACGGGCATATCGTCGAAGATAAAGCGGGTACGCACATCGG
CGCGGTTGATGGCGGTTTGATTCATGATTTTCTCTGACTGATTGTTCGGATGGCGGCTAT
ATGGTTGCGGTCGGCGCGAAAACAAGACGGACGGCGGATGCGCTTCCCAAATTATCAATA
```

-590-

```
AATTATATAAAAATCAACATATTAACTCAATCTAACAAGCCGTTTTTTGCCAAACAGCCG
TTTTTTTATATACAATCAACAAGATATTTTCGACTGATACAGCATAACATCGCACGGCGG
CACGATGCCTCCTGCGCGGAAACACCGATATGGATTCTTTTTTCAAACCGGCAGTTTGGG
CGGTTTTGTGGCTGATGTTTGCCGTCCGCCCCGCCCTTGCCGACGAGTTGACCAACCTGC
TCAGCAGCCGCGAGCAGATTCTCAGACAGTTTGCCGAAGACGAACAGCCCGTTTTACCCA
TCAACCGAGCCCCCGCCCGGCGGGCGGGCAATGCCGACGAACTCATCGGCAGCGCGATGG
GGCTTAACGAACAGCCCGTTTTACCCGTCAACCGAGTCCCCGCCCGGCGGGCGGGCAATG
CCGACGAACTCATCGGCAACGCGATGGGGCTTAACGAACAGCCCGTTTTACCCGTCAACC
GAGCCCCCGCCCGGCGGGCGGGCAATGCCGACGAACTCATCGGCAACGCGATGGGACTTT
TGGGTATTGCCTACCGCTACGGCGGCACATCGGTTTCTACCGGTTTTGACTGCAGCGGCT
TCATGCAGCACATCTTCAAACGCGCCATGGGCATCAACCTGCCGCGCACGTCGGCAGAAC
AGGCACGGATGGGTACGCCGGTTGCCCGAAGCGAATTGCAGCCCGGAGATATGGTGTTTT
TCCGCACGCTCGGCGGCAGCCGCATTTCCCATGTCGGACTTTATATCGGCAACAACCGCT
TCATCCACGCGCCGCGCACGGGGAAAAATATCGAAATCACCAGCCTGAGCCACAAATATT
GGAGCGGCAAATACGCGTTCGCCCGCCGGGTCAAGAAAAACGACCCGTCCCGCTTTCTGA
ACTGATTTCCCAAGGAATACGCAATGAGTATGCCCGAAATGCCCAAATGGTACGACGATG
ACGGACAGATCGTGTCCTGTACCGAAAAGGTCAAAGTGATGTCCGAAAATATGGCCGAGC
TGTATCAGACGGCACAAGACGCGTTTGAAGACGCGCTGCTGATGGGTTGCGGCGAACGTC
AGTTGCGCGATTACCTGCTCGCGCTGATTGAAGGTTTGGAAAATCCCTACCGCAAAGTCT
GAACACGCCCCGGTTGCTGCGGCACGGTTTATCCGTGCCGTTTTTGCGTTTGTGCGCGGC
TTCGGCTTTTTCAGACGGCATATTTGACGTTATGATTAAACAGTTAACAAGATTTATCACA
ACGCCGTCAAAAGACAGACACACAACATGAACATCATCCGCGCGCTCCTCATCATCCTCG
GCTGCCTCGCCACCGGCGAAACCGCCGTTTTCCTAGCAGGCATCAAACTGCCCGGCCAGCA
TCGTCGGCATGGGCGTGCTGTTTGCGCTTTTGCAGGCGGGTTGGGTCAAAACGTCTTGGC
TGCAACAGCTTACCGACGCGCTGATGTCGAACCTGACGCTGTTCCTCGTGCCGCCCTGCG
TGGCGGTCATCAGCTATTTGGATTTGATTGCCGACGATTGGTTTTCGATACTGGTTTCCG
CCTCCGCCAGCACTTTGTGCGTACTGCTGGTTACGGGCAAAGTCCACCGGTGGATACGGG
GTATTATCCGATGAACGAAATCCTCAGGCAGCCCAGCGTTCTGCTTTTCCTCACGCTTGC
CGTGTACGCGCTTGCGATTATCGTGCGCACGCGCACGGGCAATATCTTCTGCAACCCCGT
ACTCGTCAGCACTATCGTGCTGATTGCCTACCTGAAAATCCTCGGTATCGATTATGCGGT
GTACCACAACGCCGCGCAATTCATTGATTTTTGGCTGAAACCCGCCGTCGTCGTGCTTGC
CGTGCCGCTCTACCAAAACCGCCGTAAAATCTTCAACCAGTGGCTGCCCGTCATCGTTTC
ACAGCTTGCGGGCAGCGTTACGGGCATTGTTACAGGGATGTATTTTGCCAAATGGCTGGG
CGCGGAACGCGAAGTCGTCCTCTCGCTCGCGTCCAAATCTGTTACCAACCCCATCGCTAT
TGAAATCACCCGCTCCATCGGCGGCATTCCCGCCATTACCGCCGCCACCGTCATCATTGC
CGGTCTGGTCGGACAGATTGCCGGTTACAAAATGCTGAAGAACACGGTCGTCATGCCCTC
GTCCGTGGGTATGTCGCTCGGCACGGCTTCGCACGCGATGGGGATTGCCGCCTCGCTCGA
ACGCAGCCGCCGTATGGCGGCATACGCGGGGCTGGGGCTGACGTTCAACGGCGTACTGAC
CGCGCTGATTGCGCCGCTGCTCATCCCCGTTTTGGGATTTTGAACCCGTTTCAGACGGCA
TTTCAGCCCATGCTGTCTGAACGCCGACACACTCGCAAGGAGAACCGTTATGGCTGTCAA
CCTGACCGAAAAAACCGCCGAACAACTGCCCGACATCGACGGCATTGCCCTCTACACCGC
CCAAGCAGGCGTGAAGAAGCCCGGGCATACCGACCTGACACTGATTGCCGTAGCCGCCGG
CAGCACCGTCGGTGCAGTCTTCACGACCAACCGTTTCTGTGCCGCGCCCGTCCACATCGC
CAAATCGCACCTTTTCGACGAAGACGGCGTGCGCGCCCTCGTCATCAACACGGGCAACGC
CAACGCGGGTACGGGCGCACAGGGCAGAATCGATGCTTTGGCAGTGTGTGCCGCCGCCGC
CCGGCAAATCGGCTGCAAACCGAACCAGGTGCTGCCCTTCTCCACCGGCGTGATTCTCGA
ACCGCTGCCCGCAGACAAAATCATCGCCGCCCTGCCCAAAATGCAGCCTGCCTTCTGGAA
CGAAGCGGCACGCGCCATCATGACCACCGACACCGTGCCCAAAGCCGCCTCGCGCGAAGG
CAAGGTCGGCGACAAACACACCGTCCGCGCCACGGGCATCGCCAAAGGCTCGGGCATGAT
TCATCCCAATATGGCGACCATGCTCGGTTTCATCGCCACCGATGCCAAAGTTTCCCAACC
CGTCCTCCAACTGATGACGCAGGAAATCGCCGACGAAACCTTCAACACCATCACCGTTGA
CGGCGACACCAGCACCAACGACAGCTTCGTCATCATCGCCACCGGCAAAAACAGCCAAAG
CGAAATCGACAACATCGCCGACCCGCGTTACGCCCAACTCAAAGAATTGTTGTGCAGCCT
CGCGCTCGAACTCGCCCAAGCCATCGTCCGCGACGGCGAAGGTGCGACCAAGTTCATCAC
CGTCCGCGTCGAAAACGCCAAAACCCGCGACGAAGCCCGCCAAGCCGCCTACGCCGTGGC
ACGTTCGCCGCTGGTCAAAACCGCCTTTTTCGCCTCCGACCCCAACCTCGGCAGGCTGCT
CGCCGCCATCGGTTATGCCGGCGTTGCCGACCTCGATACCGACCTCGTGGAAATGTATCT
CGACGATATTTTTGGTTGCCGAACACGGCGGACGCGCCGCAAGCTACACCGAAGCACAAGG
GCAGGCGGTGATGTCGAAGGCCGAAATCACCGTCCGCATCAAGCTGCATCGCGGACAAGC
```

```
CGCCGCCACCGTCTATACCTGCGACCTGTCGCACGGATACGTTTCCATCAACGCCGATTA
CCGTTCCTGACCCGACACGGCTTCAGACGGCATACATAAAATGCCGTCTGAACCGCCGGA
CAACATACCATGACCTCCACATTCCCCCGCCGCCTCGCCCGCAAAATCCGCCAAACCCGC
CGCCTGTCGCGCAAAAGCATCGCCTTTCTGTTCCTTTTGGCAGGTTCGGCACTCGTCGCC
CTGACCGCGCTGTTTTTTGCCCATCTTGCCGATTTTGCGCTGGAACTGAACGCCAAACTG
GTTCAACAATACCCGTGGTTCGCGTGGGTCGCGCTTCCTTTGGGTTTACCGCTTATTGCG
TGGCTCACACGCAAATTCGCCCCCTTCACCGCCGGCAGCGGCATCCCGCAGGTCATCGCC
TCACTGTCGCTGCCCTACGGCGCACAGAAAACGCGGCTGATCCGCCTCGGGCAGACGCTG
CTGAAGATTCCGCTAACCTTTTTGGGTATGCTGTTCGGCGCGTCCATCGGACGCGAAGGT
CCGTCCGTGCAGGTCGGCGCGGCAGTGATGGGCGCGTGGGGCGCGTGGTGCAAGAAACAC
GGCTTGGCATTCAAAGGGATGCAGGAAAACGATTTGATGGCGGCGGGCGCGGCGGGCGGT
TTGGCAGCCGCGTTCAACGCGCCGCTGGCGGGCGTGATTTTCGCCATTGAGGAACTCGGG
CGCGGCATCATGTTGCGCTGGGAGAGGCAAATTCTTTTGGGCGTGCTCGCCTCCGGTTTC
ATACAGGTCGCCATTCAGGGCAACAACCCGTATTTTTCCGGCTTCAACGGCGGCGTATTG
GAACATATCTTTCTGTGGGTCGCACTGTCCGGCCTGGTTTGCGGCGCGGCGGGCGGGCTG
TTCGGACGTTTGCTCTATCGCGGTGCGGCGGCGTTTGCACCGCGCAAGATACGCGGCTTC
ATCCGCAACCGTCCGCTGCTGCTGGCGGCACTGATGGGGCTGCTGCTCGCCCTGCTCGGC
ACGTTCTACCAAGGCAAAACCTACGGCACCGGCTACCACGAAGCCGCCCAAGCCCTGCAC
GGCATCTACGAAGCCCCCTTCGGACTCGCCGCCGCCAAATGGCTCGCCCACCGTATTCAGC
TATTGGGCAGGCGTTCCGGGCGGCATTTTCACTCCCTCGCTGACCATAGGCGCGGTTTTG
GGCGAGCATATCGCCGCCATCGCCGACATATCGCAGGGTGCAAACATCATCGTCCTCATC
TGCATGGCGGCATTTCTGGCGGGCGCGACACAATCCCCGATTACTTCCGCCGTCGTCGTC
ATGGAAATGACGGGCGGACAAAGCCTGCTGTTTTGGATGCTAATTGCCTGCATTTTCGCC
TCGCAGGTTTCGCGCCAGTTTTCGCCGCGTCCGTTCTACCACGCATCGGGAATGCGCTTC
CGCCAGCGCGTGCTTCAAGAAACCGCCGCCCAAACCGGCAATGCGCCCGCAAGACCGCAA
ACAGCAAACAGCAAAACGGGAATGCCGTCTGAAAATTAAAACGCCCCCGATCAAACGCCG
GCAGCCGCCTTGATTTGAATACCGTTCCGCCGCCGCTTGAAATTTCAGCAACAATGCCGT
CTGAACGACAGAATGCGGTTTTCAGACGGCATTTCCCCATCCCGATATTGCCTAAACAAA
ACCGAAGCGTTTGCTATAATTCTATTTTTTACCGCATACGCACCAATCATGTTTCCCGAT
TTCTCCCAAACCCTCTCCAAAGACCGCCACTTCCTGCGTTCCGCCTTCAAAAATCCCAAC
AAATACGGCGGTTTGTCCAAAATCGAAGAAAAATACCGAAAATCGCACGAAATCTTTTTG
AAGCGTTTGGCAGCCTTGCCAAAACCCGAATTCGACAACACCCTGCCCGTTCACGAGAAG
CTCGAAGAAATCAAAAAAGCCATTGCCAAGAATCAGGTAACGATTATTTGCGGCGAAACC
GGTTCGGGCAAAACCACGCAGTTGCCCAAGATTTGCTTGGAACTCGGGCGTGGGGCGGCA
GGATTGATCGGGCATACCCAGCCGCGCCGTTTGGCCGCGCGCTCCGTAGCAGAGCGGATT
GCCGAAGAGCTGAAATCCGAAATCGGCAGCGCGGTCGGCTATAAAGTACGCTTCACCGAC
CACACCTCGCGCGATGCCTGCGTCAAGCTGATGACCGACGGCATCCTGCTGGCGGAAACG
CAGACCGACCGTTATCTCGCCGCCTACGACACGATTATCATCGACGAAGCGCACGAGCGC
AGCCTGAACATCGACTTCCTTTTGGGCTATTTGAAACAACTCCTGCCGCGCGCCGCCCCGAT
TTGAAAGTCATCATCACCTCGGCAACGATAGACGCAGAACGCTTCTCCCGACACTTCAAC
GGCGCGCCCGTTTTAGAAGTGAGCGGACGGACGTATCCCGTCGAAATCCTCTACCGACCG
CTGACCGGCAAAGACGAAGACGACGCAGAAGTGGAGTTGACCGACGCGATTGTCGATGCG
GCGGACGAATTAGCGCGACACGGCGAAGGCGATATTTTGGTATTCCTGCCGGGCGAGCGC
GAAATCCGCGAAACTGCCGAAGCCCTGCGCAAATCCACGCTGCGCCGCAACGACGAAATC
CTGCCCCTGTTCGCACGCCTGTCGCACGCCGAGCAGCACAAAATCTTCCACCCCTCAGGC
GCGAAACGCCGCATCGTATTGGCAACCAACGTCGCCGAAACCTCGCTTACCGTGCCGGGC
ATCAAATACGTCATCGACACCGGCCTCGCGCGTGTTAAACGCTATTCCGCACGGGCGAAA
GTGGAGCAGCTTCATATCGAAAAAATCTCCCAAGCCGCCGCCCGCCAACGATCCGGCCGC
TGCGGACGCGTCTCCGCAGGCGTGTGTATCCGACTGTTTTCAGAAGAAGATTTTAACAGC
CGCCCCGAATTTACCGACCCCGAAATCGTCCGCAGCAACCTCGCCGCCGTCATCCTGCGC
ATGGCAGCATTGAAACTCGGCGATGTGGCGGCATTCCCGTTTTTAGAAATGCCCGATTCA
CGGTATATCAATGACGGTTTTCAGGTGTTGTTGGAGTTGGGGGCGGTGGAGGCCGTCTGA
AAACAGGCAGACATAAAAGAAAATCCGCGTAGAGTGATGTAAACTTACCCTTGCTTTAAT
AAGTAGAAAATGGTGGGTTTACGTCCCCCCCTGCGGCTACTAAAAAAATATAAGAGTAAA
CAACCTTTTTGAAAGAAAAATGTATGGACGAAATTCAAATACCCAAAAAAGTGGAATTAC
AAACCAAACTAGAAAATGAAAGATTGTTTTATCGAAAGGTTCTACCACGATTATTGTTG
GTGCTAATGGCACAGGGAAAACAAGATTAGCTGTTTATATTGAAGAACAATTAAAGGAAA
AAGCACACAGAATTTCGGCTCATAGAGCATTAAAATTAAACCCTAATGTCAATAAAATAC
CAGAAAAGAGTGCCAAAACATATCTATCTTATGGTCAGAACTGGGATGGAATCGATGTAT
```

```
CAAATAGAAAAAATTATAGATGGGATAATAACTCATATACTCATTTACTCAACGATTTTG
ATTGGTTATTACAATATTTATTCGCTCAACAAAATAATATTGCGGTAGCAAATAATCAAA
AGCTCAACCGTAATGAAAAAGTAACCAATTCAAAAACAAAGCTAGATATTTTGCAAGAAG
CATGGGAAACATTATTACCACACAGAAAATTACATATTACAGCAGATGATATTCAAGTCT
CTGCTGTAGATAATGAGGAATTGTATTCTGCCTCAAATATGAGTGATGGAGAGCGAGCAC
TTTTCTATATTCTTGGACAAGTTTTGTCAGTAGATGACGGTTCTGTCTTAATTTTTGATG
AGCCTGAATTACATATTCATAAATCAATTATTTCAAATCTATGGGATAAAATTGAAGAAT
TACGACCTGATTGTTCATTTCTAATCATTACACACGATATTGAATTTGCTGCAACTCGAG
TAGCTAAAAAATATGTTATCAGAAATTATTATCCGACCCCTGCTTGGGATATTTCTGAAG
TTCCTGAAAGTAATTTTGATGAAGAAACAATAACGATGATTTTAGGTAGCCGTAAGCCAA
TATTATTTGTTGAGGGCAACAATAATAGTTTAGATATTGCTACTTACCGCTATTGTTATC
CTGATTGGACCATCATACCCAAAGGGGCATGCAAAGATGTCATTCAATCAGTATCATCGC
TGAAAAAATTAAGTAATGAAATGCCATTACTAAACTTAAAATGTTCAGGTATTGTCGATT
TAGATAGTAGGGATGAAAGAGAAATTGAACAATTAAATAATTTGGGTATTTACATTTTAC
CTGTATCCGAAATTGAAAATCTTTTTAGCTTAACTGATGTAGCAAAAGAGATATTGAAAC
TAAATCAATATTCAGATGAAGAATTACTCAATAAACTTAATGGATTTAAATCCGAACTAA
TTAAATATATAGATAATGAATTAAAAGACGATAAATTAGACGAATTTGTTGTAAAACAGG
TTCGACGTAAAATTGATAATTATTTAAAAAAATATTGATTTATCCTCCAAAATAACAAGTA
CTGATATGAAAAAATCATTACTTAATGAAATTTCTACTTTAACGAACAGAAAATTGAAA
CATGGATTTCAGAAATTAAAAATGAAATTCAAAGATGTATTGAACAGCAAGATTTGGATA
AATTACTTACTATATATGATAATAAAGGACTCTTGGCTAAATCAGCTTGTGTTTTAAAAG
GAATGCGTAACAAACATGAATTTGAAAGCTGGATAATGAGAACATTAAAAGGAAGGAATA
AAGATTTTATTGATGCAATCAGACAGAAACTTCCAATTCTGGATTAAATAAAACCATCTG
AAAATTTACCTTCAGATACAGATATATTTCATGAAAAATCATCAAACTACACTCTCTTTC
CCTACTTCGAGTAGCCTGAAACCTTGCGCAGACAAACAAGGCCTGTCTGAAGACCGCAGC
CAATACCGCCTGACCAAACTCGGCGAACAAATGGCGCACCTGCCTATCGACCCGAAAATT
GCGCGTATTTTGTTAGTATTATTCCGTTTTTAAAAATGCCCGATTCGCGGTATATCAATG
ACGGTTTTCAGGTATTGCTGGAATTGGGGGCGGTGGAGGCCGTCTGAAAATAAAATCTTT
CTTTATAAAAAGGCAGGCCATGTTTCATTTTCAGACGGCCTAAATCATTGAGAAACTAAA
AACTATTAAAAAGGGAATATTGGGTTTTAAAACTCAATCGGTAAATTTTTATTGTGAAAT
ATTAATGATGAAAAAATCTTTCCTTACGCTTGTTCTGTATTCGTCTTTACTTACCGCCAG
CGAAATTGCCTATCGCTTTGTATTTGGGATTGAAACCTTACCGGCGGCAAAAATTGCGGA
AACGTTTGCGCTGACATTTGTGATTGCTGCGCTGTATCTGTTTGCGCGTTATAAGGTGAC
GCGTTGTTGATTGCGGTGTTTTTTGCGTTCAGCATTATTGCCAACAATGTGCATTACGC
GGTTTATCAAAGCTGGATGACGGGCATCAATTATTGGCTGATGCTGAAAGAGGTTACCGA
AGTCGGCAGCGCGGGTGCGTCGATGTTGGATAAGTTGTGGCTGCCTGTGTTGTGGGGCGT
GTTGGAAGTCATGTTGTTTTGCAGCCTTGCCAAGTTCCGCCGTAAGACGCATTTTTCTGC
CGATATACTGTTTGCCTTCCTAATGCTGATGATTTTCGTGCGTTCGTTCGACACGAAACA
AGAGCACGGTATTTCGCCCAAACCGACATACAGCCGCATCAAAGCCAATTATTTCAGCTT
CGGTTATTTTGTCGGACGCGTGTTGCCGTATCAGTTGTTTGATTTAAGCAGGATTCCCGC
CTTTAAGCAGCCTGCTCCAAGCAAAATCGGGCAGGGCAGTGTTCAAAATATCGTCCTGAT
TATGGGCGAAAGCGAAAGCGCGGCGCATTTGAAGCTGTTTGGCTACGGACGCGAAACTTC
GCCGTTTTTAACCCGGCTGTCGCAAGCCGATTTTAAGCCGATTGTGAAACAAAGTTATTC
CGCAGGCTTTATGACTGCAGTGTCCCTGCCCAGTTTTTTCAATGCGATACCGCACGCCAA
CGGCTTGGAACAAATCAGCGGCGGCGATACCAATATGTTCCGCCTCGCCAAAGAGCAGGG
CTATGAAACGTATTTTTACAGCGCGCAGGCGGAAAACGAGATGGCGATTTTGAACTTAAT
CGGTAAGAAATGGATAGACCATCTGATTCAGCCGACGCAACTTGGCTACGGCAACGGCGA
CAATATGCCCGATGAGAAGCTGCTGCCGTTGTTCGACAAAATCAATTTGCAGCAGGGCAA
GCATTTATCGTGTTGCACCAACGCGGTTCGCACGCCCCATACGGCGCATTGTTGCAGCC
TCAAGATAAAGTATTCGGCGAAGCCGATATTGTGGATAAGTACGACAACACCATCCACAA
AAACCGACCAAATGATTCAAACCGTATTCGAGCAGCTGCAAAAGCAGCCTGACGGCAACTG
GCTGTTTGCCTATACCTCCGATCATGGCCAGTATGTTCGCCAAGATATCTACAATCAAGG
CACGGTGCAGCCCGACAGCTATCTCGTGCCGCTAGTGTTGTACAGCCCGGATAAGGCCGT
GCAACAGGCTGCCAACCAGGCTTTTGCGCCTTGCGAGATTGCCTTCCATCAGCAGCTTTC
AACGTTCCTGATTCACACGTTGGGCTACGATATGCCGGTTTCAGGTTGTCGCGAAGGCTC
GGTAACGGGCAACCTGATTACGGGTGATGCAGGCAGCTTGAACATTCGCGACGGCAAGGC
GGAATATGTTTATCCGCAATGAGTGGCGTAAAAACCAATAAAGACAAATTTAGATGATGT
CGGGGAAGATGCCCGACCGACAAGACTATGCAAAATATGAAAAACCAAGTACGCGGATCA
GGCATGGATGCCCGATCCAATCCGGCCAATGTTTCAGACGGCCTGCAAAACAGTTCGGGT
```

```
CATATCGGTACCAACACGCGTTACCGCCTGACCAAACTCGGCGAACAGATAGCGCGCCTA
CCCATCGACCCGAAAATCGCGCGCATTTTGCTGGCGGCGAAGAAACACGACTGCATGGCG
GAAATATTGGTGATTGCGTCCGCGCTGTCGATTCAAGACCCGCGCGAGCGGCCGCTAGAA
GCGCGCGATGCCTCAGCCAAGGCGCACGAGCGTTTTACCGACAAGCAGTCCGATTTCCTT
GCCTATCTGAACATTTGGGACAGCTTCCAGCGCGAACGCGATAAAGGCTTGTCCAACAAG
CAGCTGGTGCAGTGGTGCCGCCAATATTTCCTGTCGCACCTGCGGATGCGCGAGTGGCGC
GAGCTGCACCACCAGCTTGCCCAAACCGCGATTGAAATGGGTTTAACCACCAAGGAAGCC
GCTTTCAGACGACCTCCCGAAGTCAGGCAGCTCACGTCGTCTGAAAATGCGGGTGACCAA
GACCTATCTGCTAAACTCAAACAAAAACAACTGGATAAAAAGCAACACCGCGCCCAAATC
CGCGCCGCCAAAGAAGCGGGCTACGAACAAATCCACCGCGCCCTGCTCACTGGCCTTATC
GCCAACGTCGGCATGAAATCGCCCGACGGTAACGACTACACCGGCGCGCGCGGCAGCCGC
TTCCACCTTTTCCCCGCCTCCGCCCTGTTCAAAGCCAAACCCAAATGGGTGATGGCGGCA
GAATTGGTTGAAACCACGCGCCTTTACGCGCGCGACGTCGCCGTTATCCAGCCCGAATGG
ATAGAGCAGGAAGCGCCGCACCTCGTCCGCTATCATTATTTCGAGCCGCATTGGGAACAA
AAACGCGGCGAAGTCGTCGCCAGCGAACGCGTGACGCTTTACGGTCTGACCGTATTGCCG
CGCCGCCCCGTGTCTTACGGCAAAGTTGCCCCCGAAGAAGCGCGCGAAATCTTTATCCGC
AGCGCGTTGGTGGCGCAGGAATGCGATTTGAAAGCGGATTTTTTTGTCCACAACAAAAAG
CTGATTAAAGAAATTACCGAACTCGAACACAAATCGCGCAAGCAAGACGTGCTGGTCGAT
GACGAAGCCCTGTTTGCGTTTTATAACGAACGACTGCCCGAAATGGCTTGGAAAGACGCG
CAAGGCAGCGTTTGGGGAAGTGAAGATTCCGTACGGATTATTGAATCTGACAAAGCCGAG
AGGTCGTCTGAAAATGAGCGCAACGAGTTTCGTAAAAACAAGCGTAATGGGTCTCGCCAA
AATGAAAATCACGGCAACACCGTAGGTTGGGTTGAAAACCCAACATCAGCCGCAACTGCA
AAAACTGTTGGGTTTGACAATCCAACCTACGCTGCCCAACAAACCACCCCCTCCCCCGTG
GGGGAGGGTCGGGGAGAGGGCAAAACAGTTGCCGCACAAACCAACTTTTCCGCAACCGCA
GCAAACCCTCTCCCTAACCCTCTCCCGCAGGAGAGGGAACAGAGTGCCGCAGCTTCAACG
ATTTCAGACGACCTGCGTCCTGCAAATCTGCAGCAAACCGCCCCCTCCCCCGTGGGGGAG
GGCTGGGGAGAGGGCAAAACAGTTGCCACACAAACCAACTTTTCCGCAACCTCAACAAAC
CCTCTCCCGCAGGAGAGGGAACAGAGTGCCTCAGCTTCAACGTTTTCAGACGACCTGCGT
CCTGCAAATCTGCAGCAACCCTCTCCCTCCCCCGTGGGGGAGGGCTGGGGAGAGGGCAAA
ACAGTTGCCACACAAACCAACTTTTCCGCAACCTCAACACTTTCAGACGACTCCAAACCC
AAAAAGCAGCCTGCACCCCAAAAAAACCGTCTGAAACCCCTACCCCTCGCCGACATCCGC
ACCTTCCAAGCCTGGCTCAAAACCGCCGAGCGCGACAATCCGCGCCTGCTGTTCCTCAGC
CGCGACGATCTGATGCAACACGCCGCCGCACACATTACCGAAGAACAGTTCCCCAAATTC
TGGCAAACCGCAGACGGCAAATTCAAACTTTCCTACCGCTTCGAGCCGCACCATCCGCTA
GACGGCGTGACCATGACCGTGCCGCTGACCGTCCTCAACCGCCTGCACGCGCCGTCGCTC
GAATGGCTGGTGCCCGGCATGATACGCGAAAAAATCCAGTTGCAAATCAAAGCACTGCCC
AAGCAAATCCGCCGCATCTGCGTGCCCGTGCCCGAATTCATCACCCAATTTTTAAGCCAA
AACCCCGACCGCAACGCCCCCATCCTGCCCCAACTCGCCCAAGCCATCGCCAAAACCGCA
GGCGACATCCGCATATTCGAGCAAATCAACCAAGACGAATGGGCCGCGTTCAGGCTGCCC
GAACACTGCTATTTCAACCTCCGCATTATCGACGACGGCGGACAAGAGCTTGCCGGCGGC
CGCAAACTGCACGAATTGCAACAACAACTCGGTCAAGCTGCCGCCGTTACCTTCCGTGAC
AACACCCAAGAATTTGAGCGCGACAACGTCACCGCATGGGACATCGGCACCCTGCCCGAA
TCCATCAAATTCGCACGCGGCAAACAACAGCTCACCGGCTATCTCGGCCTACAAAAAGAA
AAAGACGGCCGCATCGCCCTGCGCCTGTTTGATACCACAGAAGCCGCAGAGCAGGCACAC
CGTCAAGGTGTCATCGAATTGATGAAGCTGCAATTAAAAGAGCAGGTAAAGGATTTGAAC
AAAGGCATCCAAGGCTTCACCCAAGCTGCCATGCTGCTCAAACACATCAACGCCGACACT
CTGCGCGACGACCTCACCCAAGCCGTCTGCGACCGCGCCTTTATCGGCGAAGACGAGCTG
CCGCGCAACGAAAAAGCCTTCAAAGAACAAATCAAACGCGCCCGCAGCCGCCTGCCCGCC
GTCAAAGAAGCCCTCAGCCGCTACCTGCAGGAAACCGCCGCCGTCTACGCCGAACTCAAC
AGCAAACTCGGCAAACACCCATTGACCCACCTTCTAAGACTACGCCTGCAAACCCTGCTC
GCCGCCGGCTTCGCCACCCGAACCCCGTGGGCACAATGGCCGCGCCTCCCCATCTACCTC
AAAGCCATGACCCTGCGCCTCGAAAATACAGCAGCAACCCCGCCCGCGACGCAGCCCGC
GAAGCCGATATCCAAGAGCTGGAACAAATGTGGCAGGAAAAAACAGACAGCCTGATTAAA
CAAGGTCTCCCCATTTCAGACGGCCTCGCCGCGTTTAAATGGATGATTGAAGAATTGAGG
GTGTCGCTGTTCGCGCAGGAATTGAAGACACCGTATCCGGTGTCGGTGAAGCGGCTGTTG
AAAGAGTGGGAAAAAATTGAAAAATAAAAAAACAGCCTGAAAGTTTCAGGCTGTTTTTT
TATTTGACTAATCGAAGTTTCCTATATCTATTTAAGTCCCTCTCAACTAATCCAAAAGTT
AAATCAGCAACATCTTTGGGGGATACGTTTAAATTTTCAGCAATCTGTTCAATACCAATG
CCATCATTTTTTAAAATAGTAAGCATTTTACGTAATGCGCTTGATATTTCCCTTTCCATT
```

```
GGCTCTGGTTCGATAGTTCGATATTTTTTCTTTGCAAACAAAGGACAAAGATTGTGTATA
TACATCCTATCAGTAATCATTCCTAATTTATGCATCCGATATGCTAAGGCAACAAGTGAT
ACACCAAATCGTCTTTTGATTTTTAATAAATTTTCAATAGTGATAGGAACATGACGATAT
AAGCGTAGTGCAGCCTCCGGCATTAAAAAAGCTGAAGCAAAGGCATTAGCCTCTTTTTCG
ATAATATCACGAGGTTCATCTTCTGTAATTTCACTATTTTTACTATGTTCCATACTGTAT
TTATCACGGATTAAGTGCCCTAATTCATGGGCAGCATCAAATCGACTACGTTCTGCAGAT
TTTTGTGTATTTAAAAATACAAATGGATGATTTTCATACCAAGTACAAAAGGCATCAATG
TCCTTTGTATCTAAAGATAATGAAAATACACGAACACCCTTAACTTCAAGTAGGGTGATC
ATATTCGGAATAGGTTCATTGCCAAGCCCCCATTCTAATCTTAGTTCCTGAGCAGCCTCT
TCAGGAGAAATATCAGAAAAATCAGGCAATACGGCTTGACTTAGTGTAAATTCTGTCTCG
AGCCAGTCATTTAACAAAAAAGCCGTAATGCTATGATTTAATGCTTGTTTTTCAAGCCTC
TTCGAGGTGCGTGAACGAGCACGAAAACTTACTGCCTGAGATTTCAACTCAGGCAGTCTT
TCGTCATTAGTAAAGAAATGAACTGGAAACTCTAATAAATTGGCTAATTCATTTAAATCA
GGTATTTGCTCATCTTTTACATAGTTTCTAACCTGTCGAGCGGTAATACCTAATAACTCA
GCTAATTTTGTTTGCGTACAACCACGTTTATCCAGCGCAAATTCCAGTCTCTCACGATTA
AATGTCTGCATGATTTATCATTCAAATTATCCTGCTTTTTGTTTTCTTTCAACCAAAGGC
TCATATTCTTCAACAGGTTGCTTACGTTCAAGCTCATCAAATTTAGTTAAATCAACATCA
GCTAATATAATTCGCTGCTTGTACCCAGTTATTTGATGACTAACAAAACCACTCGGTAAA
GATAATTCAAGTTGCACTTTATTATACTTCCAGTGAAACAGCAGAACCCAAAACTGCACA
GTATCAGGCAAATCTAGTTTTGAATTACGAATAGCCTCCTCAAATCCCTTACCTTTCCTT
GCGGTTGTCATTGGCATCCCGTGATGCCTACCAACATCTGAAGTAGCAGTAGCCACAATA
ATACTTTTAGTTCGACATGGCGAGAGACATAGAAATGCACCACCCGACCAAGGCTCAAGC
GTCCAGCCATCTTTACTTAAATATACCCTTAGAGCAAATGTAATTTCTGCTTGCCGATAC
ATCCCCAATGTATTTCTGTCAGATAATGCTGCTTTGTCCTGAATATTATTATGCGCAGTA
AGTACAATCTCTTTAAGCATCTCCTGAGATAAGTACTTGCTGATTTCACTTAAAGCAATA
TCACTATTTTGTTGCTCGACTATTTCTCCTACTTCAAATGGGAAAGGTTCTGATAATGCA
AATTCCACCATAAAAATTTCCTAATTTTATACGTAATGTTTACACAATATATCAGGAAAT
ATGAAAACGTACAACTATATCTATAAAGCAATTAATAAGTAGCCTGCCCAACCGTGTCCT
TATCTTTCGGCACACCCGACCTGCAAATCACGCAAAACTTGGAATCCGTGTGTAGGGTGT
GTGCGGTACATACGCACGCAGTCTTTTTAAACCACAGCCCTTCCCAACTAAACCAAAAGG
TCGTCTGAACCCTATTTTCAGACGACCTTTTGCCACTTTGTAAAACAAATCTTCCCACCA
TCCTCTCCCCAAACATCGCCCGAACCAGTAAACTTCTCATATTTCAACAACTCCTTGGAA
GCAAACCATGTCTGGTATCTACCTACCCCGCCTATTCCCGCCCCATATCGCCGAACGCGG
CCTGTTGTATTTTCAGCAGGGCAAGGTTCTCGATGTCCGAAAAACTTCCGCCGGGCATTA
TCGGGCGGAGGTGTGCGGTTCGGAAAACTATTGGGTATAGTTGAAGCTGGATAGTGATTT
GTATATTAAAGACGAAGGCTGCAATTGTCCTTATATCTAAGAGTGCAAACATACCTTAAA
TTACTATATTGCATAGGCAAAATACAAGCCTATAACGAATTGGAAACAAAATGCCGTCTG
AAAACATCTTCAGACGGCATTATAAAATCTGTTCACCTTTTCAGATGAGTAATGTACACC
CTTATACAATTTTTGCTACTATGCCCCATAAATCCACGGCTAAAGATATCCTTATTATGT
CCTATGATTTATCGAAACGACTTGTAATCGGCTTAGCATCAAGTGCCCTATTCGACTTAT
CCGAATCGGATAATATATTTAGAATGGAAGGGGCAGAAACCTATAGGCAATATCAGAGAG
AAAAACAAAACCATCCCCTAAAAAAGGCGTTGTCTTTCCATTTATTAAAAAACTTCTGTC
AATCAATGAAATAAACCCAAACGACCCAACGATTGGGTTTATTCTTTTATCCAGAAACAA
TCCAGATACAGATTACGAGTCATAACTATAGGCTTAATATTACACGATTCTCATTCCATC
AAGGCGGAAAACCGCACAAATACTGAAACACTATCGATCGATTTGTAAACAAGCCTACTT
AAGTAACTTGCAGTCCTTATCATTTCCTTTAAAATAATCCAGCCCGTCACTACACGAACT
GGCGGACTTCTTGCAAATAAAGGTTACTAGATTTTCATTCATCTTAATAATAAAAGGATT
TTTATCTTTATCTATGGCTACCGCCTTCAACATGAATTTACTGTCTAAAGCCCCGCGCGC
GATTCCATTCAAACGGATACAAAAGCCTTCTGCCTCTTTAATCGGCAAACTTGGCCACTT
GGTAGATGTTTGTTTAAACCTCCCATTCTGCAGATAAAACTTTTCCATAAAATGTGCATT
TTCTAACAAGGCTGCCCGCACTGCATTTATCTTTGCTTTCTCAACATAATTGCGATAGCT
CGGATAAACAATTAAAGCAAGTACAGACAATATCAAGACCACTGATATTAATTCAACCAG
CGTAAACCCCCGATTATCAGTCATTACTTTACTTCCAATAAGAACAGATTATTCAACATA
TTTCTTTGAACAGACTTACTATCCCATTCAACAGTATGCATATTTCCCACTCTATTTTTT
AGCGGCCGGTATAGCCGGTTTGGCTGGGCCTTTTGGTGCGGGCGCGCCGACCGAAGCCTG
GTCCTTCAGCTTCGCCAGCACCGCAGGGCCGATGCCCTTTACCTTGGTCAAATCGTCTAC
AGACTTGAACGCACCGTTTTGCGCACGGTATTCCGCAATGGCCTTCGCCTTCGCCGGGCC
TATGCCCGGCAGCGCCTCCAACTCCTGCTGCGAAGCCGCATTGATGTTTACCGCCGCAAG
GGAGAAGGCGCAGGAGAACAGCATACAGAACAGCACGAACATTTTCTTCATGGTTTTTCC
```

TTTAAGGGGTTGCAAACAATAAACCGCATCTTGCGACGATAAAACGAGTCATTCTAAAATG
AATATCCCAAAGTTTCAAGCCGTTCCTCCGCAAACCCGACCGGACACCGTACGGATGCCG
TCCCGCCATCACCGACATTTTTTCCGGGCAAAGCAAACATTTTTTCCGGGCAAAGCAAAA
ACCCCCGAATAATCGGGGGTTTTCTGAATGGGTGTTTGGCAGTGACCTACTTTCGCATGG
AAGAACCACACTATCATCGGCGCTGAGTCGTTTCACGGTCCTGTTCGGGATGGGAAGGCG
TGGGACCAACTCGCTATGGCCGCCAAACTTAAACTGTTACAAATCGGTAAAGCCTTAATC
AATATATTCGGTAATGACTGAATCAGTCAGTAAGCTTTTATCTCTTGAAGTTCTTCAAAT
GATAGAGTCAAGCCTCACGAGCAATTAGTATGGGTTAGCTTCACGCGTTACCGCGCTTCC
ACACCCCACCTATCAACGTCCTGGTCTCGAACGACTCTTTAGTGCGGTTAAACCGCAAGG
GAAGTCTCATCTTCAGGCGAGTTTCGCGCTTAGATGCTTTCAGCGCTTATCTCTTCCGAA
CTTAGCTACCCGGCTATGCAACTGGCGTTACAACCGGTACACCAGAGGTTCGTCCACTCC
GGTCCTCTCGTACTAGGAGCAGCCCCCGTCAAACTTCCAACGCCCACTGCAGATAGGGAC
CAAACTGTCTCACGACGTTTTAAACCCAGCTCACGTACCACTTTAAATGGCGAACAGCCA
TACCCTTGGGACCGACTACAGCCCCAGGATGTGATGAGCCGACATCGAGGTGCCAAACTC
CGCCGTCGATATGAACTCTTGGGCGGAATCAGCCTGTTATCCCCGGAGTACCTTTTATCC
GTTGAGCGATGGCCCTTCCATACAGAACCACCGGATCACTATGTCCTGCTTTCGCACCTG
CTCGACTTGTCGGTCTCGCAGTTAAGCTACCTTTTGCCATTGCACTATCAGTCCGATTTC
CGACCGGACCTAGGTAACCTTCGAACTCCTCCGTTACGCTTTGGGAGGAGACCGCCCCAG
TCAAACTGCCTACCATGCACGGTCCCCGACCCGGATGACGGGTCTGGGTTAGAACCTCAA
AGACACCAGGGTGGTATTTCAAGGACGGCTCCACAGAGACTGGCGTCTCTGCTTCTAAGC
CTCCCACCTATCCTACACAAGTGACTTCAAAGTCCAATGCAAAGCTACAGTAAAGGTTCA
CGGGGTCTTTCCGTCTAGCAGCGGGTAGATTGCATCTTCACAACCACTTCAACTTCGCTG
AGTCTCAGGAGGAGACAGTGTGGCCATCGTTACGCCATTCGTGCGGGTCGGAACTTACCC
GACAAGGAATTTCGCTACCTTAGGACCGTTATAGTTACGGCCGCCGTTTACTGGGGCTTC
GATCCGATGCTCTCACATCTTCAATTAACCTTCCAGCACCGGGCAGGCGTCACACCCTAT
ACGTCCACTTTCGTGTTAGCAGAGTGCTGTGTTTTTAATAAACAGTCGCAGCCACCTATT
CTCTGCGACCCTCCGGGGCTTACGGAGCAAGTCCTTAACCTTAGAGGGCATACCTTCTCC
CGAAGTTACGGTATCAATTTGCCGAGTTCCTTCTCCTGAGTTCTCTCAAGCGCCTTAGAA
TTCTCATCCTGCCCACCTGTGTCGGTTTGCGGTACGGTTCGATTCAAACTGAAGCTTAGT
GGCTTTTCCTGGAAGCGTGGTATCGGTTGCTTCGTGTCCGTAGACACTCGTCGTCACTTC
TCGGTGTTAAGAAGACCCGGATTTGCCTAAGTCTTCCACCTACCGGCTTAAACAAGCTAT
TCCAACAGCTTGCCAACCTAACCTTCTCCGTCCCCACATCGCATTTGAATCAAGTACAGG
AATATTAACCTGTTTCCCATCGACTACGCATTTCTGCCTCGCCTTAGGGGCCGACTCACC
CTACGCCGATGAACGTTGCGCAGGAAACCTTGGGCTTTCGGCGAGCGGGCTTTTCACCCG
CTTTATCGCTACTCATGTCAACATTCGCACTTCTGATACCTCCAGCACACTTTACAATGC
ACCTTCATCAGCCTACAGAACGCTCCCCTACCATGCCGGTAAACCGGCATCCGCAGCTTC
GGTTATAGATTTGAGCCCCGTTACATCTTCCGCGCAGGACGACTCGACCAGTGAGCTATT
ACGCTTTCTTTAAATGATGGCTGCTTCTAAGCCAACATCCTGGCTGTCTGGGCCTTCCCA
CTTCGTTTACCACTTAATCTATCATTTGGGACCTTAGCTGGCGGTCTGGGTTGTTTCCCT
CTTGACAACGGACGTTAGCACCCGCTGTCTGTCTCCCGAGGAACCACTTGATGGTATTCT
TAGTTTGCCATGGGTTGGTAAGTTGCAATAACCCCCTAGCCATAACAGTGCTTTACCCCC
ATCAGTGTCTTGCTCGAGGCACTACCTAAATAGTTTTCGGGGAGAACCAGCTATCTCCGA
GTTTGTTTAGCCTTTCACCCCTATCCACAGCTCATCCCCGCATTTTGCAACATGCGTGGG
TTCGGTCCTCCAGTACCTGTTACGGCACCTTCAACCTGGCCATGGATAGATCACTCGGTT
TCGGGTCTACACCCAGCAACTCATCGCCCTATTAAGACTCGGTTTCCCTACGCCTCCCCT
ATTCGGTTAAGCTCGCTACTGAATGTAAGTCGTTGACCCATTATACAAAAGGTACGCAGT
CACACCACTAGGGCGCTCCCACTGTTTGTATGCATCAGGTTTCAGGTTCTGTTTCACTCC
CCTCCCGGGGGTTCTTTTCGCCTTTCCCTCACGGTACTGGTTCACTATCGGTCGATGATGA
GTATTTAGCCTTGGAGGATGGTCCCCCCATATTCAGACAGGATTTCACGTGCCCCGCCCT
ACTTTTCGTACGCTTAGTACCGCTGTTGAGATTCGAATACGGGACTGTCACCCACTATG
GTCAAGCTTCCCAGCTTGTTCTTCTATCTCGACAGTTATTACGTACAGGCTCCTCCGCGT
TCGCTCGCCACTACTTGCGGAATCTCGGTTGATTTCTTTTCCTCCGGGTACTTAGATGGT
TCAGTTCTCCGGGTTCGCTTCTCTAAGTCTATGTATTCAACTTAGGATACTGCACAGAAT
GCAGTGGGTTTCCCCATTCGGACATCGCGGGATCATTGCTTTATTGCCAGCTCCCCCGCG
CTTTTCGCAGGCTTACACGTCCTTCGTCGCCTATCATCGCCAAGGCATCCACCTGATGCA
CTTATTCACTTGACTCTATCATTTCAAGAACTTCTTTGACTTTGCCTAACATTCCGTTGA
CTAGAACATCAGACTTGAATTTCCTACTTTGATAAAGCTTACTGCTTTGTTGTGTCTTAA
TCCTGCCTTTTGTGTTTCAGGATTAAGTCGATACAATCATCACCCAAATACTGTGTTTGT
TTTCTTTTCTCTTGCGAGAGATTTTTATCCTTTGCAAAGAATAAAAAATCAAAACAAACG

```
CTTTGTCTTTGTTTGTTGATTTCGGCTTTCCAATTTGTTAAAGATCGATGCGTTCGATAT
TGCTATCTACTGTGCAAATCAAAACGAGCTGATTATTATATCAGCATTTTGTTCTTGGTC
AAGTGTGACGTCGCCCTGAATGGATTCTGTTCCATTCTTCCGTTTTGATTTGTACAGTAT
TGGTGGAGGCAAACGGGATCGAACCGATGACCCCCTGCTTGCAAAGCAGGTGCTCTACCA
ACTGAGCTATGCCCCCGTTCTTGGTGGGTCTGGGAGGACTTGAACCTCCGACCCCACGCT
TATCAAGCGTGTGCTCTAACCAGCTGAGCTACAAACCCGGATTCTCTTCTTAAGCGAATC
TTGCCTTCACTCAAGCTTCTTCCGCATCTTTTTCAGTTTACCGATAAGTGTGAATGCCTA
AAGCCTCTTCTTTCTCTAGAAAGGAGGTGATCCAGCCGCAGGTTCCCCTACGGCTACCTT
GTTACGACTTCACCCCAGTCATGAAGCATACCGTGGTAAGCGGACTCCTTGTGGTTATCC
TACCTACTTCTGGTATCCCCCACTCCCATGGTGTGACGGGCGGTGTGTACAAGACCCGGG
AACGTATTCACCGCAGTATGCTGACCTGCGATTACTAGCGATTCCGACTTCATGCACTCG
AGTTGCAGAGTGCAATCCGGACTACGATCGGTTTTGTGAGATTGGCTCCGCCTCGCGGCT
TGGCTACCCTCTGTACCGACCATTGTATGACGTGTGAAGCCCTGGTCATAAGGGCCATGA
GGACTTGACGTCATCCCCACCTTCCTCCGGCTTGTCACCGGCAGTCTCATTAGAGTGCCC
AACTGAATGATGGCAACTAATGACAAGGGTTGCGCTCGTTGCGGGACTTAACCCAACATC
TCACGACACGAGCTGACGACAGCCATGCAGCACCTGTGTTACGGCTCCCGAAGGCACTCC
TCCGTCTCCGGAGGATTCCGTACATGTCAAGACCAGGTAAGGTTCTTCGCGTTGCATCGA
ATTAATCCACATCATCCACCGCTTGTGCGGGTCCCCGTCAATTCCTTTGAGTTTTAATCT
TGCGACCGTACTCCCCAGGCGGTCAATTTCACGCGTTAGCTACGCTACCAAGCAATCAGG
TTGCCCAACAGCTAATTGACATCGTTTAGGGCGTGGACTACCAGGGTATCTAATCCTGTT
TGCTACCCACGCTTTCGGGCATGAACGTCAGTGTTGTCCCAGGAGGCTGCCTTCGCCATC
GGTATTCCTCCACATCTCTACGCATTTCACTGCTACACGTGGAATTCTACCTCCCTCTGA
CACACTCGAGTCACCCAGTTCAGAACGCAGTTCCCGGGGTTGAGCCCGGGGATTTCACATC
CTGCTTAAGTAACCGTCTGCGCCCGCTTTACGCCCAGTAATTCCGATTAACGCTCGCACC
CTACGTATTACCGCGGCTGCTGGCACGTAGTTAGCCGGTGCTTATTCTTCAGGTACCGTC
ATCAGCCGCTGATATTAGCAACAGCCTTTTCTTCCCTGACAAAAGTCCTTTACAACCCGA
AGGCCTTCTTCAGACACGCGGCATGGCTGGATCAGGCTTGCGCCCATTGTCCAAAATTCC
CCACTGCTGCCTCCCGTAGGAGTCTGGGCCGTGTCTCAGTCCCAGTGTGGCGGATCATCC
TCTCAGACCCGCTACTGATCGTCGCCTTGGTAGGCCTTTACCCCACCAACTAGCTAATCA
GATATCGGCCGCTCGAATAGCGCAAGGCCCGAAGGTCCCCTGCTTTCTCTCTCAAGACGT
ATGCGGTATTAGCTGATCTTTCGATCAGTTATCCCCCACTACTCGGTACGTTCCGATATG
TTACTCACCCGTTCGCCACTCGCCACCCGAGAAGCAAGCTTCTCTGTGCTGCCGTCCGAC
TTGCATGTGTAAAGCATGCCGCCAGCGTTCAATCTGAGCCAGGATCAAACTCTTATGTTC
AATCTCTAACTTTTTAACTTCTGGTCTGCTTCAAAGAAACCAACAGGACAATGTTCAAAA
CATTATCTTGTCTGTCTTTCAAACAGTGTGAGACTCAAGGCACTCACACTTATCGGTAAT
CTGTTTTGTTAAAGAGCGTTGCGAATTATAAAGTATTCCTTCCGCCTGTCAAGATATCTC
TCGATATCCCCAACATTCTGTGCTATACTTTTCAGTTCGTCCGCCACTTCTGCAGCAGCG
AAGAACCGAACTATACGCCCACAGGGAAAAACGGTCAATGCTTTTCTGAAGAAATTTTTT
TAAAAATATTTATCTATTTGTTTATAAATTTAATTTATATCAGTCAATTTTATTTTCCAT
ACAGAATTCTTCCAGTGCCCGATGGATATTTTCAGTCTGCCATTCGTTTTTTAAGGGTGC
AACAATTTCGATTTGTCGGTTTTGGTAGTCAAATTGTATTTTCCATGCATACAGAAACAT
GGTTTCGGATTCTGTTCCGCCGTATAAGCTGTCGCCCAGAATCGGACTGCCCAAACTTTT
CATCGCCACTCTCAATTGGTGCGTTTTGCCCGTATGCGGTTCTAGGATGAACAGCCGCAG
TTTTTCGGCGATACTGATGCTGTGGAATCGGGTAACGGCGATATTTTCTGTATTGCGCGT
CAACTTCCACATTCCACATCTGGATTTTTCCATTCCGCCTTTAATCCAACCCTGCTTTTT
GGACGGCTTGCGGTCGGACAGTGCCAAATAGGTTTTTTTGATGCTTTTGCCGGCAAACTG
TCCGCTAAGGGCGGACGCGCTTTCTTTGTTGAGGGCAAACAGTAAAATGCCGCTGGTCTG
TTTGTCCAATCGGTGCAGCAGCCACACACGCTCTACGCCCAACTGTATGGCGAGTGTTCG
GGCCAGTCCGGTCTCGCCGCTGTCTTGGTGGACGGATATGCCGCCGGTTTGTTGATGGC
GACGAAGTCTTGATGGCGGAACAAAATTTCCAACATATCCATATATGCCTTGCAAAAATA
GAAGGGTTCAATTTTCGTGTTGATGTTCGGCAAGGATTTTTTCGTACACAGCTTGCGGCA
CGTAGCGGTGGATCGTTTCCGTCCAGCCTTCCGGCCCGACCAGTCCTTTGACCATAGTGG
ACGACACTTCGGCGATTTCGCGCGGCGGCATGAGGAATACGGTGGATATTTCGGGGGCGA
GGTCGCTGTTGATATGGCGCATGGAACGTTCGTATTCGTAATCCGAAGCAGAACGGATGC
CGCGCACGATGAATCCTGCATCTACCTCACGGGCGTAATGCACCAGAAATCGGTTTTCAA
ATACATCGGTTCTGACGTTGGGAAACATTTTAGTAATATCGCACAACATATCCTGCCTTT
CAGCGACGGTATAGGTGCTGCGTTTGTCGGGGTTAATGCCGATGGCGACGATGAGTTCGT
CAAACATAGATTGCGCCTGCCGTATCATCCACAGATGCCCCAATGTGGGCGGATCGAAAC
TGCCGGCATAAACGGCGCGGCGCGGTGTATTCGGTAACATTTGATTCCTCCCGGCTTCAT
```

-597-

AGTCGGCTGTGTGTTGGTGCGTGTGCATCCGTATTGTATGCCCAAAGTAAAATGCCGTCT
GAAGCATTTTCAGACGGCATAGTCGGACGGCGTTTTACCGGCATCAATCCTCGCCGTTTA
AAGACAACAGGATGTTCAGCAGGCTGCTGAAGATGTTGTAAAGCGAGATAAACAGTGTCA
GTGCCGCGCTGATGTGGCTGTCTTCGCCGCCGTCGATGACGGTGCGTACCTGCCACATAA
TCATTAAGGAACTGAACAAGACAAAACCGGCGGAAATGGTCAGGGCGAGTGCGGGAATAC
CCAAAAACAGATTGGCAACCACGGCGACCATCAGAATGACCGCACCTACGGTCAGGAAGC
GTCCGAGCGCGTTCATATCGAGCCGGGTTCGGCGCGCCAAGGCGGACATCGTTAAAAAGA
CGGCGGCGGTCATCGCGGCGGCAATGCCGACGATTTTCGCACCGTCGGCAATATGGAGCG
CGTATTGCAGCACGGGGCCGATCAATACGCCCATACCGAATGTGAATACCATCAGCAGGG
TAACGCCGGTATTGCTGTAACGGTTTTTCTCGATGAAGTGGATCATACCGTAGAAAAACG
CCAACACGACGGCAAACCCTATCCAGCGCGAACCGAAGGCGGCGTAAAAATTGAAACCGG
CATTGGCGGCAAGTGCCGCGCCTGCGGAAGCCGGAATAAATGAAAATCCGAGCAGGCGGT
AGGTTTTCTGCAGGACGGTGTTTTTAGAAACCGTATGCGCGGTGTAGTCGTAAACGTCGT
GTTGCATATCATCTGCTCCTGAAAGCGCGGTTGGGAATAATGGGGGATTTTAACATTGCC
CAATGTCAAAATTTGTCCGGTTGCGTGAAGATAAAGTTGTCCGGCGTATTTTAAAGGCCG
TCTGAAGCAGTTTCGGACAGCCTGTGTTCAAAACGGAAACCGTTATTGCGGAACGTATC
CCTGAACGGCATCCGCGCCGTCGCCGAAGAAATACTGCTCCATCTGCTGAGCCAGGTATT
CGCGCGCGCGCGGATCGGCGAGGCTTAAACGGTTTTCGTTAATCAGCATCGTTTGGTGGC
GCGTCCACGCCGCCCACGCTTCTTGCGATACGTTTTCAAAAATGCGCTTGCCCAATTCGT
TGGGAAGCGGCGGAAATTTCATGCCTTCGGCTTCTTTGTTGAGCTTGACGCAGAATACCA
TGCGTGCCATAGCGGATTCCTTTGCTGTGTTCAGAAATAACGGGGTGATTTTAACCGATT
AGGGATACGGACAAAAGCCTTCTTATTCCCGATGATAGGGATGGTTGTGCAGGATGGAAA
CGGCGCGGTAGAGCTGCTCGGTCAGAAAGACGCGCACCATGCCGTGCGGCAGGGTCAGGC
TGGACAGGCGCATCATCATGCGTGCCTGCTGTTTGAGGCGGTCGGTCATGCCGTCCGCGC
CGCCGATGACGAAGCAGACGTGTTCGCCGTTTTGCCGCCAGCTTTTGAGGTGTTCCGCCA
GCTCGACGGAGGTCGGTGCTTTGCCGCGCGTTCGTCAAGAACGACGAGGAACGCGCCTTGCG
GAATGGCTTCAAGGATGCGTTTTTCTTCCGCCGCCATACCTTGGGCGGCATTCACGCCCG
CGCCGCGTTTTTCGGGTTTGATTTCTTTGAGTGCGTAGGCGACGTCGCGTCCGAAGCGTT
TGGCGTATTCGGCGACGGCCTCATCAACCCAGCGCGGCATTTTGGTGCCGACTGCCAAAA
CGGTGATGTTCAATGCTTTCTCCCTTACAGGAAAATGCCGTCTGAAGGTTCAGACGGCAT
CGGGAATCAGTCTGCCGCGTGCCACGGCTTCTGCATTCCGGCGTGGAAACTCGGTTTCTC
GCCGCCCCAGAGGGTGTCGATGTCGTAGAAGTCGCGCACGGCAGGGAGCATGACGTGGAC
GACGAGGTCTCCTGCATCAACCAGCGTCCATTCGCCGCTGTCGCCTTCGGTACTGAGGAT
TTCAAAACCGGCTTCTTTCAAATCGACGGCAACGTTGTTGGCCAGTGCTTTGACTTGGCG
CGTACTGTCGCCGCTGGCGATAATCATTCTGGCAAACAGCGAAGTTTTGTCTTGGGTTTC
GAGAACGGAAATGTCTTTGGCTTTGATGTCTCCGAGGGCGTTGACGGCGACCCCGACCAT
TTTTTGCAGGTCTTGCAGTTCTTGTTCGTTCATTATTTTCCTAACGGGATGTTTTCAGAC
GGCATTATAGCCGTTTCTTACTGATTTGACTTTATTTTTCATACAAACCGTGTTCGCGGA
TGTAGCGTGCGGCGGCAGGCGGGATGCCGTCTGAAACGCCTTGGCCGGCAAGGTTGCGGC
GGATTTCCGTTGACGACACATTATGCATCGGGGCGGACAAGATGCGGACGCTGCCGTCCT
GAAGGGACTTGCCCAGCCACGCGTGCAGTTCGCGCGGGGTTTGGTGCAGGCTGTCGCCCT
GCCTCATGGCGACGGCGATATTGGTTTCGCGCACGAGCATCTGCCATTTTTTCCATGTGT
GCAGCTTCATCAGGCTGTCGCTGCCCATCAGCCACCAGAGTTGCGCGGATGGGAACTGCT
GGCGGAAGATTTGGACGGTATCAAAAGTATAGGTTGCACCTTCTCGGACGATGTCGCAAT
CGCTGACGGCAAAACGCGCGTCTTCTGCCGTCGCCAATTCGACCATGGCAAGGCGGTCGG
CGGCGGAAGCGGAGGCTGCGTCTTTGTGATACGGGCCGCCTGTCGGCAGGAAAACAACCG
CGTCCAAGCCGATTTCGTCGGCAAAGGCACGGGCGATATGAAGATGTCCGTTGTGTATCG
GGTCGAAAGTACCGCCGAACAATCCGATTTTCTTCATGATGTTTCCATTCCTTCCGATAA
GTCCATGCCGTCTGAAACACTGCCGTCCACAACCAGCGTCAGTTTGCCGGTAACGGGATG
GATGACCAGTCCGTGAACGGCGATATGGCGCGGCATCAGCGGATGGTTACGGATAAGGTC
CACCGTGTGGCGCACGCTGTCTTCGACGTTGTCGAAACCGGTCAGCCAGCCGTCGAGGTC
GATACCGGCATAACGCAGGGTTTCGATACGGTCTTCGGGAATCCGGCTTTCCCGGACGCG
CCCGAGGAATTCTTCGGCATTCAGCCCCTGCATACCGCAATCGTGATGGGCGATGACCAT
AATCTCTCTGACCTTCAGTTCAAACACGGCAACCAAAAGGCTCCGCATCACCGAACCCCA
CGGGTGCGTAACCAGCGCGCCGGCATTTTTAATCAGCTTGGCATCGCCGTTTTTCAAACC
CAACGCGTCGGGCAGCAGCCCGATAATCCGCGCATCCATACAGGACAAAACTGCCAGCCC
GCGTTCGGGGTATTTGTCGGTAAAGTATTTTTCATATTCGCCCGACTCGACAAACTGCCG
GTTATGGGCAAGGATGTTATCCAACTCGCTCATTTTGCCGTCCTCTGAAAAAGGGTTCAC
ATTATAACGTTTCCGTCTGTTTTCCGCCTTCGCCGCCGTCCAACAGCAGGAAAATACCCA

```
GCGCGAACGCCGCCAACAGCAATGTCAGCACCATCGCCCGCGCGTAATTATCCTCACCCG
CGCGTCCCAAATAGGCATAAATCAAAGTCGTCAGCGTCTGCCATTCCGGACGCGACAGAA
ACAATGTCGCCGCAAATTCGCCCACGCAGGTTGCCGCCGCCAAAGTCAGACCGCGCCGCA
ACGCCGGTTTCAAGAGGGGGAACGTGATGCGGCATGCCGTCTGAAAGCCGTTTGCACCCA
AACCCGCCGCCGCCCTGCCGTAATCCGGCGGCAGTGCATCCCAGGCTGATAAAACATCTT
TTGCCACAAACGGATACGCCAGCAGCGCATACATCGCCAGCAGCAACGGCAACGAAGCCG
TCCACTGCGGATAAAGCAGCAGCACGCCCGCCGAAACACAAACCGGCGACACCATAAACG
GCAAAAACATCAGCCCGCGCATCCACGCCGACCGCCGCGCCGCCGCCGCATACACCACAC
CCAAAACCGCCGCCGCATACACCGCCGCCGCCGAGAAGCGCAAAGTATTCCACACCGCCT
GCCACGTTTCACTTTCCATTAACACACGCCACGATTCGCCGGCCGACCACGCTTTCACAA
CAATTGCCAACAAAGGAAACAGGCAGCACACAGACAACACCGCCGCCGCAAACGCCAGCA
GCACATATTCCCCGACCGACTGCGGCGGCGACGGCATCACAGGGGAAACCGCCTTATCCG
AAACCGCGCGCCTGCCGAACCACGCATACAGCAACCCTGCCGCCGCCGTTACCCCCAACA
CCAGCCACACCAGCACCGAAGCAACCGCCATATCGAGTTCGAACATGACCAACTGGTAAA
TTTCCACTTCGACCGTGGCATAACGGCTGCCGCCCAGCAGCAGCGCCAGCCCGAACCCGG
AAAAACAATACAGAAAGACAAGGCACACGCCGCCGGCAAGCCACGGGCGCAAAACGGGCA
TTTCAATGTCCCAAAACCGCCGCCACGCCCCCGCGCCCAACGTCCGTGCCGTCTGAAGCC
GTGCCGCAGGCACTTGCACAAACCCCTGATACGCCGCCCTGACCAACACAGGAAGGTTGA
AAAACACATTGCCGTACAACAACAGATACGGCGTATCCTGCCTGCCGCGCCACAACAGCC
CGTCCGCCCCGAACAGGGCCAGCACGCCCACGCCCGCCACCAACGTGGGCATCACAAAAG
GCAGCATCAGCAGGCGCAGCACCAAAGCCCGCCCCGGAAACGCCAGCCGCGCCAGCACCC
ACGCGACAGGCACGCCCAAAGGCAGCACCAGCACACAGGTTGCCGCTGCCTGAAATACCG
TCCACGCCAAACGTTTGAGCATATAGGCATCCGACAGCACCGCGCGCCACGCCAAACCGT
CATACGCCGCCACCGCCCACAAAGGCGCAACGACCATTACCGCCAAAAAAGCCGAAGGCA
GCAGGGCAAAAGCACCCCATACCACCCAACGCCGTCCATCCATCGCCTTCCCCACTTGAA
ACACTGATGTTGCGATTGTACCCAAAAGCCCCCACATACCGTATATTTCAATCCGACTAC
ATACCGTATCCGCCTTCCTCCCGCCGTCTGAAATATAGTGGATTAACAAAAATCAGGACA
AGGCGACGAAGCTGCAGACAGTACAAATAGTACGGAACCGATTCACTCGGTGCTTCAGCA
CCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAAT
CCACTATAAATCGTTCAAATAAACAGGAATATAACTTCAGACAAACAACTTACCGCCCGA
TTTGTGCTATCGTTTTCGCACAACTTAAAAAAACCTGACAATTTTGTACTTTTATTACAG
AGAAAGGCTTTACAAATGGACGGCTGGACACAGACGCTGTCCGCGCAAACCCTGTTGGGC
ATTTCGGCGGCGGCAATCATCCTCATTCTGATTTTAATCGTCAAATTCCGCATCCACGCG
CTGCTGACACTGGTCATCGTCAGCCTGCTGACGGCTTTGGCAACCGGTTTGCCCACAGGC
AGCATTGTCAACGACATACTGGTCAAAAACTTCGGCGGCACGCTCGGCGGCGTGGCGCTT
CTGGTCGGCCTGGGCGCGATGCTCGGACGTTTGGTCGAAACATCCGGCGGCGCACAGTCG
CTGGCGGACGCGCTGATCCGGATGTTCGGCGAAAAACGCGCACCGTTCGCGCTGGGCGTT
GCCTCGCTGATTTTCGGCTTCCCGATTTTCTTCGATGCCGGACTAATCGTCATGCTGCCC
ATCGTGTTCGCCACCGCACGGCGCATGAAACAGGACGTACTGCCCTTCGCGCTTGCCTCC
ATCGGCGCATTTTCCGTCATGCACGTCTTCCTGCCGCCCCATCCGGGCCCGATTGCCGCT
TCCGAATTTTACGGCGCGAACATCGGCCAAGTTTTGATTTTGGGTCTGCCGACCGCCTTC
ATCACATGGTATTTCAGCGGCTATATGCTCGGCAAAGTGTTGGGGCGCACCATCCATGTT
CCCGTTCCCGAACTGCTCAGCGGCGGCACGCAAGACAACGACCTGCCGAAAGAACCTGCC
AAAGCAGGAACGGTCGTCGCCATCATGCTGATTCCCATGCTGCTGATTTTCCTGAATACC
GGCGTATCGGCCCTCATCAGCGAAAAACTCGTAAGTGCGGACGAAACCTGGGTTCAGACG
GCAAAAATAATCGGTTCGACACCGATCGCCCTTCTGATTTCCGTATTGGTCGCACTGTTT
GTCTTGGGACGCAAACGCGGCGAAAGCGGCAGCGCGTTGGAAAAAACCGTGGACGGCGCA
CTCGCCCCCGTCTGTTCCGTGATTCTGATTACCGGCGCGGGCGGTATGTTCGGCGGCGTT
TTGCGCGCTTCCGGCATCGGCAAGGCACTCGCCGACAGCATGGCGGATTTGGGCATTCCC
GTCCTTTTGGGCTGTTTCCTTGTCGCCTTGGCACTGCGTATCGCGCAAGGTTCGGCAACC
GTCGCCCTGACCACCGCCGCCGCGCTGATGGCTCCTGCCGTTGCCGCCGCCGGCTTTACC
GACTGGCAGCTCGCCTGTATCGTATTGGCAACGGCGGCAGGTTCGGTCGGTTGCAGCCAC
TTCAACGACTCCGGCTTCTGGCTGGTCGGCCGTCTCTTGGACATGGACGTACCGACCACG
CTGAAAACCTGGACGGTCAACCAAACCCTCATCGCACTCATCGGCTTTGCCTTGTCCGCA
CTGCTGTTCGCCATCGTCTGACAGACGGAAAGGATAGTAAATGACTACGCATTTTGTCGT
TATGGGCGTATGCGGCTGCGGCAAGACCACCGCCGCGCTGTCCCTGCAGAAACACCTCGG
TCAATGTCCCTATGCCGAAGGCGACGAGTTCCACACCCAAGCCAACCGCGACAAGATGGG
CGCGGGTATTCCGCTGACCGATGAAGACCGCTATCCGTGGTTGGGCAATCTGCGCGACTG
GATGACGCAACAGGCGCAAAACGGTGCGAACCACACCATCGTAACCTGTTCCGCCCTCAA
```

ACGCGGCTACCGCGACATTCTGCGCGGAGCCGAAGGCAAAGCTGCCTTCATCCACCTCAG
TCCGCCGCAAGACATCAACCTCGAGCGCATGATGTCGCGCAAAGGACATTACATGAAAGC
AGGGATGCTCGATTCGCAACTGGAAATCCTCGAGGAACTGGGCGAAGGCGAATACGGGGT
CAAAATCGCCAACCCCGGCACGCCCGAAGCGGTCGAAGCCGATATTCTGAACTGGGTTGC
CTCGGAAAACCTGCTTTGAAGCAATATGCCGTCTGAAGCCCGACACAGGATGGGTTTCAG
ACGGCATAAACATCGGGAACAGAATGGATTACATTGATTTATAGTGGATTAACAAAAACC
AGTACAGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCA
AGTGAATCGGTTCCGTACTATCTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTT
GTTAATCCACTATAAAATGGAAAATACCCGGCTATCGTCTCATTTTCGTTTTAATCAGCC
ATAAAAATGCCGTCTGAAACCCTTTCAGACGGCATTTCTGTCAAACGCCGGACGCACTCA
ACCCAAACTCAACAGCAGGTTGCGGAACGCGTTCGGGTCTTTGATAAACGTCATCTCGCC
CGCCTGCGGAAAATGAAAATCCAACAGGCGCGACACCCAAAAACGGATGCAGCCGGCACG
TTGGGCGGTCGGGAAATACGCCTTTTCTTCGGCACTCAAGGGGCGCACGCCCTCATAACC
GCCGATAAACGCCTTTTTCAACGCCTCATCCAACTTATTGTCCGCCGTCCTTGCCCAATC
GTTGACCGCAATCGCCAAGTCATACATAAAATTGCCCCGGCAGGCGTAATAGAAATCGAT
GAAGCCCGATACCTGACCGCCGTCAAGCAACACATTGTCTTTAAACAGATCGGCATGGAT
GATGCCCGAAGGCAGATGATTGCCGAGATTGTCCTTCAACGCATCGATTTCGGAACACAG
CAGTGCGGCATCGTCTTGCGACAGGACGGGCAGCAGCCGGGCGCACGCCTCCGTCCACCA
CGCATTGTAACGCGGGTTTTCCATTTCCAAAGGGAAATCGGCGGCGGCAAGGTGCATTTT
CGCCAACATCGCACCGGTATGAAAACACTGCTCAGCCGTCGGCAGCGCGGTATCCGAACC
TTTCAGGCAGGCAACCAGGCAGGCAGGCTTACCCGCCAAAACGGAATCAAGCCGGCCGTC
TTTGCGCGCAACCGGCGCGGCAACCGCCACGCCCTTCATACTCAAATGCCGGTTAAGCTC
CAGAAAAAACGGCAGCTCTTCCTGTTTCAACACTTCAAACACGGTCAGCACATAACGTCC
CGAAGTCGTCGTCAGAAAATAATTGCTGTTGGTAATCCCCTGCGCGATGCCCTGCAGGGA
AACAAATTCCCCCAAATCGTAACCGCTCAGGAAGCCGCGCATTTCATCATCGGAAACACT
GGTATAGACAGACATATCAACTCACTTGCTCAAAAACGGGCAAACCCGCCGTCAGAACGC
CGGACGGCAGGCAAACATATAATTCACATCGGTCGAATCGCACAGGGCATAAGTTTGCGA
CAACACATGGTAAGTCATACCCTTCGTATCCGCCACATCCAAGCCTGCCTGACGGCACAT
TCGCGCCAGCTCGGCAGGTGCGATGAATTTTTTCCAGTCGTGCGTGCCTTTGGGGACAAA
CTTCAACAGATATTCCGCCGCCACAATCAGATGCAGGTACGATTTCGGGTTTTTATTGAT
GGTGGAAAAAAACACCATGCCGTCCGGTTTGACCAGATTGGCACAAGCACGCACGATGGC
GGCGGGATCGGGGACGTGTTCCATCATTTCCATGCACGTTACCACATCGAACGAGTGCGG
TTCCGCCTCGGCAAGGTCTTCCACGCGGATACATTCGTATTCGATATCGGCGACATTGTT
CAAAGCCGCGTGCAGGCGGGCGGTTTCCAACGACTGCTCCGCCATGTCGATGCCCTTTAC
AAACGCCGCGCCGCGCCGCGCCATACTTTCCGCCAAGATGCCGCCGCCGCAGCCCACGTC
CAAAACCCGTTTGCCGCACAAATCCGCGTGTCCGTCGATATAATCCAGCCGCAGCGGATT
GATGTCGTGCAAGGTTTTGAACTCGCCCGACTTGTCCCACCATTTGTCGGCAATCCGGCT
GAATTTGGCGATTTCCCCCTCATCGACATTATATTTTTGTCGGACATTTTCCCTCCCAT
CTGACGAACCGCCCACTCCAAAACCCAAGATTATACTATGGAACACAATGCCGTCTGAAA
GCCTTTTCGGGCGGCGCGGCGCAAATACCTTACAAATCCTTACACTTTACGGCATAATGG
CGGCTCGCTTTTTCTGGCAGAAAGACAAAATATGCCCAACAAAACCCCTTCACTGTTCGG
CGGCGCGATGATTATCGCCGGCACGGTCATCGGCGCAGGCATGCTCGCCAACCCGACCGC
CACATCCGGCGTATGGTTTACCGGCTCGCTGGCCGTGTTGCTGTACACCTGGTTTTCTAT
GCTTTCCAGCGGCCTGATGATTTTGGAAGTCAACACCCATTATCCGCACGGCGCAAGTTT
CGACACGATGGTCAAAGACCTGCTCGGACGCGGCTGGAACATCATCAACGGCATCGCCGT
CGCCTTCGTTTTATACCTGCTTACTTACGCTTATATCTTCGTCGGCGGCGACCTGACCGC
CAAAGGCTTAGGCAGCGCGGCAGGCGGCGACGTTTCACTCACCGTCGGACAACTCGTCTT
CTTCGGCATCCTCGCCTTTTGCGTATGGGCATCCGCACGCTTGGTCGACCGCTTCACCGG
CGTCCTTATCGGCGGCATGGTATTGACCTTTATTTGGGCGGCCGGCGGGCTGATTGCCGA
TGCCAAGCCGTCCGTCCTCTTCGATACCCAAGCCCCCGCCGGCACAAACTACTGGATTTA
CGCCGCCACCGCCCTGCCCGTCTGCCTCGCTTCCTTCGGCTTCCACGGCAACGTCTCCAG
CCTGCTCAAATACTTTAAAGGCGACGCGCCCAAAGTGGCTAAATCCATCTGGACGGGCAC
ACTGATTGCGCTGGTAATTTACGTCCTCTGGCAAACCGCCATCCAAGGCAACCTGCCGCG
CAACGAGTTCGCCCCCGTCATCGCCGCCGAAGGGCAAGTCTCCGTCCTCATCGAAACCCT
GTCCAAATTCGCCCAAACCGGCAATATGGACAAAATATTGTCCCTGTTTTCCTATATGGC
GATCGCCACCTCGTTTTTAGGCGTAACGCTCGGACTCTTCGACTACATCGCCGACATCTT
CAAATGGAACGACAGCATCTCCGGCCGCACCAAAACCGCCGCGCTGACCTTCCTGCCGCC
CCTGATTTCCTGCCTGCTCTTCCCCACCGGCTTCGTTACCGCCATCGGCTACGTCGGCCT
GGCGGCAACCGTCTGGACAGGCATCATCCCCGCCATGCTGCTCTACCGTTCGCGCAAAAA

-600-

```
ATTCGGCGCAGGCAAAACCTATAAAGTTTACGGCGGCTTGTGGCTGATGGTTTGGGTCTT
CCTTTTCGGCATCGTCAACATCGCCGCACAGGTATTGAGCCAAATGGAACTCGTCCCCGT
ATTTAAAGGATAAAGGCAAAATGCCGTCTGAAGCCCGCCGGCGGCTTCAGACGGCATTGC
CGCAACAAACGGCAACCGTATTCCGGCACACAGCGCATTACCCTGCCCCTCACGCACAAA
TCCCGCCCCGACAAACCGGGACGCAACCATAAAGGAACAATGATGAAGCTCAAAATAGAC
ATTGCAACCAACAACTTCAAACACGGCGGCGGCACGGAACGCTACACATTGGATTTGGTA
AAGGGTCTGAACAGACAAAACATCACACCGGCCGTTTATGCGACGAAATTTGATCACAGC
ATTCCTGAATACGCCCTAATCGAACCCCATCTTGTCGATCAACACCGGACGCTGAAAAAA
CTACGCTCATTCCTCTTTTCAAGCCGGCTCGCTCAAACCAGAAAAAACAGTGCCGCCAAA
CTGATTGCCTGCCACCACGCCGATTACGCCGACCTCCTCATCTGCGGCGGCACACACTTG
GGCTACCTGCACCATATGGCGCAAAAACCGAACCTGCTCGACCGCCTCGCCATACGCCGC
AACCGCAGCAACTACGCCACCGCCAAACTGATTATGGCGCATTCCCATATGATGCGGCGC
GAACTGGTCGGACTGTACGGCGTTCCCCCTGAAAGAATCCAAGTCGCCCCCCCCCCCCGC
AGATACGGAACGCTTCTTTCCACAACCCGGAGAAACTGCCGACCTGCGCGCCAAATACGG
CTTTGCCGACCATGAAACCGTTTTCCTGTTCCCATCGACCGGCCACACGCGCAAAGGTCT
GGAACTGCTTGCCGACTTTTTCGAACATACCAGCCTGCCCGTCAAGCTCGCCGTTGTCGG
CTCCCCGCTTCCCCGCCCTATGAAAAACGTCGTCGGACTGGGCTTCTGCACCGATATGCC
CGAACTCTACCGCGCCGCCGACTTTACCATTATGGCTTCCCTGTACGAACCCTTCGGGCT
GGTCGGCGTCGAATCCGTCCTATGCGGCACACGCGTCGTCCTCTCCGAAAACATGGCATG
TACAGAGGTCATGAACGAAGAAGCCGGCTTCTTTTTCTCACGCCAAAACCCGGAAACCCT
GGCGCAAGCCGTTGCCCAAGCCGTCAGCCTTAAAAAACAGGGCGGACACCGCCTGTCCGA
CCCGATGCGGGCACTGAACTACAACCCGGCTTTAGACAAACACATCGGGCTGATTCTTGA
AATGCTTGCCGCCTGACCGCGTCCCCAAACGGCATTGCCCCGCAACTTCCGCGCCGAGAC
TTTTGCAGCGGAAAATACGTCCGGCAGAAAATCCGCCGTTGCAGGAGCAGGCAGGAAAAC
ATCGGCAACCGCCCCCGAAACGCCGTACCCGCGCATTGCAAGCGGTTGCCGGAACAGGCG
CGTTATCGCGCGGCACAGGCGCATTTCCACCGATATTTCAGTATAATGCCACCCCCGACC
TGCCCCAATCCAAAGGAAACGCGATGAAACTCATCATTCTCGACCGCGACGGCGTCATCA
ATCAGGACCGCGACGACTTCGTCAAATCCGTTGACGAGTGGATACCTGTCGAAGGCAGCA
TGGATGCGGTGGCATTTCTGACGCAGGCAGGCTACACCGTCGCCGTTGCCACCAACCAAT
CCGGCATCGGGCGCAAATATTTTACCGTTCAAAACCTTACCGAAATGCACGCCAAAATGC
ACCGCCTCGTCCGTCAGGCAGGCGGCGAAATCAACGGCATCTGGTTCTGCCCGCACACCG
ATGCCGACAACTGCAACTGCCGCAAGCCCAAACCGGGTATGATTGAAGACATCATCGGAC
GCTTCAACGCCCAAGCCTCGGAAACCTGGCTGGTCGGCGACAGCCTGCGCGATTTGCAGG
CAATCGATGCCGTCGGCGGCAAACCCGCGCTGGTTCTGACCGGAAAAGGCAAAAAAACGC
TCTCCCAACACGGACACGAATTGCCCGAACACACACAGGTTTTCGATACCCTGCTCGATT
TCTCACAATACATCATGCAGGAAAACACCGCACCGCAAGCCGACTGAACATACCGCATTC
CGACAAGGCAAAACCATGCTCATCATCCGCAACCTGATTTACTGGCTGATACTCTGTTCC
ACCCTGATTTTCCTCTTTCCCTTTATGCTGCTCGCCTCGCCTTTCCGGGACGGGGCGCAC
AAGATGGCGCGGGTCTGGGTCGGCATTCTCAACTGGTCGCTCAAACACATCGTCGGGCTC
AAATACCGCATCATCGGCGCGGAAAACATCCCCGACCGCCCCGCCGTCATCTGCGCCAAA
CACCAAAGCGGCTGGGAAACGCTCGCCCTTCAGGACATTTTTCCGCCGCAGGTTTACGTT
GCCAAACGCGAGTTGTTCAAAATCCCCTTTTTCGGCTGGGGCTTGAAACTGGTCAAAACC
ATAGGCATAGACCGCAACAACCGCCGCGAAGCCAACGAGCAGCTCATAAAACAGGGGTTG
GTGCGCAAAAACGAAGGCTATTGGATTACCATTTTCCCCGAAGGCACGCGCCTTGCGCCC
GGAAACGCGGCAAATACAAACTCGGCGGCGCGCGCATGGCGAAATGTTTGAGATGGAC
ATCGTCCCCGTCGCCCTCAACAGCGGCGAATTTTGGCCGAAAAACTCCTTTCTGAAATAT
CCGGGGGAAATCACCGTCGTCATCTGTCCGACCATCCCGCACGCAAGCGGCAGCGAAGCC
GAATTGATGGAAAAATGCGAACATCTCATCGAAACGCAACAACCGCTTATTTCCGGCGCA
GGCCCGTTTGCCGCCAAAATGCCGTCTGAAACCGCATGACCGCCTTTGTCCACACCCTTT
CAGACGGCATGGAACTGACCGTCGAAATCAAGCGCCGTGCCAAGAAAAACCTGATTATCC
GCCCCGCCGGCACACATACCGTCCGCATCAGCGTCCCACCCTGCTTCTCCGTCTCCGCTC
TAAACCGCTGGCTGTATGAAAACGAAGCCGTCCTGCGGCAAACACTGGCGAAAACACCGC
CGCCGCAAACTGCCGAAAACCGGCTGCCCGAATCCATCCTCTTCCACGGCAGACAGCTTG
CCCTCACCGCCCATCAAGACACGCAAATCCTGCTGATGCCGTCTGAAATCCGTGTTCCCG
AAGGCGCACCCGAAAAACAGCTTGCGCTGCTGCGGGACTTTTTGGAACGGCAGGCGCACA
GTTACCTGATTCCCCGCCTCGAACGCCACGCCCGCACCACACAACTGTTCCCCGCCTCCT
CCTCGCTGACCTCTGCCAAAACCTTCTGGGGCGTGTGCCGCAAAACCACAGGCATACGCT
TCAACTGGCGGCTGGTCGGCGCACCGGAATACGTTGCCGACTATGTCTGCATACACGAAC
TCTGCCACCTCGCCCATCCCGACCACAGCCCCGCCTTTTGGGAACTGACCCGCCGCTTCG
```

CCCCCTACACGCCCAAAGCGAAACAGTGGCTCAAAATCCACGGCAGGGAACTTTTCGCCT
TAGGCTGACGCGGACCGGACCGACCCGCCGCTTTCAGACGGCATCCGTGCCGGAACAGGC
ACGCGCCCGCCCGATTCAAACCGCGATGACGCTTTGCCGCCGGTTCGGGGCAGGATGGCG
GCACACACGCCGTCTGCCGCGTTTCATTTCACACCGCTCTTCCGAAACCCGAAACCCGCC
CGGTCCGACGTGCGGTATGAAACGCTTAAGCTGACGCGAAGTCTTTTACTGATTTGCCCG
CGAAAATGCCGTCTGAAAGGTTTTCGGACGGCATTTTTTTTGCGTTTCCCAGGATGGCGG
CGGATTCGTAAAAGGCGGTCAGGGTGGATTGTAGGATGGGTTGAGACCTGCCGAATCCGC
CGCATCTGCCAAATCTACCGCCGTCATTCCTACGAAAGTGGGAATCTAGAACGCGGGGTT
AAGAAAACCTGCATCCCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTTTCAGT
CATTTCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGACTGCGCGGGAATGACG
AATCCATCCATACGGAAACCTGCACCGCGTCATTCCCACGAAAGTGGGAATCCAGGACGA
AAAATCTCCAGAAACCGTTTTATCCGATAAGTTTCCGCACTGACAGACCTAGATTCCCGC
CTGCGCGGGAATGACGAATCCATCCATACGGAAACCTGCATCCCGTCATTCCTACGAACC
TACATTCCGTCATTCCCACGAAAGTGGGAATCCAGAATCCCAGACTTTCAGATAATCTTT
GAATATTGCTGTTGTTCTAAGGTCTAGATTCCCGCCTGCGCGGGAATGACGGGATTTGAG
GTTTCTGTTCGCGTCATTCCCACGAACCTGCATCCCGTCATTCCCACGAAAGTGGGAATC
TAGTTTTGTCGGTGCGGAAACTTATCGGATATAGTGGATTAACAAAAATCAGGACAAGGC
GACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTG
AGAGAATCGTTCTCTTTGAGCTAAAGCGAGGCAACGCTGTACTGGTTTTTGTTAATCCAC
TATAAAATGGTTTCTTTAGATTTTACGTCCTAGATTCCCGCCTGCGCGGGAATGACGATT
CGGGCACTCCTGACAGGGTAAATTCACAGGATAGCGATTCGTAGCAACTGCATCCCCCCC
CCCCAACAACTCCCCAAACAACGCCGCTCGCCCTGGGCGTTTGCCGTTTCCCTGCAAAAT
CTGCGATACAATGCAGTCTGAACATTTATCCGAATCCCAAATCCGATGGATACCGCCACAA
AAACAACGCTGGGCAATAACCCTATCCTATGACGGCAGCCGCTTTTACGGCTGGCAGAAA
CAGGCTGACGGCGTACCGACCGTTCAGGCGGCATTGGAAACCGCGCTCGCCCAAATAGCA
GGGGAAGCGGTTTCCACCACCGTTGCCGGCAGGACCGACACCGGCGTGCATGCCACCGCC
CAAGTCGTCCACTTCGACACAACTGCCGCCCGTCCCCAACAGGCATGGGTGCGCGGCGTA
AATGCCCACCTGCCCGAAGGCATTGCCGTTTTGCACGCCCGACAGGTCGCCCCCGAATTT
CATGCACGATTTGACGCATACGGACGGCACTACCGCTACCTGCTCGAATCCGCCCCCGTC
CGTTCCCCCCTGCTCAAAAACAGGGCAGGCTGGACACACCTCAAACTCGACATCGGGCAG
ATGCGGCAGGCTGCCGCCTTATTGGTCGGCGAACAAGACTTCTCCAGCTTCCGCGCCGCC
GAATGCCAAGCAAAATCCCCCGTCAAAACCATCTACCGCGCCGACCTTACCCAAAGCTCA
GGACTCGTCCGCCTCGATTTGCACGGCAACGCCTTTTTGCACCACATGGTACGCAACATC
ATGGGCGCGCTCGTTTATGTCGGCAGCGGCAGACTCAGCGTCGAAGGCTTCGCCGCACTG
ATTCAAGAACGCAGCCGCCTCAAAGCCCCGCCGACCTTCATGCCCGACGGACTTTACCTG
ACCGGCGTCGACTATCCCGAGGCATACGGCATCATCCGCCCCCAAATCCCCGAATGGCTT
TAAAACATGCTTGTCGCGGAGATTTTGAAATCGGACAAACTGTCAGGCAATCTTTTTCCA
TGTTGACACTACCTCATCAAGGTACTAACATTGTTATTACATAAACAGGTGAATATGGTA
CGTATATGATTCTCAACATACGCAAAATGGGAAACTCGCAAGGCGTGATTCTGCCCAAAT
CATTATTGGGTCAAATAGGGGCAGTAGACAGCTTGGCTGTTACAGTTGAAAAGGGCAATA
TTATTTTAAGCTGTCCTACCGTTCGCAGGGGATGGGCAGAAGCTGCCGCAATGCTTGTCG
AAACCGAGCAGGAGCATTTTTTTTCCGAAATTGAAAACGAAGCGGATAAAGAATGGATAT
GGTAGTACGCGGCGGAATCTATCTGGTCTCCTTAGACCCGACCGTAGGAAGCGAAATCAA
AAAGACACGTCCTTGTGTCGTAGTCTCTCCTCCTGAAATACACAACTATCTCAAGACTGT
GCTGATCGTTCCCATGACGAGCGGAAGCCGTCCTGCCCCGTTCCGCGTCAATGTCCGCTT
TCAGGATAAAGACGGTTTGCTTTTGCCCGAACAGATTAGGGCTGTGGATAAAGCCGGATT
GGTCAAACATCTTGGCAATTTAGACAACAGTACGGCTGAAAAACTGTTTGCAGTATTGCA
GGAGATGTTTGCCTGATTGAATAGTCTGAATGGATTGTGTTCATTATAGTGGATTAACTT
TAAACCAGTACGGTGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGTTGAA
GCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTATCCTG
ATTTTTGTTAATCCACTATAAAGACCGTCGGGCATCTGCAGCCGTCATTCCCGCGCAGGC
GGGAATCTAGAACGTGGAATCTAAAGAAACCGTTTTACCCGATAAGTTTCCGCACCGACA
GACCTAGATTCCCGCCTGCGCGGGAATGACGGGATTTTAGGTTTCTAATTTTGGTTTTCT
GTTTTTGAGGGAATGACGGGATGTAGGTTCGTAAGAATGACGGGATATAGGTTTCCGTGC
GGATGGATTCGTCATTCCCGCGCAGGCGGGAATCTAGAACGTGGAATCTAAGAAACCGTT
TTATCCGATAAGTTTCCGTGCGGACAAGTTTGGATTCCCGCCTGCGCGGGAATGACGGGA
TTTTAGGTTTCTAATTTTGGTTTTCTGTTTTTGAGGGAATGACGGGATGTAGGTTCGTAG
GAATGACGGGATATAGGTTTCCGTGCGGATGGATTCGTCATTCCCGCGCAGGCGGGAATC
TAGACCTTAGAACAACAGCAATATTCAAAGATTATCTGAAAGTCCGAGATTCTAGATTCC

```
CGCCTGAGCGGGAATGACGAAAAGTGGCGGGAATGACGGTTAGCGTTGCCTCGCCTTAGC
TCAAAGAGAACGATTCTCTAAGGTGTTGAAGCACCAAGTGAATCGGTTCCGTACTATTTG
TACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTCTAAAGACCGTCG
GGCATCTGCAGCCGTCATTCCCGCGCAGGCGGGAATCCAGACCTTAAGGCAGCGGCAATA
TTCAAAGATTATCTGAAAGTCCGAGATTCTAGATTCCCGCCTGAGCGGGAATGACGAAAA
GTGGCGGGAATGACGGTTAGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGG
TGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCT
TGTCCTGATTTTTGTTAATCCACTATCTCCTGCCGCAGGGGCGGGTTTTGCATCCGCCCG
TTCCGAAAGAAACCACGTGCGCGTTTTTGCCGTCTTTATAACCCCCGGTTTGCAATGCC
CTCCAATACCCTCCCGAGTAAGTGTTGTAAAAATGCAAATCTTAAAAAATTTAAATAACC
ATATGTTATAAAACAAAAAATACCCATAATATCTCTATCCGCCCTTCAAAATACACATCG
AATTCCACACAAAAACAGGCAGAAGTTTGTTTTTTCAGACAGGAACATCTATAGTTTCAG
ACATGGAATCGCCGAAAACGTCGGCGGTAAATGCAAAGCTAAGCGGCTTGGAAAGCCCGG
CCGGCTTAAATTTCTTAACCAAAAAAGGAATACAGCAATGAAAAAATCCCTGATTGCCCT
GACTTTGGCAGCCCTTCCTGTTGCAGCAATGGCTGACGTTACCCTGTACGGCACCATCAA
AGCCGGCGTAGAAACTTCCCGCTCTGTATTTCACCAGAACGGCCAAGTTACTGAAGTTAC
AACCGCTACCGGCATCGTTGATTTGGGTTCGAAAATCGGCTTCAAAGGCCAAGAAGACCT
CGGTAACGGCCTGAAAGCCATTTGGCAGGTTGAGCAAAAAGCATCTATCGCCGGTACTGA
CTCCGGTTGGGGCAACCGCCAATCCTTCATCGGCTTGAAAGGCGGCTTCGGTAAATTGCG
CGTCGGTCGTTTGAACAGCGTCCTGAAAGACACCGGCGACATCAATCCTTGGGATAGCAA
AAGCGACTATTTGGGTGTAAACAAAATTGCCGAACCCGAGGCACGCCTCATTTCCGTACG
CTACGATTCTCCCGAATTTGCCGGCCTCAGCGGCAGCGTACAATACGCGCTTAACGACAA
TGCAGGCAGACATAACAGCGAATCTTACCACGCCGGCTTCAACTACAAAAACGGTGGCTT
CTTCGTGCAATATGGCGGTGCCTATAAAAGACATCATCAAGTGCAAGAGGGCTTGAATAT
TGAGAAATACCAGATTCACCGTTTGGTCAGCGGTTACGACAATGATGCCCTGTACGCTTC
CGTAGCCGTACAGCAACAAGACGCGAAACTGACTGATGCTTCCAATTCGCACAACTCTCA
AACCGAAGTTGCCGCTACCTTGGCATACCGCTTCGGCAACGTAACGCCCCGAGTTTCTTA
CGCCCACGGCTTCAAAGGTTTGGTTGATGATGCAGACATAGGCAACGAATACGACCAAGT
GGTTGTCGGTGCGGAATACGACTTCTCCAAACGCACTTCTGCCTTGGTTTCTGCCGGTTG
GTTGCAAGAAGGCAAAGGCGAAAACAAATTCGTAGCGACTGCCGGCGGTGTCGGTCTGCG
CCACAAATTCTAATCTGCAAAGATTGGTATCAACAAAAAGCCTGTCGCCAGACAGGCTTT
TTTCTGTTTGGCTTTTTCCTGTTTTCTGTTTGGCTTTTTCCTGTTTTCTGTTTCGCTGTT
TTCTGTTTCGCTGTTTTCTGTTTCGCTGTTTTCTGTTTCGCTGTTTTCTGTTTCGCTGTT
TTCTGTTTCGCTGTTTTCTGTTTGGCTTTTTTCTGTTTGGCTTTTTTCTGTTTGGCTTTT
TCCTGTTTTTAGTCTTTTTTATTCAATGTCAAAATATGCCGTCATTCCCGCGCAGGCGGG
AATCTAGTGCGTTGAGTTTCAGCTATTTAGAATAAATTTTGAAACTTTAATCCCGTCATT
CCCACGAAAGTGGGAATCCAGGACGCAAAATCTCAAGAAACCGTTTTACCCGATAAGTTT
CCGCACCGACAGACCTAGATTCCCGCCTGCGCGGGAATGACGGGATTTGAGGTTGCGGCA
TTTATCGGGAGCAACAGAATCCGCTCTGCCGTCATTCCCACGAAAGTGGGAATCTAGTTC
GTTCGGTTTCGCTTGTTTTAAGTTTCGGGTAACTTCCACTTCGTCATTCCCGCGCAGGCG
GGAATCCAGTGCGTTGAGTTTCAGCTATTTAGAATAAATTTTGAAACTTTAATCCCGTCA
TTCCCACGAAAGTGGGAATCTAGTTTTTTGAGTTTCAGTCATTCCCGATAAATTGCCTTA
GCATTGAATGTCTAGATTCCCGCCTGCGCGGGAATGACGGCGGAAAGATTCTATTTTTCC
CGATAATCGCCCACAATCTCAAATTCCTTCATTCTCTCAAAAACAAAATCAGAATCCTAA
ATCCCATCATCCCCATCTATGTGAATATAAAAATTTTAAAAATTATAGTGGATTAACAAA
AACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGC
ACCAAGTGAATCGGTTCCGTACTATCTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGAT
TTTTGTTAATCCACTATATTTTCACAAGCGAAAGAATGCCGTCTGAAGCCTTTTTTCCGG
TTTTCAGACGGCATTTTTTGCTTGACGTTTAACTGTAAATCTTCGCGCCTTTTTTGACGA
ACTCGACCGCTTTTTCCTCCATGCCCTGCCGTTGGGCTTTTTGCTTGTCGGCGTAGTCGC
GCACTTCCTGCGTGATTTTCATCGAGCAGAATTTGGGGCCGCACATCGAGCAGAAGTGGG
CGATTTTCGCGCCTTCGGCAGGCAGGGTTTCGTCGTGGAAGCTCTCGGCACGTTCAGGGT
CGAGGCTTAAGCGAAATTGGTCGCGCCAGCGGAACTCGAAACGCGCTTTGCTCAGGGCGT
TGTCACGTAATTGTGCGCCCGGCCAGCCTTTGGCGAGATCGGCGGCGTGGGCGGCGAGTT
TGTAGGTGATGATGCCGGTGCGCACGTCTTCTTTGTCGGGCAGCCCCAAATGCTCTTTCG
GGGTAACGTAACAAAGCATCGCCGTGCCGTACCAGCCGATATTGGCCGCGCCTATGCCCG
AGGTGATGTGGTCGTAGCCGGGTGCGATGTCGGTAACGAGCGGGCCGAGCGTGTAAAAAG
GTGCTTCAAAGCAGTGTTGCAGCTCTTCGGTCATGTTTTCTTTGACGCGTTGCAGCGGCA
CATGGCCGGGGCCTTCGATCATGACTTGTACGTCATGTTTCCACGCTTTATCGGTCAATT
```

CGCCCAAGGTGTGCAGTTCGGCGAATTGGGATTCGTCGTTGGCATCGGCAATGCAGCCGG
GGCGCAGGCCGTCGCCGAGGCTGAACGATACGTCATACGCTTTCATAATTTCGCAGATTT
CGTCGAAATGCGTGTAGAGGAAATTTTCCCGATGATGTGCCAAACACCATTTCGCCATAA
TCGAACCGCCGCGCGAGACGATGCCGGTGAGGCGGTTGGCGGTCATCGGCACATAACGCA
GCAACACGCCCGCGTGTATGGTGAAATAGTCCACGCCTTGCTCCGCCTGTTCGATGAGGG
TGTCGCGGAACAAATCCCAAGTCAAATCTTCGGCGATGCCGCCGGTTTTTTCCAACGCTT
GGTAAATCGGCACGGTGCCGATGGGGACGGGCGCGTTGCGGATAATCCATTCGCGCGTTT
CATGGATGTGCGCGCCGGTGGACAAATCCATAATCGTGTCCGCGCCCCAACGCAGCGACC
ACACCATTTTTCGACTTCTTCGGTCAGGCTGGAGGTGACGGCGGAGTTGCCCAAGTTGC
CGTTGATTTTGACACGAAAGTTGCGGCCGATAATCATCGGTTCGAGTTCGGGGTGGTTGA
TGTTGGCGGGAATAATCGCGCGTCCGGCGGCGATTTCTTGGCGCACGAATTCGGGCGTGA
TTTGGTCGGGATGGGTCGGGATGTTCGCACCGAAACTTTGCCCCGCGTGCTGTTCCAAGA
GTTTGGCGTATTCCGGTTTTTGGGACAATTCGTCTAATTTTAAACGTTCGCGTATGGCGA
CAAACTCCATTTCGGGCGTGATAATGCCTTGGCGCGCGTAGTGAAGCTGGGTTACGTTGC
TGCCGCTTTTCGCGCGGCGCGGGCGGGTGATTGGTTGAAACGCAGATGGGCGGTTTTCG
GATCGTGTGCGCGTTCGATGCCGTATTCGCTGGAGAGCTTGGGCAGGATTTCGGTATCGC
CGCGTTCGTCCAGCCACGCGGTGCGGATGTGCGGCAGACCTTGTTTCAGGTCGATATGCG
CCGCCGGGTCGCCGTACACGCCGCTGGTGTCGTAGACGGGAATCGGCGGATTGGCTTCCG
TACCTTGCGCCGTGTAGGTGTCGTCCTGACGGATTTCGCGCAAAGGCACGCGGATGTCGT
CGCGGCTGCCTTGCAGATACACGCGTTCCGAGTTCGGATATTTAAAGCAGATGCCGATGT
CTTCGCTCAAGTCGGCAAGCTCGCGCGCTTCGTTGCCGGAAGTTTTGGCGGTTTTTTTTG
GCGTAGTCATAAAAAAATGCTCCTGTTTTCTCGTTTAGAATTAAAGAAACAGGAGCGTTT
TGCGTTTTCAGACGGCATTTGAAAACCAATGCCGTCTGAAAAGCAGAATCCGTGAAAACT
CCCCACGCAGGTATTATCCCGATCGGGTGTAAAGGGTATTTCTCAGCCGCCTAAACATCA
GGCAGCACCCCTGTTTCAATGTTAACCAAAATTAAATCACGAACATGAACTTTTGTAAAG
AAAATAATATTTCAAATCAGGCATAAACCGCCGGACGGCAAAATTTTATGATTTTTCGCG
GAAGTAATGTTTGACAACATAAAAAATCTGCCGTATAGTTTCATCTTCTGACGCGGGATG
GAGCAGCATGGTAGCTCGTCGGGCTCATAACCCGAAGGTCGTAGGTTCGAATCCTGCTCC
CGCAACCAAATATCAAACCCCTCGGTTCAATGCCGAGGGGTTTTGTTTTGCCTGTTTCCT
GTTTCCTGTTTCCTGCCGCCTCCGTTTTTTGCCGGATTTTCCTTCCGGCCGCAATATCGG
AACGGCAGACCGCCGTCTGTTTGCGGTTGCAAATTCAGGCAGTTTGGCTACAATCTTCCG
CATTGTCTTCAAGAAAGCCAACCATGCCGACCGTCCGTTTTACCGAATCCGTCAGCAAAC
AAGACCTTGATGCTCTGTTCGAGTGGGCAAAAGCAAGTTACGGTGCAGAAAGTTGCTGGA
AAACGCTGTATCTGAACGGTCTGCCTTTGGGCAACCTGTCGCCGGAATGGGTGGAACGCG
TCAAAAAAGACTGGGAGGCAGGCTGCTCGGAGTCTTCAGACGGCATTTTTCTGAATGCGG
ACGGCTGGCCTGATATGGGCGGACGCTTACAGCACCTCGCCCTCGGTTGGCACTGTGCGG
GGCTGTTGGACGGCTGGCGCAACGAGTGTTTCGACCTGACCGACGGCGGCGGCAACCCCT
TGTTCACGCTCGAACGCGCCGCTTTCCGTCCTTTCGGACTGCTCAGCCGCGCCGTCCATC
TCAACGGTCTGACCGAATCGGACGGCCGATGGCATTTCTGGATAGGCAGGCGCAGTCCGC
ACAAAGCAGTCGATCCCAACAAACTCGACAATACTGCCGCCGGCGGTGTTTCCGGCGGCG
AAATGCCGTCTGAAGCCGTGTGTCGCGAAAGCAGCGAAGAAGCCGGTTGGATAAAACGC
TGCTTCCGCTCATCCGCCCGGTATCGCAGCTGCACAGCCTGCGCTCCGTCAGCCGGGGTG
TACACAATGAAATCCTGTATGTATTCGATGCCGTCCTGCCCGAAACCTTCCTGCCTGAAA
ATCAGGATGGCGAAGTGGCGGGTTTTGAGAAAATGGACATCGGCGGTCTGTTGGATGCCA
TGTTGTCGGGAAACATGATGCACGACGCGCAACTGGTTACGCTGGACGCGTTTTGCCGTT
ACGGTCTGATTGATGCCGCCCATCCGCTGTCCGAGTGGCTGGACGGCATACGTTTATAGG
ATGCGCCATGCTTGAACTGAACGGACTCTGCAAACGCTTCGGCAATAAAACCGTCGCCGA
CAACATCTGCCTGACTGTCGGGCGCGGCAAAATACTCGCCGTTTTGGGGCGGTCGGGCTG
CGGAAAATCCACCCTGCTGAATATAATTGCGGGGATTGTCCGGCCGGACGGCGGGGAAAT
ATGGCTGAACGGAGAAAACATTACCCGTATGCCGCCCGAAAAACGCCGTATCTCGCTGAT
GTTTCAAGATTACGCGCTGTTTCCCCATATGAGTGCGCTGGAAAATGCGGCATTCGGTTT
GAAAATGCAAAAAATGCCGAAAGCCGAAGCCGAACGCCTCGCCATGGCGGCACTTGCCGA
AGTCGGACTGGAAAACGAGGCGCACCGCAAGCCTGAAAAACTTTCCGGAGGCGAGAAGCA
ACGGCTGGCGTTGGCGCGCGCTTTGGTTGTCCGCCCTTCCCTGCTGCTGTTGGACGAATC
GTTTTCCAGTTTGGACACGCATTTGCGCGGCACGCTGCGCCGTATGACTGCCGAACGTAT
CCGAAACGGCGGCATCCCTGCCGTTTTGGTAACGCATTCGCCCGAAGAAGCCTGTACGAC
GGCAGACGAAATCGCCGTGATGCATAAAGGGAGGATTCTACAATACGGTACGCCCGAAAC
ATTGGTCAAAACACCATCCTGCGTGCAGGTCGCCCGACTGATGGGTTTGCCCAATACCGA
CGATAACCGCCATATTCCGCAACATGCGGTGCGTTTCGACCAAGACGGCATGGAGTGCCG

-604-

CGTATTATCCCGTACCTGTTTGCCCGAATCGTTCAGCCTGTCCGTCCTCCATCCGGAACA
CGGCATCCTGTGGCTGAACCTCGATATGCGGCACGCCGGGGCGGTATCGGGCAAGGATAC
GGTACGCATCCATATCGAAGAACGGGAAATCGTCCGCTTCCGCTGATGCTTCTTAAAAAC
AAAATGCCGTCTGAAAACCTTTCAGACGGCATTTTTTTACCAAAGCAGCCATATTTTTTT
ATCAGGGCTGCAAAATTTTATCCGAAACAACAACAATCTTTTCATCGTCATTCCCGCGCA
GGCGGGAATCTAGAACGTAAAATCTAAAGAAACCGTTTTTCCCGATAAGTTTCCGTGCCG
ACAGACCTAGATTCCCGCCTGCGCGGGAATGACGGATTTTAGGTTTCTGATTTTGGTTTT
CTGTTTTTGAGGGAATGACGAGACTTGAGATGGCGGCATTTATCGGGAGCAACTGAAACC
ACCCTGCCGTCATTCCCGCAAAAGCGGGAATCTAGAACCCAACACGGCAAAAATTTATCC
GAAGCGACAACAATCTTTTCATCGTCATTCCCGCGCAGGCGGGAATCCAGAACGTAAAAT
CTAAAGAAACCGTTTTTCCCGACAAGTTTCTGTGCCGACAGACCTAGATTCCCGCCTGCG
CGGGAATGACGGGATTTTAGGTTTCTGATTTTGGTTTTCTGTTTTTGAGGGAATGACGAG
ACTTGAGATGGCGGCATTTATCGGGAGCAACTGAAACCACCCTGCCGTCATTCCCGCAAA
AGCGGGAATCTAGAACCCAACGCGGCAAAAATTTATCCGAAGCGACAACAATCTGAGACC
TTTGCAAAATTCCTTTCCCTCACAACAGCCGAAACCCAAACACAGGTTTTCGTCTATTTT
CGCCCCAAATACCTCCTAATTCTACCCAAATACCCCCTTAATCCTCCCCGGATACCCGAT
AATCAGGCATCCGGTCGCCTTTTAGGCGGCAGCGGGCGCACTTAGCCTGTTGGCGGCTTT
CAACAGGTTCAAACACATCGCCTTCAGATGGCTTTGCGCACTCACTTTAATCAGTCCGAA
ATAGGCTGCCCGGGCGTAGCGGAATTTACGGTGCAGCGTACCGAAGCTCTGTTCGACCAC
ATAACGGGTCTTCGACAAATATCGGTTGCGTTTGGTTTGCGCCTCCGTCAGCGGACGGTT
GCGGCAGGCTTTGCGCATAATATAGTGGATTAAATTTAAACCAGTACGGCGTTGCCTCGC
CTTGCCGTACTATCGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTAAATTTAATC.
TACTATAATGTGCAGTTTCTCGATATAGCCTTCCGCATCGGTGCGGGTATGTTGTTTGTA
ACCGAGTTTGTAGAGGCCGTTTTTCTTGATCCAACGCGCATCGCTGTCCTTACTCCGTGT
GGTTTGGCCGCTGACTTGTCCTTCTTCATCGACTTCTATGGCCTGACGCTGTTTGCCGTC
GGCGGTCTGAATAATGGTGGCGTCAATGACGGCGGCGGATGCTTTCTCTACTTTTAAACC
TTTTTCGGTCAGTTGGCGGTTGATCAGTTTGAGCAATTCGGACAGGGTGTCGTCTTGCGC
CAGCCAGTTGCGGTAGCGGCATAAGGTGCTGTAATCGGGGATGCTCAGTTCGTCGAAACG
GCAAAACAGGTTGAAGTCGATGCGGGTAATGAGGCTGTGTTCGAGTTCGGGATCGGAGAG
GCTGTGCCATTGTCCGAGCAGGACGGCTTTGAACATGGACAGCAGCGGATAGGCGGGACG
GCCGCGGTGGTCTCGAAGGTAACGGGTTTTTTGACGGTTCAGGTATTGTTCGATCGGCTG
CCAATCAATCACTTGATCCAACTTCAATAGCGGGAAGCGGTTGATGTGTTTGGCAATCAT
GGCTTGTGCGGTTTGCTGGAAGAAGGTGCTCATGGAAAATCTCCTAAATGTCTTGGTGGG
AATTTAGGGGATTTTGCAAAGTTTTCAACAAGTTTCCGCACCGACAAACCTAGATTCCCG
CCTGCGCGGGAATGACGGGATTTTAGGTTTCTGATTTCGGTTTTCTGTTTTAAGGGAATG
ACGAGACTTGAGATGGCGGCATTTATCGGGAGCAACAGAAACCACTCTGCCGTCATTCCC
GCGAAAGCGGGAATCTAGAACCCAACGCGACAAAAATTTATCCGAAGCGACAACAATCTT
TTCATCGTCATTCCCGCGCAGGCGGGAATCTAGAACGTAAAATCTAAAGAAACCGTTTTT
CCCGACAAGTTTCTGTGCCGACAGACCTAGATTCCCGCCTGCGCGGGAATGACGGGATTT
TAGGTTTCTGATTTCGGTTTTCTGTTTTAAGGGAATGACGAGACTTGAGATGGCGGCATT
TATCGAGAGCAACTGAAACCACTCTGCCGTCATTCCCGCGAAAGCGGGAATCTAGAACCC
AACACGGCAAAAATTTATCCGAAGCGACAACAATCTTTTCATCGTCATTCCCGCGCAGGC
GGGAATCTAGAACGTAAAATCTAAAGAAACCGTTTTTCCCGATAAGTTTCCGTGCCGACA
AACCTAGATTCCCGCCTGCGCGGGAATGACGGATTTTAGGTTTCTGATTTTGGTTTTCTG
TTTTTGAGGGAATGGCCGATTTTGGGTTTCTGTTTCGGTTTTCTATTTTGCAAGAATGGC
AAAATTTCAGATTGCGGGCATTGTTAAGTATTTCTATTTTTTACCTGCCGTATTTATTTC
CGCCCCTTGAAGTCGGCTTCTTCCTCGACAGACACGCTGTTCATCTGTTTGATCAGCTTT
TCCGACTTCTCTTCGTCTTCGCAGCGGATGACTTTCACAATATCACTTTCGAGCTGTCCG
ACATTGCTGTGCAGAATGATGTTTTTGACGGGCAGGATGTTGTTGGGGTTCATGGAAAAA
CGGCGCAGCCCCATACCCAATAAAACGCGGGTAAACGCGGTATCGCCCGCCATCTCGCCG
CATACGGATACGTCTTTGTCCATGCGGTTGGCGGTACGGATGACGTGTTGCAGCATTTTC
AGCACGGCGGGATGGCCGGGCTGGTAGAGGTGGCTGACGCTGTCGTCGCCGCGATCGACG
GACAAGATGTATTGAATCAGGTCGTTGGTACCGACGGAGATGAAATCGACCAGTTTCAAA
ATACTGCCGACGGTCAGCGCGGCAGACGGAATTTCAATCATACAGCCGATGCCGACTTTA
CCGAAGGCATCGCCGCGTTCGGCAAGCTGGCGTTGCGCGGTGTCGAGGTGGATGAGGCAC
TGGCGCACTTCGGATACGGAGGTAATCATCGGCCACATCATCCGCACGGGGCCGTGTACC
GCCGCACGGAGGATGGCGCGCATCTGGGTGCGGAACATGACCGGTTCGGCAAGGCACAGG
CGGATGCCGGTCATGCCCAGCGCGGGGTTGAGGCTGCCGTTGGGCGTGCTGTTTTTCCCG
AACCAGCGCGGGTTTTTGTCCACACCTAAATCGACTGTCCGTATCGTTACGCTTTTGCCT

```
TTCATTTTTTTGACAATCGCGCTGTACACTTCGTACTGCTCGTCTTCAGACGGCATCGTA
TCGCGGTTCAGGTAAAGAAACTCGCTGCGGAACAGCCCGATGCCGTCTGCGCCGAGGTTG
TGCAGCGGTTTCACGTCTTCGGCGGATTCTATATTGCCCACAAGCTCGATGCAGACCCCG
TCGGCGGTGGCGGCGGCGGTTTTTTTGAGCTTGTTCAAATCGCGTTTGTGGCTGCGGTAT
TCGCGGGCACGGCGGCGGTATTCGTTCAACACCGACTCATCCGGCGCGATAATCAACACG
CCGTTGATACCGTCCACAATGACCGTTTCGCCTTCGGTAATCAGTTTGCGCGCGTTGTGC
AGCCCGACGACGGACGGGATGTCCAAGCTCCTGCCCAAAATCGCCGTATGCCCGGTGGGG
CCGCCGGCATCGGTAACGAAGGCGGCAATGCGCTGCTCTTTAAACAAAACCGTGTCGGCG
GGCGAAAGGTCGTTTGCAATCAGAACGGTTTCGTCAAACAGGTTGTCGGCAACTTCCAAC
TCGTTGCCCTGCCCGATCAGGTTGTTGTGGATGCGGCGGACGACTTGCAGCATATCCTGC
TTGCGTTCGCGCAAATAGGCATCGTCCATATTGTCGAATTGGGCGGCGAGTTTGTCGCTC
TGCTGCTTCAATGCCCACTCGGCGTTGATTTTTTGTTCCCTTAAAATATCGACGGGTTCG
CGCGACAAGGTAACATCGGTCAAGAGCATCAGGTGTAGCGAGATGAACGCGCCCAACTCG
GTCGGGGCGTTTTCGGGAATCGCGCTGCGGAGCTGTTCCAACTCTTTGCGCGTGGCTTTG
ACGGCGGCATCGAAACGTTCGGCTTCGGCATCGGTGTCCGCCTCCGCAACATCATACTGC
GGCACTTCCTCCGTACCGCGCGCAATCAGGTGGGCGCAACCGACGGCAATGCCTTTGCCC
GCCGCCACGCCGTGCAGCACGATACTCATTATTCGCCCTCGCCGAAGTAGCCGTTGATTA
AGTCGGTCAGGGCGCGCATCGCTTCCGCCTCGTCCGCGCCGTCCGTCTCCAGTTCGATGA
CCGTACCCTTGGCGGCGGCGAGCATCATCAGCCCCATAATGCTTTTGCCGTTGACGCGGC
TGTCGTTTTTCGTAACCCAGACTTCGCTTTTGAATTGGGACGCGGTTTGGGTGAACTTGT
TGGACGCGCGGGCGTGGAGTCCGAGTTTGTTGATGATTTCGATGGATTGTTTGAGCATTT
CGATTCCCGTGTTATGTATATCGGCAGCAGACGCCGTTTAAAATGTTTTCCTGCCCTGCC
GCTTCTTCAGACGGCATCGCCGCTGCGCCGGCACACCAAATCTTCGGGCGCGGACGTGAT
GGCGAAAATGCCTTTTACCGCCGCCTCCCTGACGCATTCGGTAAAGGCGGCAAGGTCTTC
CGCCGCCGGCGAATATTGGACGGCCTTAACCATCATCGGCGCGTTCAGCCCGGTCAAAAT
CGCCGATTTGTTTTCGCGCACGAGGCGGCGGGCGGCATTGCAGGGGGTCGCACCGAAAAT
ATCGGTCATAATCAGCACGCCGTCGTTGTCGGGAAATTCCTGAAGCGCGGCAATGGCGTT
GTTGTTGATGTCGTCTTGGTCTTCCGTCGGCTGCACGCCGAGTATGCGGACGTTTTCAGG
CAGTCCGCCCGGAAAAAAATGATGCGCCAGCTTGCGGTAGGCTTCGCCTATGGTTTCGTG
TGTGATGATTAAAAGCCCTATCATATTATGCGTCCTGTTCCTCATTATCCTGCCGGCGTA
TGGGCGCGATGCCGTCTGAACAGCCTTCAGACGGCATCGCGCCCTTATTTTCCGCCCAAT
GCGTAAATCTCGCCCAGATTGCGCCAGCAGCCCGCCGCATCCATGCCGTAACCGAAAACA
TAACGGTTCGGCACATCCAGTCCGACATAATCGGCTCGGATAGGCTTGGGTTTGTCAATC
AGCTTGTTGGCGAACACCGCCGCACGGCAGCTTGCCGCACCCATTTCCAAAAGTTTGGCT
TGAATGGCGGACATCGTATGCCCTTCGTCCAAAATATCGTCCAGCACGACGACGTGCCTG
CCCCGGATTTGTTCCGCATCGGGCATACGCTTCCAGTTGAACGCGCCGCCCTCCAGCTTG
TCGCCGTAACGGGAAACGTGAACATAATCAAAATCTAAGGGAAAACGCAACAGCGGCAGC
AACTGCCCCGTAAACACCACCGCGCCGCCCATCACGGGCAGCAGCAGCGGATATTTGCCG
CCCAAATCACGCGTAATCTCGTCCGCCACTTTTTGCAGTGCGGCACGGCATTGGCCTTGG
TCGAACAAAGATCGGCGTTTTCAAGCATCGCCTGTGTTTCAAGGCGTTTGGTTTCTAAA
TCGGTCATATGTCGGAATCGGTCGGTAAAAGGAAAATTATAAACCAAAGTATCGGATGCC
GTCTGAACTGTCCTGCTCAGCGGTCGGTACGCACGCGCACAAATGTGGCAAATTTCGGCG
TGCCTTTCCGCGTAAAGCCACGGTAACGGTAGGTAATCAGTGTGCCGATTTTGGGCGGGT
TGTCGCGGTCTTTATCTTTGAAACCGCTGCCGATGCGGAATTCGCCGTGCCGGTTTTTGC
AGCCGACCGCGCCCAGCCGTCCGGCGTTTCGCCCTTTGCCCTCATAGTGCCGCGTTACCG
TGCATTCGTCGTCGTATTGGCTTTTCAGCTTCAATAATTGGCTGCTCCTGCCGCCGCTGT
AACGGGATTCGGGCTGACGCAGCATCACGCCTTCGCCGCCCTGCGCTTCGATTTGTTTTA
AAAAGTCCATCGCGTGCTGCCGGTCGCGCACTTTGATTGCGGGATGATGGTAATCGGCG
CGTTCGGATGCGTTTTCAGCCACTGCGTTGCGACTGCCAAACGTTGGTAGAGGTTGCCCT
GCGCCTTGGGTACATCGAAAACGTGCAGGCGGATGCCGCGCCAGTCTGAAGAAACAGAAC
GCACGGTAGCGGAAATCTGCTCGAACTGACCACGTCCGCTATACAATTCGCCGTCCAAAG
GATAAGGCGGAAACTGAGCGGTAAAACCTTTGGGCGGAGCAAACGCGTAGCCCTGACGGC
TCATCAGGTGCTTTCCGTCCCAATAGGCGCGCACGCCGTCGAGTTTCTCGCTCATCGCCC
AGCCGGCAATATCCTGCCCTTTGTATTCCTGCGCCAGCATCAAATCCGCCGCGCCTGCTG
ATGCAGGGATGAAAACCGCCGTAAAAATCGGTATGATGCCGCCGATTGTCTTCTTAATCA
TCTGATTCCCCCAATATCAAAACGGGCGGCAAACCGCCATAAAACAAACGGCAAACCCGA
TGCCGTCTGAAAAACCGTTTAGGAACACGCCGATGACCCTACGTTACGAAATCTTCCCCG
TTACCCCCTTCCGCCAAAACTGCACCCTGATTTGGGACGACGAAAGCGGCGAAGCCGTCC
TGACCGATGTCGGCGGCGACGTGCCGTTCCTGCTGCAAGCGTTGGCAAACCGCAAACTTA
```

```
CGCTCACGGCAATCTGGCTGACGCACGGCCATCTCGATCACGCGGGCGGCGTGGTCGAAA
TGTTGAAAACGCATAAAGTCCCTGTCCTCGGGCCGCATCCGGACGATGAATTCCTGCTCC
AATCGCTGCCGCAAACCACCGCGCAATACGGATTTCCCGTCTCGCCCGCCTTTGCGCCGA
ACCGTTGGCTCGAAGAAGGCGAAACGCTCACGGTCGGACGCTATGCCTTTCAAGTGCTGC
ATATTCCGGGCCATACGCCGGGACATATCGTCTTTTATTGTGCCGAGGCGGAATTGCTGA
TTGCGGGCGACGTGCTGTTTTACGAAACCATAGGCAGAACCGATTTTCCGCGCGGCAACC
ACGCCGACTTAATCAATAATATCCGCAACAAATTATTCACCCTTCCCGAAACCGTGCAAG
TTGTCGCCGGACACGGGCGTATGACTTCCATCGGACACGAAAAGCGGCACAATCCGTTTT
TCTAACCGCCTTCCCTACGGTCTTCAGACGGCATCATCTGCACTGATGCCGTCTGAAACA
CAAAAGGCTCAGACAACCGCCGCCTTGCCGGTGTACCTCGCCGGACAAGGCTTTGGTAAG
TACTTCAAACAAACCCAAAATCAGAACCAGTACAGTTACGCCGCGCTTTCGGCATTCCCG
CCCCGGCTGAAACAATATTTTTCCGCACAAGTCAGACTGCTTCATCTTCTGCCGCGTATT
CCAAAGATTCCGACAACGCCGTTGTTTCATTGGAACGCTCGACCAAATCCCGTTGAAGTT
GTTTGCCTGCCTTCACGCCCAACAGACGCAGTTTCTCGGCGCGTCCGACCAGATTCCCGC
GCCCTTCGGCAAGTTGCTTGAATGCCGTCTGAAAACTGCTTTGCGCCTGATCGATGCCTT
TGCCGACGCTTTCGAGCGTCTGTACGAAGCCGACAAACTTGTCGTACAGCTTGCCGCCTT
CGTCCGCAATCGCCAGTGCGTTCTGATTTTGCTGTTCGTTGCGCCAAATATTCGCCACCG
TCCTCAAAGTCGCCAGCAGCGTACTGGGGCCGACCAGCATAATCCGTTTGTCGAAACACT
CTTGGAACAAGCCCGCGTCATTCTGCAACGCCAACAGGTAGGCCGGTTCGACAGGGATAA
ACATAAAGACGAAATCCAATGTGTTCACACCTTCCAAATCGGTGTAATCCTTCAGCGACA
AGCCTTTCATGTGTGCACGGATGCTGGCAACGTGTGCCGCCAGTTCGCGTGCCGCCGTAT
CCGCATCCGCCGCCTGCGTGTAGCGCACATAAGCTGTCAGCGAGACCTTGGAATCAATCA
CAATCTGCTTGTTGTCGGGCAGGTTGACCAAAACGTCGGGCTGGAGGCGGCGCGTGCCGC
CGTCTTCCTCTTTTCGGACGGATGCCGCCTGAACCACATATTCCCGCCCTTTCTGAAGGC
CGGAATTTTCCAAAACCGTTTCCAGAATCATCTCGCCCCAATTGCCCTGAACCTTATTCT
GCGTACCGGTCAGCGCGTTGGTCAGGGCCTTTGCCTCGCTGTGCAGCTGCGCGTTCAACC
CCTGAAGCCGTTTCAATTCGTTTTCCAACGTCAGCCGCTCGCGCGATTCTTTATCATAGG
TTTGCTTGACCAACTCGCCGAAACCGTGGATGCGTTCGTTTAGCGGGTTCAAAACCTGAT
GGAGCTGCTCGCGGTTCTGCTCGGTAAAACGGCGGCTTTTTTCTTCCAAAATCGTGTTGG
CAAGATTTTGAAACTGATCGCTCAAACTTTTGCGCGCCTCGCCCAGCAAGGACAGCTTCT
CTTCAGAAGCAAGGCGTTCCTGTTCGATTTGCGTTGCCAAACGTTCGTTTTCAACCGCCA
AACCCTGTGCCTTTTCCTGCAACTCGGTATGCGACTGCCTCAACCGCTCCGCTTCCGCCT
CTTTTTCCTGCAAATGGGCAATCTGTTTTTCGGCTGCGGCAAAACGGTTGCCGACATCGG
AAAGGTCGTTTTGCACGTCGCGGACAGTTTGGCGGCTTTCTTCCAAATCGGTTTCGATTC
TTTGGCGGATTTGGCGTTCCAAGGCATATTGGTCGGCAAACGCCTTCCGTTCCTGTCCGA
GCTGCGTTGCCAAACGTTCGTTTTCAACCGCCAAACCCTGTGCCTTTTCCTGCAACTCGA
TATACGACTGCTTCAGCCGCGCCGACTCCGCCTCTTTTTCCTGCAAATGGGCAATCTGCT
TTTCGGCTGCGGAAAAACGGTTGCCCAAAGCATAATTTTCGTCCTGCAAATGCCGGTATT
TCCCGTCCAACACCGCCAATTCCGACACGGTTTTGCCGTGTGCCTGTTCGACAAAATCAC
ATCTTGCCGCCTTTTCCGCCAGGTGCGCGTTCAAACCGGCAAACTCGCCCTGAAACCGGC
CCTTCATCAGCAACCATGTAAACAACACGCCCGACACCAACGCCGCCAAAGGCAGCAAAA
CAGTCATCAGTTCCATCAATTATCCTAATATTCAAACATTTTCACACCGGACAAAACCGC
CGCTTATTCCGATTCTACCTGTTTGTTCGACATAGCTCCAAAAAATATAGCGGATTGGCT
TTAAACCTGTTCGACATCGCCTTACCATGCTGCTTGCGGTTTCAGACCTTTTCCTAATTC
AATATCAATCTGCCACAAACCCTGATTAAGTTCCCGATGTCTGACATTTTTAGAATGATG
CCGTCTGAAATGTTGCAGCTATGTTCAGACGGCATACGGATTCAGGCTTTTCAAACGGCA
GGCAAAATGAAAAAGGGCAAACCCTAAAGGATTTGCCCTTTTGTTCCAAACGCTTAGTG
TACGTCTTTCCAATATTCTTTATTTAGGAAGTAAGCCAAAGGCAGCATAACCGCAAATAG
GAAAATCATCACGACATAGCCTATACGTTTGCGTTGCAGTTGTGCAGGTTCGCCCATGTA
CACAAGGTAATTGACCAAATCGCGTACATATGCGTCGTACTCTTTTTGGATCACTTTGCC
GTTAGGCAGGCGGCGGCTGTGCAAACCGGTAGATTCCCAATACAGCTTAGGCTTCATCTC
GCCGTGTTCGTCTTTTACCATAACCGGCTGACCTTTGGCATCCAACTCAACGGCTTGAAC
ACCTTGTTGCTCCCACAACGGGTGGGGCATACCGACTTTATCGAATACAGTATTGTTCCA
GCCGCTCGGACGGGTCGGATCTTTATAGAAGCCGCGCATATAGGCGTAAAGGTAGTCTGC
ACCTTTGGAACGCGCAATCAACGTCAAATCGGGCGGAGCAGCACCAAACCATTTTGCCGC
ATCTTTCGGGTTCATCGCCGAATGCATGACATCGCCGACATTATCGGTGGTAAACATCAG
GTTTTTCTTGATTTCTTCGTCAGTCAAACCGATGTCTTTCAGACGGTTGAAGCGCATACC
GCTTGCAGAGTGGCAAGACAAACAGTAGTTTGTAAAGATTTGCGCACCGTGCTGCAGGCT
GACTTGGTCACGCAGGTCGATATCGACTTTTTCGTAGTGTCCGCCGCCGCTGGCGACGGC
```

```
TGCACTCATAGGCACTGCCAGCAATAAGGCAGCAAACCAGTTTTTCAGAGTTTGTTTCAT
TTTCGCTGCCCTCATCAGATATTGGTTGCAAACAAGTAAGCACCAACAACGGTAATACCG
ACGTAAACAAAGAACATAATTTTTTGTTTAGTAGTGCTCATGGTTACGCGTTCAGGAACT
GGTTTGTTGGTATCCAGTTTGGTATAGAACGGCATACCCAGGAAGAATGCAAAGTAGACG
AAAGACAGGATACGTGCAACCAAAGTACGCGTATCAGTTGCTACCATTGCACCCAAAATA
CCCAAACCGATGAAGGCAATGATGAACAGAACCAATGCGGTTTTGAAGATTGGGCCGCGA
TAGCGGACAGATTTAACCTCGCCTTTATCCAACCAAGGCAGCAAGGCGATCAGTACAACT
GCTGCACCCATACCGATTACACCCCATACCTGAGTACCGGCAAAGGAAGGAATCGCACGC
AGAATTGCGTAGAACGGAGTGAAGTACCATACCGGCGCAATGTGCGGAGGTGTTTTCAGC
GCATTCGCTGCATCGAAGTTTGGCGCTTCCAAGAAGTAGCCGCCGCCTTCAGGTGCAAAG
AACATCACGGCACAGAAGACAATCAAGAATATCGTTACTGCCAATATATCATGCACAACA
TAATACGGAAAAAAAGGTATGCCATCTAGAGGGACACCGTTTTCATCTTTCAGCTTTTTG
ATTTCTACACCGTCAGGGTTGTTGGAACCCACTTCATGCAAGGCAATGATATGAGCCACA
ACCAAGCCGAGCAATACCAAAGGTACAGCGATAACGTGCAGGGCGAAGAATCGGTTCAAA
GTAACATCGGAAACGTTGAAGTCACCGCGGATCCAAGTGGACAAATCAGGACCGATAACA
GGGATGGCGGAGAACAGGTTAATAATTACCTGCGCACCCCAGAAGGACATTTGACCCCAA
GGCAGCAGGTAGCCCATAAAGGCTTCTGCCATCAATGCCAAGAAATCAGGGAACCGAAA
ATCCACACCAATTCGCGCGGTTTTTTGTACGAACCGTAAATCAGACCACGGAACATGTGC
AGATAAACGACGATGAAGAAGAAAGATGCGCCGGTAGAGTGCATATAGCGGATAATCCAG
CCGCCGGACACGTCGCGCATGATGTACTCTACTGCGGTAAAGGCAGCAGGCAGATGGTAG
GCGTTAAGGTTGCCGTCCGGTTGTAGTTCATGGTCAGGAAAATACCGCTGACGATTTGA
ATCACCAGCACCAGCATAGACAATGAGCCGAAGAAATACCAGAAGTTGAAGTTTTTAGGC
GCATAGTATTCAGACAGATGCTCTTTCCACATTTTACTTAATGGAAAACGGGCATCTACC
CAGCCTAACAATGCTTTTGCTTTGCTATTGGTTTGGTTTGCCATAATTATCGTTCCTTAT
TCTTAGTCTTCGCCCACCAAGATAGTTGTGTCGCTCAAGTATTTATATGGCGGGACAACC
AGGTTGGTCGGGGCAGGAACACCTTTATATACGCGGCCGGCCAAGTCGAATTTCGAACCG
TGGCAGGGGCAGAAGAAGCCGCCTTTCCAGTCTGCACCCAAATCGGCGGGGGCAATGTCG
GGACGGAAGGTGGGCGAGCAGCCCAAATGGGTGCAGATACCGATGGCGACAAGGATGTTC
GGCTTAATCGAACGGGTCTCGTTTTTAGCATACTCCGGCTGCTGTTCCGCATCGGAATTG
GGATCGGTAAGTTCGCCGTTCAGGCCTTTCAGGTCTTTAAGCTGCTGATCTGTACGGTTG
AGCACCCAAATCGGTTTGCCTTGCCACTCGGCGGTCAGCAGCTGACCCGCTTCGATTTTA
CTGACATCCACCTCGACGGCAGCACCGGCGGCCTTGGCTTTTTCCGAAGGGAAAAAACTG
GCCACAAACGGCGTTGCCACACCCAATGCTGCCACTCCGCCCGCGCCGCAGGTCGCGAGT
GTCAGGAAACGGCGGCGGCCGTTGTTGATTTCTTGATTATCCATTATTCAGTCGTCCTAA
TATTTTGGGAATACCGAGCCATTAAACGTTGCAATTTTACCCAGTTTGCAGTGATACTCA
AAGCATTATTTAAAATAAGGTAAAGTTTTATGATATTTCTCAAGACTCAAGCCGGATTGT
TTTCGTCAAAATGGCACACTTCCAACCCGAAAACCTCTGCCGCCGATTCTGCCAGCGCGC
GTACGCCGTAACGTTCCGTCGCGTGATGCCCTGCCGAAATGAAAGCCGTACCCGTTTCAT
TGGCAAGGTGGTATTGGGCTTCAGAGATTTCCCCCGTCAAATACAGATCGACACCTTCGT
CTATTGCCGTCTGAAAAAACCCCTGCGCCCCGCCGCTGCACCATGCAACCCGTCGGATTT
CGCGTTCGGGATTGCCGATAACGACAGGCTTACGTTGCAAAACTGTTTCAATATGCGCCG
CCAATGCGCCGAGTGTCTTGGCTTGTTTCAGGCTGCCCGAGTTGAGCAGGTTTTGTTCGC
CGAACCGTTTTTCTGTCGCAAAACCCAATCTGTCGGCGAGTTGGGCATTGTTGCCCAGTG
TGGGATGTGCATCCAGGGGCAGATGGTAGCCTGCCATATTGATGTCGTGCCGTAACAGTG
CGGCAATCCGTTCTTTTTTCCAACCAGTAACGGTCGGCAACTCGTTTTTCCAGAACATAC
CGTGATGTACCAAAAGCAAATCTGCCTTCTGCTCCACAGCAAAATCAATCGCTGCCCTGC
TTGCCGTTACCGACGTAACGATTTTCCCGATATATTCCCTCCCTTCAACCTGCAAACCGT
TAGGGGCGTAATCTTTAAACAACGCTGTCTGCAATGTTTCATTACACCAAGTCAGAAAAT
CCCTGCACAATACCATCTTTTTTCCTAATCGCTTTAAACAAGCGGGCATTCTAATCGCAA
AATGTCCGGAATTCACATTTTTCCGATTTGCACCCGCATATGAATTATTTTAATATGCGC
CGGTTCAATATGCCGTCTGAAGCCCCATGGATTCCATTATCGAATTGCGCCACCTCAAAA
CCCTGCTGGCACTTGAAGAAACCGGCAGCGTCTCCCTTGCCGCCAAACGGGTTTTCCTTA
CCCAATCCGCCCTTTCCCACCAGATCCGTATGCTCGAAAACCACTACGGCACGCCGCTGT
TCGAACGCAAATCCACGCCCTTGCGCTTTACCCCGGTGGGCGAAAGGCTGCTGCGCCTCG
CCCACGAACTTATACCTCAAGTTGCTGTTGCAGAATGGGATTTGGCGCGAATCACGGAAG
GAGAGGCGGGAGAGCTGCGGATTGCCGTCGAATGCCATACCTGTTTCGACTGGCTGATGC
CCGCCATGGGCGAATTCCGCCCGATGTGGCCCCAAGTCGAATTGGATATCGTATCGGGAT
TCCAAGCGGATCCCGTCGGACTGCTGCTGCAACACCGTGCCGACCTTGCCATTGTTTCCG
AAGCGGAAAAACAAAACGGTATTTCTTTCCAACCGCTGTTTGCCTACGAAATGGTCGGCA
```

```
TTTGCGCACCAGACCATCCGCTTGCCGCCAAAAACGTTTGGACGGCGGAAGACTTTATCG
GGGAAACCCTGATTACTTATCCCGTTCCCGACGAGATGCTGGATTTGCCCAAAAAAATCC
TGATTCCGAAAAACATCAACCCGCCGCGCCGACACAGCGAGCTGACCATCGCCATTATCC
AACTGGTTGCCAGCAGACGTGGCATTGCCGCCCTTCCCTATTGGACAGTCATGCCCTACC
TTGAAAAAGGCTATGTCGTCCACCGCCAAATTACTGCCGACGGACTGCAAAGCAAACTGT
ATGCCGCCATCCGTACCGAAGATACGGACAAGAGCTATCTGAACAATTTTTGCCAAATCA
TACGCGAACGCGGTTTTGCAGATTTGCCCGGACTGAGCGAACTGGAACCGGTCTGACCCC
TTATTCAACCATACCCGGCAGTTTTTCTATTTTTTCATGTATAGTGGATTAACAAAAACC
AGTACGGCGTTGCCTCGCCTTGCCATACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGT
CCTGATTTTTGTTAATCCACTATACTGTTTTTGATTTTTGCCCAATCTGTAATCTTTAGA
TTGCCAATGGGAAACCGTCTACTACAAATAAAAAACCCTGCGATAAGCAGGGTTTTTTGA
ATTTCCAACATTAACGTTTGGAGAATTGTTTTGCACGGCGTGCTTTGCGCAGACCCGGTT
TTTTACGTTCGACTTCGCGGGCATCGCGGGTAACAAAACCAGCTTGAGACAAGGCGGGTT
TCAACGCGGCATCGAAGTCGATCAGGGCACGGGTAATGCCGTGGCGGATTGCGCCGGACT
GGCCGGTTTCGCCGCCGCCAACAACATTGACTTTGATGTCGAAAGATTCGGCGTTTTCAG
TCAGAACCAAGGGTTGGCGAACAACCATTCGGCTGGTTTCCCGTGCGAAGAATTCGTCAA
CGGGACGACCGTTTACGATGATTTGACCTGTACCTTTAATCAGGAATACACGAGCCACTG
AACTTTTGCGGCGGCCTGTGCCGTAGTAGTATTTACCGTTCATGTCGCGTCCTTATTTCA
GTTCCAAAACTTTGGGTTGTTGCGCAGCATGGGCGTGTTCCGCACCCGCATACACTTTCA
GTTTTTTAATCATGGCGTAACCCAGAGGACCTTTGGGCAGCATACCTTTTACAGCTTGTT
CCAAAGCGCGGCCCGGGAATTGCTCTTGCATTTCGCGGAAGGTGCGTTCGTAGATACCGC
CTGGGAAACCGGAATGGCGGAAGTATTTTTTATCTTCGAATTTGGCACCGGTTACACGCA
GTTTGTCCGCATTGATAACAATGATGTAATCGCCGGTATCGACGTGGGGGGTGTATTCAG
GTTTGTGTTTGCCACGCAGACGGCTGGCGACTTCGGCCGCAACGCGACCCAAGACTTTGT
CTTGGGCATCGATGACGAACCATTCGCGCTTCACCTCGTGGGGTTTCGCTGAAAAGGTTT
TCATAGTGGAAATCCAGATAGATATAGAAAGTTGTAAATTTTAAAGACAGGATTCGATTT
TGTCAATCGCATTACCGCGTTACGGAAGGATTTTCCGGATTTCGGCAGACTGCATACTGC
TTTTTCGGGCGGGGCGGCGGCCAATGTGAAAAACCGCATCGTTGCGATGCGGTTTTGAAT
GGGAATCCCCGCGAGAGCCGTTTCGGCCGAATCCGCTTGAACCTTGCTGACAAGGCGGCT
GCCTCGGGTAGTTTCGGGTGCGTCCGCAAAAGGACGCTCGCGCCCACTACTGCTCCCGGC
AACCTTAAGCGAACTTATTGGTTCAAAGGAATATATGCCTTCGCGGACACCGCAGGGAAA
AAGGGGTTATTCCTGCGCCAAGCGGGATAGTGCTTTTTGGCAGGCGTTGTCCATATCGGC
TATTTTACGCGCAAAATCGCCGATTGCCAAATCGCCGCCGTTCAGGGAGGTTTTCAACAG
GTCGTGGACGACGTTGAGCGCGGCCATAATGACGATTTTTTCGCTGTCCGCGACGCGTCC
GCCTTCGCGGATGGCTTCGGCTTTGCCGTTGAGCATTCCGACTGCCTGCAACAGTGTGTC
TTTTTCTTCTGCCGGCGTGTTGACGGTCAGCCGGGCGTGCATGACTTCGATGTGGACTTG
TTCGATGTTCATCCTTTAATCCTTATTGCTGCGTTTCCTGCCATTGGGGGAGGCGCGCTG
CCAGTGCGCTGATTTTTTCCCTGCTCTGTTCGAGCAGGCTGCGGTATCGTGTATTTTCTT
CTGTCAGGCTGTCAATTTTGTTTTGCAGGTCTTCTTTGAGTTTGCCGACTTGGACGAGCA
GGGCTTCGCTGAGTTCGTCGACGGCGGTTTCGTGTTCGAGTTTTTGCCGCTCGTGCGCCC
GTTTGAGTTCGGCGACGGTTTCTTTGAGGCGGCGGTTTTCGCTGACGAGGGTTTCGAATT
TTTGTACCAACGTATAAACGCTGCTTTCGAGTTTTTCGATATTTTGTTTCATAACCTTAC
CTGTCCGTATGCCGTCTGAAGGCTTCAGACGGCATCTGTCTGTTGTTTATTCAAAACGCG
CGCTGCGTTCCATCAGTCTTTCGACAACCTGTTGCGGGGTCATTTCTTTGCGGATGAGTT
GCAGCAGAGTTTGGGTAATCGGCATGTCGATTTGGTACTTACAGGCAGTATTGAAGACTT
CTTCTATCGTGCTGACCCCTTCGGAAACGTGTCCGATTTCGACCAGCACCTGATGCAGTT
CCTTGCCTTCTGCCAAACCCAAGCCGACGCGGCGGTTGCGCGAAAGTGCGCCGGTGCAGG
TGAGGATGAGGTCGCCGATGCCTGCCAGCCCCATCATGGTTTTGGGCTGTGCGCCCATTG
CGGAGGCAAGGCGGGTGATTTCAGCTAATCCGCGCGTAACCAGTGCGGCACGGGCGTTAA
GCCCGTACTCTAGGCCGTCGGACAATCCGGTGGCAATCGCCATAACATTTTTTACCGCGC
CGCCAACCGCCACGCCGATAACATCGGTACTGCCGTAAAGCCTCATGACGGTCGTGTTGA
GCTGCGGTACGAGTTCTTCAATCCACTCTTGGTTTTCGGAGGCAAGGACGACGGCGCAGG
GCAGTTGTTTGGCGAGTTCCTGTGCAAAACTCGGGCCGGAAAGTACGCCGATTTTCTTAT
TGTCGGGCAATACTTCTTTCAAGACTTGAAAGGTCAGCAGCCCGGTATCCTGCTCGAATC
CTTTGCAGGCGGCGAGGACGGGGAGGTGTCCCGCGCCGTACTGTTTGAGCAGCTCTGCGC
TGCTTCTCAATCCGGCAACGGAGGTTACGATAAGGACAAGTCCGCTGTCTTTGAGCGCGT
CTGCCAAATCCGCACACACTTCCAAGGTTTCGGGAAAGGAAAGCCGGGCAGTCCGCGTT
TGTTTTCACGCGCTTCCTGCATTTGACGGACTTGGTCTGCGTTGCGCGTCCACAGGGATA
CGCGGTTGCCGTGTTGGGAAAAATGCAGGGCGAGCGCCGTACCCCACGAACCTGCGCCGA
```

TAACGGTAATTTTCATTGGTCGTCTTTCAACATATCACTGCCGTTCACTTTAAAACAATC
GGTGTTTCTCTGCAAGTGCGGTCAGGGAAATGCCGTCTGAAAGGCGTTCAGACGGCATTT
TGCCCCGATGCGGCACTATCAGCCTGTATTGCGCAAACCTTGCGCCACGCCGTTGATGGT
CAGGTGCACCATCAGAAGGGCGTGCGGATTGTCGGGTTCTTTACGCAGGCGTTTGAGCAT
GGCGACTTGCAAACCGTTGAGCGCGTTCAGGTAGGGAATCCTCAAAGCGAGCGAACGGGC
GAGGCTGCGGTTGTCGCGCAAAAGCTCTTCGGTTTGCAGTAGGTCGAGCAGTGCTTTGCG
GCTGCGGCGGTATTCTTCCTTAATCATCCCGAAGATGATTTTTGCCTTATCGGGCGATTC
GCTCAAGCCGGCATAGTTTTCCGCGAGGGTGATGTCGGTTTTCGCCATCACTTGTTCCAT
ATTGGAGAGCATGGCTTGGAAGAACGGGTTGCTTTGGGCGTGTTCGCGCAGGGCGGCGAG
CGTTTCGGGTTTGTCTTCGCACAAGGTTTCCACCGCGCTGCCGAAACCGTACCAAGCCGG
CAGCATGAGGCGGTTCTGCATCCAGGAAAATACCCACGGAATCGCGCGCAAGTCCTGAAT
CCGCGCCAAGGTTTTGCGGCTGGCGGGACGGCTGCCTAGGTTGAGGGTGGCGATTTCCTG
AATCGGGCTGGTTTGCAGAAAGTAGTCGATGAAGTCGGGATGGGTAATCAGTTCGCGGTA
GTATTTGAACGATACGTCCGACAATGCCTGCATCAGTTTGGCATCAGGGTCTTTTTTATC
CGGCAGGATGCTGGCTTCCAAAGTCGCGGCAACCAAGGTTTCCAAGTTGCGTTGGGCATT
GCCGGGGTCGGCGTATTTGGCGGTAATGACTTCGCCTTGTTCGGTGATGCGGATTTGTCC
CGCCACGCTGCCCGCCGGTTGGGCGAGAATGGCTTGGTAAGAAGGGCCGCCGCCGCGACC
TACGCTGCCGCCGCGTCCGTGGAACAGGCGCATACGGACATCGTATTTTTTGAAGAGTTC
GACCAAGCCCAATTCCGCCTGATAGAGGCACCATGAGCTGGTAACGTAGCCGCCGTCCTT
GTTGGAGTCGGAATAGCCGAGCATGATTTCTTGGATGTTTCCACGGCTTTCGAGCAGTGC
ATCGTACCAGTCGAGGCGGAACATGGTTTCCATGACCGGACAGGCGTTTTCCAACGCTTC
AATGGTTTCAAACAGCGGCACGATATTGATGCGGCTGTGCGGTTTGCCGTTTTCCACCGC
CAACAGGCCGGTTTCTTTCAGCAGCAATGCCAAGGCGAGCAGGTCGCTGGGTTGTTCGCA
GTTGGAAATAATGCTTTGTGTTACGGCATCTTCGCCAAATTCGTCTTTGATTTTGCGCGC
TTCGTTGAAAATTGCCAGTTCGTGGCGGGTATGGTCGCTGTATGTGATAAACGGGCTGTA
CAGAGGACGTTGATGGCTCAATTCGCGCAACAGGGCGGTTTGTTTTTGCTCTTCGTTCAG
GCGGTTGTAGTCTTCCAAGCCTGCGTGTTGGAAAAGCTCGGCAACCACATCGGCGTGTTT
GCCTGCGTGTTGGCGCAAGTCGAGCGGCATCATGTGAAAGCCGAACACGGATACGGAACG
GATGAGGTCTGCCAAACGGCCTTCGGCAAGCAGACGGCTGCCGTTGTCGATAAGGGAACG
TTGCAATTTTTTCAAATCATCCAGAAACTCTTGTGCCGAAGCATAAGGCTCGAGAAAGCC
GAATTTGCAGCCCATACCCAAACCGAGCGCGCGCGCTTTGCCCATAGCGCGCGCCATAAT
GTAGGCGATGGCGCGGCGGTAGGGTTCTTCGGCGCGGGCGATTTCTTCGTCGGGCGATTT
GTCGGACAACGCCGTTACATCGCCGTTGACTTTGACGCGGCGGATGGAGAGCGGCAGTTC
GCGGTAGAGTTTGTCGAGTTCGCCGCGATAGAAGCGGAACACGGCATCGGCGTGGCGGCG
GAAGGCAAAGCGCAGGGTTTCGGCAGAAACAAACGGATTGCCGTCGCGGTCGCCGCCGAT
CCAGCCGCCGATTTTGAGGATGTCCGGAACGCGGACGCCGGGATAGGCCGTCTGAAAGTC
GTGTTCCATCTTGCGGTAGAGCTTGGGCAGGGCTTCGAAAAAGCTCATCGGGAAGATGGA
CACGCCGTTGTTGATTTCGTCGTTGACGCTGAGTTTGTGGCGGCGCGTTTCGCTGGTCTG
CCACAAGCCCAGCAGGATAGTGTCGATTTCGCGGCGCAGCCGTGCCAGCGCGTCGGCATT
GGTGCAGCGTTCGCGTTGCGGCAACAGTGCGCGGATGCGGCGGTTGAAGCTTAAGACGGT
TTGGCGTTGCACTTCGGTCGGGTGCGCGGTCAAAACGGCGGTAACGGACGTATTGTCCAA
CTGCCGCTGCACCGATTTGCCGTCGGCTTTCCCCGCTTTGAGCCTGCGGACGGTTTCCGT
CAGGCTGCCTTCCGCGCCGCCGCGTCCGGCTTCTTCGTGGATTTGGCGGCGGCGTTCGTG
GTGCACGTCTTCGGCGATGTTCAAAATCTGGGCGAACAGGCCGCAGGCCAAGGTTAAATC
GTGGGTTTGTTGTTCGTCCAATTGCGGCAATACTTTTTCAATCAATGCCGCGCTGTCGTC
GGAAGTGGACAAGAGTTTGACTGTTTCGACAACCAACGGCGAGGCTTCTTCGTGCAGGAG
GTTGAACAGGGATTGTTTCAGAAATTCCGCGTCCGCCGCCAAAGCCGCGTCCTTTGGATT
GTTCAGAATATGCAGTTGCATGATTTTTCTCTCTCGTCTGCCGTAAATATTGTAAATGTA
CCCCAAATGCCGCATCCGTGCCAAACCGTTCACACTTTAACCGCCCGTGTCCCGAAATGC
CGTCTGAAGTTGAACGCCGCCCGACGGCAGCGTTACAATCGCCCGCAACTGTTTTTTTCC
GAACATCATCATGACCACGACCGAACACGACAACGACGATGCATTCCTGCTGCGGTACAG
CCGCCACATCCTCTTGGACGAAATCGGCATCGAAGGGCAGCAGAAACTTTCCGCCGCGCA
TATTTTGGTCGTCGGCTGCGGCGGTTTGGGTGCCGCCGCACTGCCCTACCTTGCCGCTTC
GGGTGTCGGCACGCTGACCATAGCCGATTCCGACACGGTCGAACTGCACAACCTGCAACG
CCAAGTCGCATTTGACGAGGGCGATGTCGGCAAACTCAAAACCGAAGCCTTGGCAGGCCG
CCTGAAACGCATCAACCATACCGTCAACGTCCGCGCCGTCAACGAAAAACTCGACGGCTG
CCGCCTGACCGGTTTGGTTCAAGCCGCCGACATCGTTTTAGACTGTTGCGACAACTACGC
CACGCGGCAAGCCGTCAACCGTGCCTGCGTGCAAACGAAAACACCGCTGGTTTCAGGGGC
GGCGGTACGCTTTGAAGGGCAACTTGCCGTGTACCGTCCCGACTTGCCCGACTCGCCGTG

-610-

```
TTACGCCTGCCTGTTTGACGGCGGATCGGCTTCAGACGGCATCTGTTCTCTCTTCGGCGT
GTTCTCGCCGCTGGTCGGCATCATCGGCAGTACCCAAGCGGCGGAGGCTCTGAAAATCCT
GCTGGATGCGGGCGAACCGTCGCACGGCAGGCTGGCGGTTTACCGTGCCTTGGAAGGGGG
CTGGCAATATTTCGACCTGCCGCGCAACCCTGAATGCCCGGTTTGCGGCACAGCGCGATA
AACCCTGCCGCCGTTTCAGACGGCATCCAAACGGATGCGGCGGAACGGTTTTAAAAATTT
AAAAATTTACATTTCTTTGCAAAAAAAAAAAAAAAAAAAATAAACTTACCTTATAATTGCA
ATTGTTTTAGCAATGTCTGTTTCGCAGACTCATTGAGTAAAACGTTTTCCCCGTAATGTG
TTTGGCCGTCTGTCCCCTTTGGGTTCGGACGGCTTTTTTTTGGCTGTGTTTGAATACCCG
GTTGGTTTTATCTGTTTGCAGCGGGGGAAGCCGCTTATTTCCGTTCGGGCGGAAACGGT
TCCATCGGATAAAAGGCATTTTGTCCGACTGATTAAAGTTATAGTGGATTAACAAAAACC
AGTACAGCGTTGGCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCA
AGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTT
GTTAATCCACTATATATCTTAGGTTTGCATCGGCGGAATATTCAAACACAGCCTTTTTTA
AGGAAATCCGGATACGGCGGCGCATCAATAATGCGGCGGAATCTCGTCGCGCAGGGAATA
CGGCTCTTGCGCGTCGGGATTCCTGTCCTGCATTTTTTGATACAGCAGCCTCAACTGAGC
CTGCTGCAAATCCAGCGTCTGCCGCAATTCCGCCACCATCGCGTTCAGGCCGGCGATTAC
GTCCTCCTGAAGCGCGGATTGGATTTCCAGTTCGACAATACGGCGTTCCAACTCTTGAAC
CGCGTCCATTTACAGCACCATCGCGGCAATCCAGCCGGCAATCAGCAGCGGGATGTTGTA
GTGGATGAAGGTCGGGATAACGGAATCGCGGATGTGGTCGTGCTGCCCGTCGGCGTTCAG
CCCCATCGTCGGGCCCAGCGTGGAATCGGACGCAGGCGAACCGGCATCGCCCAACGCCCC
CGCCGTGCCGACAATGGCGACGGTGGCAAGCGGCGAAAAACCCAAACCGACACACAAAGG
CACATAAATCGCGGCAATAATCGGCAAAGTGGAAAAGGACGAACCGATGCCCATCGTTAC
CAAAAGCCCCACCACCAGCATCGCCAATGCCGCCATACCTTTGCTGTTGCCGAATATCGC
CATACTGCTTTCCACCAGCGGCTGAATATGCCCGGTCGCATTCATCACGGCGGCAAAACC
CTGCGCGGCAATCATAATGAAGCCGACCATCGCCATCATCTTGATACCTTCGCCGAATAC
GTCGTTTGCCTTGTCGCGGTTAATGACCCCCAACATCATAAATACGGCGAAACCGAGCAT
CGCGCCCAACACCAGCGAGTCTTCATACATCAACTGGATGGCAAAGCATACGGCAATGGC
GACGGCGGCGGCCAGGCTGCGGTAGGCGGACGGCTGCGGACGGTTTGCCGCATCGGCGTT
GCCCGCCGTATCGGCATTGTTGCTTTGGTACAGGCGCGGTTTGCGGTAATGGACAAACGC
CAGCAGGAGTCCGGCCAGCATTCCCAACGCGGGAATCGCCATTGCCGCCATCACGTTAAT
GTTTTTCACATCAAGCTGCGGCGCGGCGGAATGGATGTTGCCCAACAGGATTTCGTTCAA
AAAAATCGCGCCGAAGCCGTAAGGCAGGAACATATAAGTCGTAACCAGCCCGAAAGTGAT
GACGCACGCAATCAGGCGGCGGTCGATTTTCAGGCGGTTGAACACCAAAAGCAGCGGCGG
AACAATCATCGGGATAAAGGCAATGTGGATGGGGATGATGTTCTGACTCATCATGCCCAT
CACAAGGATGATGGAAAGCAGCAGCCATTTGACCGCGCCCTCGCCCGAACGCACGCTGTC
GGGCATACCGCCCCGGTTCAGCTTGCGGACGACCGCGCCGGCAAGCTGCTGCGGCAGGCC
GGAATGGGTAATCGCCATTGCAAACGCGCCGAGCATCGCATAAGAAAGCGCAATCTTCGC
ACCGCCTTCCAAACCTTTGTTGAACACGGGGATAATCCCCGCCTGACTGACCTGTCCCGC
CGCATCGGCAATGTTTTGCAGCGGCATACCCGCCACCGCGCCGCCGACAAACGCGCCGAC
CGTCAGGCTCAATACCACGTGCACGCGCGACAGCGACAGCACCAGCATAACGATTACGGC
AACTACGACTGCATTCATTGTTTATCGCTCCAAACCTATAAATGTTTACATATCGAAACA
CATCATAACCCAATAACGGGAAACCCGCCAATTTTGCAAACAATTATTTCAAATGCTTCA
TATACTTCCCCAGCGTAACCCTGTCCAAACCCGCCAAATCCGGCAGGGTTTCCACTCCTG
AAAAACCATTCTCCGCCAACACGCCGCGCACCGCCGCGCCCTGATCGAAACCGTGTTCCA
GCAATAAAAAACCGCCTTCCGCCAAACGGTCGGGCGCGCCTTGCGCCAAGGTGCGGATGC
AGCTTAGGCCGTCTGAAAAGTCGGTCAGCGCGATTTGCGGCTCAAACCGCAAATCGCCTT
GCAACAAATGTTTATCGCCGTTTTCGATATAGGGCGGGTTGGACACGATGATGTCCCATT
TCCCTTCAGACGGCATATCGGTGTCGAACCACGAACCGTGTGCAAATTCGACCCGCGCGC
CCAAATCCGCCGCATTTTTCCGCGCCGTTTCAAGGGCGGGCGGGCTGATGTCGGATGCGC
GCACAAACGCATCGGGGCGTTCGAGCGCGACGGTTACGGCAACCGCGCCGCTGCCCGTCC
CCAAATCCCACACGCGCCCGTTTTCGGGCAGGCGCGCCAATACGGCTTCGACCAAATGTT
CGGTTTCGGGGCGCGGAATCAGCACGCTCGGATTGACTGTAAAGCGTCTGCCATAAAATT
CGCGCACACCTAAAATATAGGCAACCGGCTCGCCGTTCAGACGGCGTTGCGCCAGCCTGT
CCGCCCGCTGTCGGACTTCGTCCGGCATTTCTTCCCCGCCCCGCGTCAACAACTGCACGC
GCGTATATTCCGAAACATATTGTAGCAGCATTCTTGCTTCATTTTTAGGCAGTTTTGACA
AGCCCAACCATTTATCAAACGTCATTTTTATCCCGTCTGCCGCTGATGCGGCTTTTCTTT
CCTTATTCTTTCCGGCAAACGTACCGATGGTGGCAACCGCAAATGCGGCATACCACAAAT
AAAATCCTGCACCGTAGCGCACAATATCCGATGTATTCCCTGCTTCATCGACGTATACGG
CTTTCACACTGAAAGCCACCAACGCCAAGCCCCAAAGTGCCGCATGGACAGGCACGACCT
```

```
TCTTCCGCAACGCCAGCAAAACAATGGCCGCCAACCAAACATAATTCGCATAGACCGCAC
AATACCTGATATCCAAAGAAGCAAATATCGACCCCAAAATCAAAACGGTCAAACCCTCCA
TGCTTCCATGATTGCCCAAATAAAATGCAACATTGGATAAAGACGCTATCCACAGGGCAA
CCGACACCAGCAACATCACTATGGGAAAACTTGGTTTCCGATTCTGTTCCTGCATGGTTT
TATCCTAATGTAAAAGGCCGCCTGAAAACCTTTCAGACGGCATCGTGCCGGATTCCGCGT
CAGATTGCGCTGCCGCCGACGGTCAGTCCGGCATCAATCCGCAAAGTCGGTTGCCCCACG
CCGACGGGGACGCTCTGCCCTTCTTTGCCGCACACGCCGACACCGCTGTCGAGCGCAGTA
TCGTTGCCTATCATGGAAACGTGTTTCAGCACTTCGGGGCCGTTGCCGATGATGGTCGCG
CCTTTGACGGGATATTGCAGCCTGCCGCCTTCCACCCACCACGCTTCGGACGCACTGAAC
ACGAACTTGCCGCTGGTAATGTCCACTTGTCCGCCGCCAAAGTTGACGGCGTAAATGCCC
TTGTCGATGGACGCGATGATTTCTTCCGGCTCATAGCTGCCGTTTTCCATAAAGGTATTG
GTCATGCGCGGCATAGGGGCGGAAGCGTAACTTTCGCGGCGGCCGTTGCCGGTGGACTGC
GTACCCGTCAGGCGGGCATTGGTTTCGTCCTGCATATAGCCGACTAAAATGCCGTCTTCA
ATCAATACGGTGCGGCGGGTTTCGTTGCCTTCGTCGTCGATGTTGAGCGAACCGCGCCGG
CCGGCAATATCACCCTGATCGACGACGGTAACGCCTTTGGCGGCGACGCGCTCGCCTATT
CTGCCGGAAAAGACGCTGGTTCCCTTGCGGTTGAAATCGCCTTCCAAACCGTGTCCGACC
GCTTCGTGCAGCAACACGCCCGGCCAGCCGTTGCCCAAAACGACGGTCATTTCGCCGGCG
GGCGCGGGGCGGGATTCGAGGTTGGTGAGTGCCTGTTTGACGGCGGCATCGACAAACCGA
TGAACCAAGTTTTCATCGAAATAAGCCAAGTCGTAGCGTCCGCCGCCGCCCGCGCTGCCC
TGTTCGCGGCGTTCGCCCTGTTTGGCGATAACGGTAACGTTCAGGCGCACCATCGGGCGG
ATGTCGGCGGCGTGTTTGCCGTCCAGACGGGCGAGGTAAACCATATCGTATTCGCAGGTC
AAACCGGCCATCACTTGCACGATGCGCGGATCGGCGGCTTTGGCGATTGCTTCCACTTTG
TTCAACAGCGCGACTTTGGCGGCGGAATCGAGGCCGGCAATGGGGTCGGACGCGGAACAA
ACCGGCTTGCCGCGCGTTTCAGACGGCATTTTGGCGGACACCTTGCCGCCTGCCGCCCCA
ATCGCGCGGACGGCGCGGGCGGAACGGTTTATCGAATCGATGCACAGGCTGTCGGCGTAG
GCAAAGGCGGTTTTGTCGCCCGAAACGGCGCGCACGCCCACGCCCTGATTGATTTGGAAG
CTGCCCGATTTGACGATGCCCTCTTCCAAATGCCAGCTTTCATAAGCGGTGCGCTGGCAG
TAGATGTCGGCGTAATCGACGTGGTGCGCGCCGATGATGCACAGGCTTTTGGCGAGCAGT
TCGGGGGAAAGGCGGTTGGCTTCGAGCAGCCGCGCCTGTACGGCGGAATAGGTCGGATGC
ATAGTGTCGGCGCATAAAAAATCAGGGGCTTGATTATACGGCATTTGTTATATAGTGGAT
TAACAAAAAACAGTACGGTGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTT
CGTCGCCTTGTCCTGATTTTTGTTAATCCACTATAGAAATGCGCCGTGCCGCCTGAAATG
TAAGATTTTTGCCAACGCCCCCTGCTTTTGTGTACACTTAAAGCTCCTTGTCGGAGTGCC
GCCGCCGGGCGGCTGAGATTGCGAAAGCAGAATCCGTAGAACCTGTCGGGGTAATGCCTG
CGTAGGAAACAAACCGTCAAATGCCTTATCAGGCTTCCGTTCCCTTTTCCGCACTTCCCC
GCCCCATTTTCATGTTTTTTAAGGACTTGATATGTCGGGCAATGCCTCCTCTCCTTCATC
TTCCTCCGCCATCGGGCTGATTTGGTTCGGCGCGGCGGTATCGATTGCCGAAATCAGCAC
GGGTACGCTGCTTGCGCCTTTGGGCTGGCAGCGCGGTCTGGCGGCTCTACTTTTGGGTCA
TGCCGTCGGCGGCGCGCTGTTTTTTGCGGCGGCGTATATCGGCGCACTGACCGGACGCAG
CTCGATGGAAAGCGTGCGCCTGTCGTTCGGCAAACGCGGTTCAGTGCTGTTTTCCGTGGC
GAATATGCTGCAACTGGCCGGCTGGACGGCGGTGATGATTTACGCCGGCGCAACGGTCAG
CTCCGCTTTGGGCAAAGTGTTGTGGGACGGCGAATCTTTTGTCTGGTGGGCATTGGCAAA
CGGCGCGCTGATTGTGCTGTGGCTGGTTTTCGGCGCACGCAAAACAGGCGGGCTGAAAAC
CGTTTCGATGCTGCTGATGCTGTTGGCGGTTCTGTGGCTGAGTGCCGAAGTCTTTTCCAC
GGCAGGCAGCACCGCCGCACAGGTTTCAGACGGCATGAGTTTCGGAACGGCAGTCGAGCT
GTCCGCCGTGATGCCGCTTTCCTGGCTGCCGCTTGCCGCCGACTACACGCGCCACGCGCG
CCGCCCGTTTGCGGCAACCCTGACGGCAACGCTCGCCTACACGCTGACCGGCTGCTGGAT
GTATGCCTTGGGTTTGGCAGCGGCGTTGTTCACCGGAGAAACCGACGTGGCAAAAATCCT
GCTGGGCGCAGGTTTGGGTGCGGCAGGCATTTTGGCGGTCGTCCTCTCCACCGTTACCAC
AACGTTTCTCGATGCCTATTCCGCCGGCGCGAGTGCGAACAACATTTCCGCGCGTTTTGC
GGAAACACCCGTCGCTGTCGGCGTTACCCTGATCGGCACGGTACTTGCCGTCATGCTGCC
CGTTACCGAATATGAAAACTTCCTGCTGCTTATCGGCTCGGTATTTGCGCCGATGGCGGC
GGTTTTGATTGCCGACTTTTTCGTCTTGAAACGGCGTGAGGAGATTGAAGGCTTTGACTT
TGCCGGACTGGTTCTGTGGCTTGCGGGCTTCATCCTCTACCGCTTCCTGCTCTCGTCCGG
CTGGGAAAGCAGCATCGGTCTGACCGCCCCCGTAATGTCTGCCGTTGCCATTGCCACCGT
ATCGGTACGCCTTTTCTTTAAAAAAACCCAATCTTTACAAAGGAACCCGTCATGACCCGT
ATCGCCATCCTCGGCGGCGGCCCTCTCGGGAAGGCTGACCGCGTTGCAGCTTGCAGAACAA
GGTTATCAGATTGCACTTTTCGATAAAGGCTGCCGCCGGGGCGAACACGCCGCCGCCTAT
GTTGCCGCCGCCATGCTCGCGCCTGCGGCGGAAGCGGTCGAAGCCACGCCCGAAGTGGTC
```

```
AGGCTGGGCAGGCAGAGCATCCCGCTTTGGCGCGGCATCCGATGCCGTCTGAACACGCAC
ACGATGATGCAGGAAAACGGCAGCCTGATTGTGTGGCACGGGCAGGACAAGCCATTATCC
AGCGAGTTCGTCCGCCATCTCAAACGCGGCGGCGTAGCGGATGACGAAATCGTCCGTTGG
CGCGCCGACGACATCGCCGAACGCGAACCGCAACTCGGCGGACGTTTTTCAGACGGCATC
TACCTGCCGACCGAAGGCCAGCTCGACGGGCGGCAAATATTGTCTGCACTTGCCGACGCT
TTGGACGAACTGAACGTCCCCTGCCATTGGGAACACGAATGCGTCCCCGAAGGCCTGCAA
GCCCAATACGACTGGCTGATCGACTGCCGCGGCTACGGCGCAAAAACCGCGTGGAACCAA
TCCCCCGAGCACACCAGCACCCTGCGCGGCATACGCGGCGAAGTGGCGCGGGTTTACACA
CCCGAAATCACGCTCAACCGCCCCGTGCGTCTGCTCCATCCGCGTTATCCGCTCTACATC
GCCCCGAAAGAAAACCACGTCTTCGTCATCGGCGCGACCCAAATCGAAGCGAAAGCCAA
GCCCCCGCCAGCGTGCGTTCAGGGTTGGAACTCTTGTCCGCACTCTATGCCATCCACCCC
GCCTTCGGCGAAGCCGACATCCTCGAAATCGCCACCGGCCTGCGCCCCACGCTCAACCAC
CACAACCCCGAAATCCGTTACAACCGCGCCCGACGCCTGATTGAAATCAACGGCCTTTTC
CGCCACGGTTTCATGATCTCCCCGCCGTAACCGCCGCCGCCGCAGATTGGCAGTGGCA
CTGTTTGACGGAAAAGACGCGCCCGAACGCGATAAAGAAAGCGGTTTGGCGTATATCCGA
AGACAAGATTAAAGCCGCCCGAAAGGACACCTTATGACCTTCCCGCCCCTAAAATCCCCG
CTCAAATTCTACGCCGTCGTCCCCACCGCCGATTGGGTGGGGCGCATGGTCAAAGCAGGT
GCCGACACGGTGCAACTGCGCTGCAAGGCCCTGCACGGCGATGAATTGAAACGCGAAATC
GCCCGCTGCGCCGCAGCCTGTCAGGGCAGCCGTACGCAGCTTTTCATCAACGACCACTGG
CGCGAAGCAATCGAAGCGGGCGCGTACGGCGTGCATCTCGGACAAGAAGACATGGACACC
GCCGACCTTGCCGCCATCGCCGCCGCCGGTTTGCGCTTGGGTTTGAGTACGCACTCCGTT
GCCGAACTCGACCGCCGCCCTGTCCGTACACCCTAGCTACATCGCCAGCGGCGCGATTTTC
CCGACCACGACCAAACAAATGCCCACCGCCCCGCAAGGCTTGGACAAACTGCGCGAATAC
GTCAAACAAGCAGGCGGCACGCCCGTCGTCGCCATCGGCGGTATCGACTTGAACAACGCC
CGAGCCGTACTCGCCACCGGCGTTTCCTCACTCGCCGCCGTCCGCGCCGTAACCGAAGCG
GCAAATCCCGAAGCGGTGGTTAAAGCGTTTCAGGCTTTGTGGGATGGATAAAACCGAAAG
AAGAAAATTCAATTGCCGTGTAGGCAAAACTTAGCCCGTTATCGCAAACATACTTAACTT
TAAATGTGGCATATCATCAAATTCCGTCATTCCCGCGTAAGCGGGAATCCGCCTTAAAAC
TTGAGAAACCATCATTTGAAAAACAGTTTCCGAATTTCAAAAATGGATTCCCGCCCGTGC
GGGAATGACGGCAACCGGTCAGTTGCGTATCAAAAAATAAAGTAATTCGGCTAGATATAG
TGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAAC
CGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAA
CACCGTACTGGTTTTTGTTAATCCACTATAAATACAGAAACATCGAGAAACCATGAACAT
CATCTTAAACGGCGGACCCGCCGAACTTCACGGCACGACCGTTGCCGACCTCATCGCCCA
AACCGCGCCGCAAAAGCCCTTTGCCGTGGCGGTCAACACCGTTTTCGTCCCCAAAGGCGC
GTATGCGGAAACGGTTTTAAACGAAAACGACAAAATCGATATCGTGCGGCCGGTGGTCGG
CGGCTAGGCGGTTTTGCCTTTTCAGACGACCCCTGTCCCCAAAACAACGTTATGGTGGAT
TAACTTTAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACGGATAGTACGGAACCGAT
TCACTTAGTGCTTCAGCACCTTAGAGAATCGTTTTCTTTGAGCTAAGGCGAGGCAACGCC
GTACTGGTTTTTGTTAATCCACTATACAAAGGAACCCATTATGCTCACCCTATACGGCGA
AACTTTCCCCTCGCGGCTGCTGCTCGGCACGGCTGCCTACCCGACCCCCGAAATCCTCAA
ACAATCCATCCAAACCGCCCAGCCTGCGATGATTACCGTCTCGCTGCGCCGCGCGGGAAG
CGGCGGCGAGGCGCACGGTCAGGGGTTTTGGTCGCTGCTTCAAGAAACCGGCGTTCCCGT
CCTGCCGAACACGGCAGGCTGCCAAAGCGTGCAGGAAGCGGTAACGACGGCGCAAATGGC
GCGCGAAGTGTTTGAAACCGATTGGATAAAATTGGAACTCATCGGAGATGACGACACCTT
GCAGCCGGATGTGTTCCAGCTTGTCGAAGCGGCGGAAATCCTGATTAAAGACGGCTTCAA
AGTGCTGCCTTATTGCACCGAAGACCTGATTGCCTGCCGCCGCCTGCTCGACGCGGGCTG
TCAGGCGTTGATGCCGTGGGCGGCCCCGATCGGCACGGGTTTGGGCGCGGTTCACGCCTA
CGCGTTGAACGTCCTGCGCGAACGCCTGCCCGACACGCCGCTGATTATCGACGCGGGCTT
GGGTTTGCCCTCACAGGCGGCACAAGTGATGGAATGGGGCTTTGACGGCGTGCTTTTGAA
TACTGCCGTTTCCCGCAGCGGCGATCCGGTCAATATGGCACGCGCCTTCGCACTCGCCGT
CGAATCCGGACGGCTGGCATTTGAAGCCGGACCGGTCGAAGCACGCGACAAAGCGCAAGC
CAGCACGCCGACAGTCGGACAACCGTTTTGGCATTCGGCGGAATATTGAAAAAGGCAGCA
AAAATGCCGTCTGAAGGCTTCAGACGGCATCGCGGTCCAAAACGGCGGCGGCCTGAAACG
GACAAACCGCCATTCCCCGGCATCACGGCTTTGTCGGAAAAAATGGAAAAACCGGCCGGA
AAACCTTGCCGCCCGTCCCGATGCCGCAACCAACGAAACACTCGGCCTCCACGGTGTGCA
GGCTGCCGCGCAAGCCCTAAATACGGCAATAGAAGAAGCGTTTTGTTGTTGTTTGAATAC
ACTTAAAAATACCTAAAGCCGTCCGTAAGCCTTCATCCGCAACGGTTTTACCGCTTTCGC
ATCCCCGAATCCACGCTCAAACACCCCCGAATGACAACCCTGTCCGCGCCAAATCGGACG
```

-613-

```
GATGTTCAAACACGGGCAACCTTATTTCCGTCAGGCACGAAGCCCTCAGCTATGCCTGCC
GACCCCGATTTGTCCGACACAATGAAAGTTTGCCGACCCGAATCACAAACATCGGCGGAC
AGGTTAATTTGTTTATTTTTCATCGTATTACAAAAAATCTGCATTTATTTTTAAATTTTT
ATTGATAATTATTATTATTAGCGTATAATCAAAACCACTCGGAAGCCGTCCGTTCCGAAC
CATTAAACACCATATTTCCCCATCATCACTTTCACACTTGGAGTCGGCATATACGAGACA
TACATTCCCTTTTTATATATCAGATACTCAAAACCGAAACGCCAAACCCACCTTCGCGGT
GGGTTTGGCGTTTATCGTCCGGCTTTCGCGCCTATTTGCAAGACTTGAGGTTCAGTTTGC
CGTATAGGGACGTGATTTTACGAATTTCGTCCGCATCGGCGGCATTCACGCCGGTAAACA
AAACCGTCATACGCGACACGCTCAAAGAATCGTCCTGCCTGTCGGCTTCGGCAAAGTGTT
CGACAATATGCGCCCCGCCGAATCCGGCGCCGGCAAGCCGGTTTTGCAGGGCTTGGGCGT
TTTCCCGGCTGTTGCCGACACCCAAACTCAATGCGCCGTCAAACGGTATGGGGTTGAAAC
CTTTGGCAGACAGCTCCGCCGCCTGATTTTCGGCATCGGCGGAAACGGGCAGGACGACGC
GGTAGGTTTTGTCGGCAGGTTTGGCTTGGGCGGTGCGTTTTTCGACGCTCCTGCTGGCAA
CGTGCGACCATTTGCCCAAAAGTCCTTTGATGCGGTGGTAGTCATCTTCGTCCATCGTGA
GGCTTGCCTGCGGCGCGCATAAGGCATCCGCCGCGCCGTTTTCGCGTTCCGCCTGCGCCT
TTTCGGCGGCGAGTTTTTCGCGGCGGGCTTTTTCTTCACGCTGTTTTTTCTCTTTCAGTT
TTTTCTGTTCCGCTTCTTTTTTCAAGCGCAACTGCTCCGCCTGTTCTTCGCTCAGAATGT
CGCCCTGTTTGAGCAGTGCGCCTGTATCCGATTCAGATGCCGCCTGAACGACAGGACCGG
ATGCTGGAATATTCCGAACAACCGGCATAGTTGGGGCAACTGGTTGAACCTGCAAATTGT
TTGCGGCATTCTGTGCCTCCGGTATTCTGCCGGCCTGTTTCAGTGTCAGTTTGTAACCTA
CCGTACCGCCGAATACGGCAATATTAATCGCAACCAAAAGGATAAATAGCCATTTCATCT
CTGTATTCCTTAAATATGTTCATATTCCCTGCCTTCGGCGGCAATCATGTTCAACAACCC
GTAAATGACGAGGTTGTCCGCCACGCGCACGGTATTTTCCGCCAAAAATGCAGGCGGCAG
GGCTTCGGCAACTTTTGCCGCGCCGCCGCCGGTAATGATGACATCGACAGGCTTGCCCGC
CCCGGTTTTTTCTTTCAAACGCCCGTGCATCATCATAACCGAGCCGCAAACCGCATCCAT
CATGCCGCTGGCGACGGCATTGCCCGTTGTGGTCGGGAAAGGATAACGCTTACCGGCGTG
CCGGTTGAGGTTGGCGGTTCGGACGGCGAGCGATTCTTTCATCAGGTGGAAACCGGGCAT
GATGGTTCCCCCGAGATAATGTCCGTCATCGGTGAGCGCGTCAACCGTTACCGCCGTGCC
GCAACTGACGACGACGCAGGCGTTGCGGCTGAAGCGGCGGCTGCCCAAGGCGTTGAACCA
GCGGTCGGAACCGTGTTCTTCGGGGTGGCGGTAGTGGTTGCGTATGCCCAAAGCCTGTGC
GGAAGACGGCAGCCACTCGATTTTTCGGGCGAGCTGTTCCTGCACTTGTGCCTTTTTGAA
TTCTCCGCACACAGCGCAACCGACGATGCGGACATTTCCATCCGCCTTTTCCGCCCACTC
CGCGCCCAAAGGCGACAAATCGCGGTACGGCGCGCTACCGACGGTTGCGAACGTGCCGTT
TTCCACCCACGCCCACTTGAGCCGGCTGTTGCCGCCGTCCAACAGCAGAAAACGTTCCGA
ATCCCGCCGCTTCGGCACGGAAACCGGCCTGTCGTCGGACCGCAGGCTGATTTCGCCGCT
GACGACCGTCTGTTTGCCCTCTGCCGTTTCCAAGTGCAAAACGCCTTGTCCGTCCACGCC
TTTAACCGTGCCTTCGAACACGGTTTCGCCGTCGCGCAACAGCAATACCGCCTTGCCGTG
GTCGCGGTTGGCAGCCTGATATTCCGCCACAAAAGGCGCAAATCCGTCCCGCGCATATTG
CAACAACACCGCGTCCAGTTCCACCAACAGCGTTTCCAGCAGCACGGCGGCATCGGCATT
GCCCCGCCGCGATGCCGTCTGAAACAGCGATTGCACGGAAGCGGCATTTTCTACTTCCTT
GGGCAGGACAAAATTGATGCCGATACCGACCACGGCAACCGTTTTGCCGCCCGTCCTGAC
CGTTTCAATCAGAATGCCGCCCAATTTGTCGCGTCCGACAACCAAATCATTGGGCCACTT
AATCTGCACATCCAAACCTAAACGCGACAAGGCGCGCCGACACGCCACTGCCGCAACAGG
CGACAGCGAACCCAACTCATACTGCGGCCGGTCAAACACCCAGCCAAAACTGAACATCAG
ACACTCGCCCAAACGGTGCGACCACTTCCGCCCCTGCCGCCCCCTGCCCTTACTTTGCAG
GTGGGTCACGCATATGGTTTTGTGCGCCTTGTCCGGCGCAATCCGCGCCAATTCCAGTAT
CTCGTCGTTGCTGGACGCGCACTCGTGCTTCAATGCCGTCTGAAAACCCGACCTTTCCCC
CAGCTCGCGCAAACCTTCGGCATCGAAAACCGCCAATGGGCGCACCAGCCGCCAATAGCC
GTCGTGTTGGCGCAACAGCCCGCGTATGTGCGCCGGCATCTGCTGCCAAAAACCGTTGAG
CTGCTGCGGCTTCATATCCGCCATACGCGCCAGTTGCGAGACGTGTTGCGGCAAACCGTC
GGCAAGCTCCGCCAACACCCGCCAGTGCGAAAGCTTCAAAACCGTCATTTTCCGCCCTCT
GCCGCACGGATTTTTGCCAAAGTCTTCGTTGTCGAAGTCTGGTGCAGAAACGGAATTGAA
AACACCTGACCGCCGCGCGCCAACGTTTCTGCCGCACCGACAATCTTATCCGCAGCCCAA
TCGCCGCCCTTGACCAAAATCTCAGGTTTGACCGCCTCAATCAACGCCGCCGGCGTATCC
CCGTCAAACCACGTTACCAAATCCACACTTTCCAAAGCGGCGGCAACGGCGGCACGGTTC
TCCAAAGGATTAACCGGGCGGTCACCGCCCTTGCCCAGACGCCGCACCGAAGCATCGGTA
TTCAACGCCAGCACCAACGCGTCCCCCATCGAACGCGCCTGCGCCAGATAAGTAACGTGC
CCCCTGTGGAGGATGTCGAAACAGCCGTTGGTAAACACCAGCGGGCGCGGCAACAACGCC
AAACGCGCCGCCAACGCCTCGGGCGGACAGATTTTCGATTCAAAATCAGGGACAGACCAA
```

```
GCGTCAACCATCAAAGCCTCCGACAAAAACCATAAAAGACAGAAAAACCCACATGATACA
GAAGCATATGCGAAAGGCAAAGCCGGCGGCGCGGACAGTACGCGCAAACGGGAAAAGACC
CGTACCGAAAAGTACGGGCCTTTATCTGGGGTGGCTGATGGGGCTCGAACCCACGACAAC
CGGAATCACAATCCGGGGCTCTACCAACTGAGCTACAGCCACCATAAAAACGGTTTTCAA
TCAAATTCTTGGCACGCCCGACAGGAATCGAACCTGTAACCCCCGACTTAGAAGGTCGGT
GCTCTATCCGGTTGAGCTACGGGCCGCTCATGCCGATTCGTGCTGATTGATTGGTCGGGGC
GGTGGGATTCGAACTCACGACCCTCTGCTCCCAAAGCAGATGCGCTAACCGGGCTGCGCT
ACGCCCCGACTTGAAGAAGCGAACTATACAACTCAGGGAAAGATGCGTCAACATTTATTT
TCAAGACACCAAGATGAAAAATATAGTTTTTTGATTTGAAAAAATATTTAATCCGTCCAA
ACAGCCGTATTTTATTTCAGGGCAAATTTATTTTCGGCATCCTGCTGTAAAAACAAACGG
AAAATGCGATAATTTTCAGCATTTTCTACCTGTTTAACAAAAGGACGGATATGTCGGCAC
AACTGATCAATGGTAAAGAAGTTTCGCAAAAACGCCTGCAGGCGGTTGCCGAAGCGGTGG
CGCAACGCCAACAGAACAATCTGCACACCCTTGCCTGGCCGTGGTTTTGGTCGGAGGCGA
CCCTGCCAGCGCGGTTTATGTCCGCAACAAGAAAACTGCCTGCCAAAAATGCGGCATCAA
ATCACTGTCTTACGAGCTGCCCGAATCAACATCGCAGGAAGAACTGCTGGCACTGGTCGA
CCGCCTGAATGCCGATTCCGAAGTGGACGGTATTCTGGTTCAGCTACCGCTGCCGAAGCA
CCTCGACAGCCAGGCGGTTTTGGAACGTATTTCGCCGGATAAGGACGTGGACGGCTTCCA
TCCTTACAATGTCGGCAGGCTGGCGGTCAAAATGCCGCTGATGCGCCCGTGTACGCCCAA
GGGCGTGATGACGCTTTTGGAAGCTTACGGCATTGATCCGAAGGGGAAAAAAGCGGTCGT
GGTCGGCGCGTCGAATATCGTCGGCCGCCCGCAGGCTTTGGAACTGCTGCTGGCGCGCGC
AACGGTAACGGTCTGCCACAGCGCAACCGAAAATCTGACAGACGAGGTTGCCGGAGCCGA
TATTTTGGTGGTCGGCGTAGGCATTCCGAACTTTGTCAAAGGCGAATGGATCAAACCTGG
CGCGGTCGTTATTGATGTGGGCATCAACCGTTTGGACGATGGCAGCCTGTGCGGCGACGT
GGAATTTGAAACGGCAAAAGAACGGGCGGCGATGATTACGCCCGTTCCCGGCGGCGTGGG
TCCGATGACGATTGCCCACATTGATGGAAAACACCCTGCACGCGGCTTCACTGCACGATGC
TTGAGCGGTTCTGAAGATAAAAATGCCGTCTGAAAGGCTTTCAGACGGCATTTTGCCGTG
TCCGTTTATTTGGGCAGCTTGACGACAACCGTATCCGCCAGTATGTCGTAAAGCGTGCGG
CGGTCGCGTTTGACCATAAAGAGCAGGACAAAGTTGGCAAGGAATGCCAGCAGGTTGATG
GCGTTTTCTCCGTTGTCACCTACTGCAAGACCGATAACGGCGGCAATAATGGCAACCAAA
ACCGACCATGCGATTTCGCGTACCAAAACCGTGCCGACAAAACCGGGATTGCGGCCGTCG
GTTTTCAACACACGGATTCTCATGATTTTCTTACCCAATGACTGCCCGTCCCGGCTCATA
TAGTAGATTTGGATGACGGTGTACGCCAAAATGCCTGCCAGTCCTACCCAAAAGGAAGTC
ATGCCCAAAAGCAGCCCGAATATTTCTTCGCCGCTGCCAATCCTGCCTTCATTCTTGATG
GCGAAAGCAATCAGTCCGGCAAACGGCACCAACAAAACCAAAAAGGTAAACAATTGGTTC
AGCAGCGCGGCAAGTATCCGGTCGCCTGCACCGGCAATTCCGACTTCAATTTCCTGCCCG
TTGCGGTTGTCGGATGCCGCGTCGGTGTAGTCGTTTTTTTCTTCCATATCCGTTCCTGAT
AATTGTTCTTAACTGACCCCGATTCTACCGCCACGACACCGAAAACGCCAATACTTAAAG
AAATCCCGATAAAGAACTTTACATTTTCCCAATACGGCGTTAAAACGCTTCCTTTACGCC
ATACATAATTTTATTAACGATTTTTCCTCAAGGAGCAACACAATGAAAGTAGGTTTCGTC
GGCTGGCGCGGTATGGTCGGTTCGGTTTTGATGCAGCGTATGAAAGAAGAAACGACTTC
GCCCACATTCCTGAAGCGTTTTTCTTTACCACTTCCAACGTCGGCGGCGCAGCCCCTGAT
TTCGGTCAGGCGGCTAAAACATTATTAGATGCCAACAATGTTGCCGAACTCGCCAAAATG
GACATCATCGTTACCTGCCAAGGCGGCGATTACACCAAATCCGTCTTCCAAGCCCTGCGC
GACAGCGGCTGGAACGGCTACTGGATTGACGCGGCGTCCTCACTGCGCATGAAAGACGAC
GCGATTATCGTCCTCGACCCTGTCAACCGCGATGTCCTCGACAACGGTCTCAAAAACGGC
GTGAAAAACTACATTGGCGGCAACTGCACCGTTTCCCTGATGCTGATGGCTTTGGGCGGC
CTGTTCCAAAACGATTTGGTCGAATGGGCAACCAGCATGACCTACCAAGCCGCTTCCGGC
GCGGGCGCGAAAAACATGCGCGAACTCATCAGCGGTATGGGCGCGGTTCACGCCCAAGTG
GCGGACGCGCTTGCCGATCCTGCCGGCTCGATTCTCGACATCGACCGCAAAGTATCCGAT
TTCCTGCGCAGCGAAGACTATCCGAAAGCCAACTTCGGCGTACCGCTCGCCGGCAGCCTG
ATTCCGTGGATTGACGTGGATTTGGGCAACGGCCAGTCCAAAGAAGAATGGAAAGGCGGC
GTGGAAACCAACAAAATCCTCGGCCGCAGCGACAATCCAACCGTGATTGACGGCCTGTGC
GTCCGCGTCGGCGCGATGCGCTGCCACAGCCAAGCCATCACTCTGAAGTTGAAAAAAGAC
CTGCCTGTTTCCGAAATCGAAACGATTTTGGCAGGCGCGAATGACTGGGTGAAAGTCATC
CCCAATGAAAAAGAAGCCAGCATCCACGAGCTGACTCCTGCCAAAGTTACCGGCACGCTG
TCCGTCCCTGTCGGACGCATCCGCAAACTGGGCATGGGCGGCGAATACATCAGCGCGTTC
ACCGTCGGCGACCAACTTTTGTGGGGCGCTGCCGAACCGCTGCGCCGCGTATTGCGTATC
GTGTTGGGCAGCCTGTGAGCCCTGTTTGAATGGAAATGCCGTCTGAAGCCTGTTTCAGAC
GGCATTTTCCTTGCAACCCTGCCGGATAACGCCCTGCCGGCACTGCCGACGTAAAAAATA
```

-615-

```
AAGGATTCCATTTCCGGCGGTATGCGGCAGCCCGACTTTATCCGAACCTGATGCGCCTGC
ACGTCAATGAAAACAGCCCGATTGCGGACTTCCTGCTACAGCCGAAATTCCGATAAGGCA
AGCGTTCACGCCAGCAACATTTCCTGCATCAGCTTCATACCCCACTGCCAGCCGCCGAGC
ATGCCGTTCAAACTGCCCGAATGCGGGGAAACCAACAGGCGGGCGTTCCACAAATCCGCC
TGTTTTTGCGCCCAACCGTGCGGCACGCCGCCGTGTTCGGGTACAACCAATGCGGCACGG
CAGGGACAGCGGACGCGTTGGAAAGCGTGTTCCGCATCGTCGGGAAAAATATCGGGACGC
TGCGGTACAAGGATGATGTTGGCAATTTTCTTCCGTGTCAGGATGTCTGCCTGATACAGC
CACGCCAAAAATGCGGCCGCGCCCGCACCGTGTGCGACAACGGCGACGTATTTGCCGCGT
ATGCGTTCAAATGCCGTCTGAAGCCCTGCCTGCCATTCCCCTATGCTTTGACCGGCCGAC
GCTTCGGACATCTGCACGACGGGATAACTGATCGCCCAACGGTCTATCCACATCTGATCC
TCTCCGGCATCGCGTATCAGCCAAAGCGTCAAATCTTCGAGTTCAAAACCCTGCATACCG
CCCCGCCTATTTCAGCAGGTCCCGGAGGGTAAAGGCGATGAGCAGCGAAGCGGGTACGCT
CAATATGGCGCAGACGGTCAGGCAGGCAAAAATATTCACCACCCGCCGCCAGCCTTTCCA
ACCCAAACATTTGGACGCAATCAGCAGGCAGGGCAGGCAAATCAGCAGCCACACCAACGC
CCATATCGGGTTTGCCTTGGTCGGCGCAAGCCAGCCTTGCATCCGCGACAACATAAATAT
CGCCCACACCAACATGGGCAGGATAAACGCAGCGACGACCCATGCCGCGCCTATTCCTGT
TTTTCCGTCCACATTCCAATCATATTTACCCAAAACCTTATTCGGCAGCATAGTCATACT
CCACGACCAGCGGCGCATGGTCAGAAAATTTTTCATCTTTATAAACGTGTGCGGACACGG
CTTTGGCAGCAAGTTCGGGCGTAACCATCTGATAATCGATGCGCCACCCGACATCTTTCG
CATACGCCTGCCCTCGGTTGCTCCACCAAGTGTAGCCCGGCACATCGGGATAAAGCGTGC
GCCACATATCCGTCCAACCGAGCTTGTGGATAACCTTGCCTATCCACTCGCGCTCTTCAG
GCAGGAAACCTGAATTTTTCTGGTTGCCTTTCCAGTTTTTCAGGTCGATGTTTTGGTGGG
CGATGTTCCAGTCGCCGCAGACGACAATGTCGCGCCCTTCGTTTTTCATCGCTTCGAGCA
TAGGGTAAAACGCATCAAGGAAACGGTATTTCACCTGCTGGCGTTCTTCCGCGCTGCTGC
CGCTGGGCAAATAAAGCGAGATAACGCTCAACCTGCCGAAATCGCAACGCACAAACCGCC
CTTCCCTGTCGAATTCTTCAATGCCCATACCGATTTGCACATTGTCGGGTTTGCGTTTGC
TGTACACCGCCACGCCGCTGTAACCGCGCTTCTCGGCGCAATGCCAATGACCGTGCATCC
CGTGCGGATTTTTCATATCGGCAGACAAATCAGCCTCCTGCGCTTTGAGTTCCTGCACGC
AGACAATGTCCGCGCCCGATGCGGCGATGTATTCGTAAAAACCTTTTTTGTAGGCGGAGC
GGATGCCGTTGACGTTGGCGGAAATGATTTTAAGCATAATAAAAATAAGTTCTCACAATA
AAAATGCCGTCTGAACAAAAAAGGGCAAAATGCGGCACATTTACCCTTTTCGATGGATTT
TAACCGCGCCGCCAAGTCGTGCCGCCGGCGTTGTCTTCCAAAATGATTTTGTGTTCGTTC
AGAAGGTCGCGGATGCGGTCGGATTCCGCCCAGTTTTTATCGGCGCGCGCCTGTTTCCGC
CGGGCGATCAAGTCTTCGATTTCTTCGTTGGAGAGACCGTCTGAAGCCGCGCCGCCTTGC
AGGAACTCGGTCGGATCGCGTTGCAGCAGTCCGATGATGCCGCCCAAGGCTTTCAGACGG
CCTGCCAGTTGCGCGTCATTGGTTTTGTTCACTTCGCCGGCAAGTTCGAACAACACCGCC
ACCGCTTTCACCGTATCAAAATCATCATTCATCGCAACATAAAAGCGGCGCGTGTAGTCA
TCGCCGGCTTCAGACGGCATCGGATCGGCGGGCGGCGTATTTTTCAAAGTCGTATACAAA
CGCGTCAACGCGCCTTTTGCATCATCCAAATGCGCGTCGGAATAGTTCAACGGGCTGCGG
TAGTGGGCGCGCAGGATGAAGAAGCGCACGACTTCCGGATCGTATTGTTTCAACACTTCG
CGGATGGTGAAGAAGTTGCCCAGCGATTTGGACATCTTTTCGCCGTCCACGCGGATAAAG
CCGTTGTGCAGCCAGTATTTGACGTGGCTGGCGATGCTTTGCCCGTGGTGGGTTTGCGCG
TGATGATGACCGCAGGTATGCCCCGTCGCGCCGACGCTTTGGGCAATTTCGTTTTCGTGG
TGCGGAAACTGCAAATCCGCGCCGCCGCCGTGGATGTCGAAGGTATCGCCGAACAGGTTT
TCACTCATGGCAGAGCATTCAATGTGCCAACCCGGACGGCCGTTGCCCCACGGGCTTTCC
CACGCCGGTTCGCCTGCTTTGGCGGCTTTCCACAACACAAAATCAAGCGGATCGCGTTTG
AAACCGTCCACTTCCACGCGTTCGCCCGCACGCAGGTCGTCCAACGATTTGCCCGACAAT
TGTCCGTAAGCGGCAAACTCGCGCACGGCGTAGTAAACGTCGCCATTTGCGGCAGGATAT
GCCTTGCCGTTTTGAATCAGGGTTTCAATCATGGCAATCATTTGCGGAATGTTTTCCGTT
GCCTTCGGCTCAATATCCGGACGCAACACGCCCAAAGCATCGGCATCTTCGTGCATGGCT
TGGATGAAACGCGCAGTCAGTTTGCCGATGGTCTCGCCGTTTTCAGCCGCGCGGGCAATG
ATTTTATCGTCGATGTCGGTGATGTTGCGTACATAAGTGAGCGGATAGCCGCACTCGCGC
AACCAACGGGCAATCATGTCGAACACCACCATCACGCGGGCGTGTCCCAAATGGCAGTAA
TCGTAAACGGTCATACCGCAGACGTACATACGCACGTTTTCAGGGTCGATGGGGGAAAAG
GGTTCTTTTTGACGGGTTAGGGTGTTGTAGATGGTGGTCATGGGATTATGGATTAATCTT
TGTTGCTCGGATGATAATTTCTGTTCTGTTCCTGTAGATACGGACCAAGGAACATTACGT
AGTTGCGGATTATTAATATGGCTGATATTTGTGAAAATTGGTTCTGCATAACAGTTTGCA
AAATTTTTTGTAAATTCTGATAATTTAAACTTATCTTTTAATAAGTTTGCTAAATCTGAT
GACGAGGGATAAAGTTTACTTCTTATACTAGGCATTTCAATATGAAGGACTATTTTTATT
```

TCGTTACAATCTAAAGCCAAGCGAGAAAAATCTTTTTCTTCCTGTTTTTCTGCTTTAAAT
TTAGCAGAAACCAATCCTGCCAATGAATCTCGAATTTTTCTTGCGATTAAATATGGTAGG
TCAGAAAGTTTTTCATCTATTGATTGGGCATTTGGCTCAAGCCCAAGTCGGTAATAATCT
TTAATTTCGATTAGCCAAAGTGTCGATTCATGAAGGGCTATTATATCTACACCTGAGCTG
CCATTATCGTCATCTACACTTTGATTTATCCCGTTCTTTCCCTTTTCATTTGTATCAATT
TTATTACGTAAATTACAACTGTTCTGAAAAATTTTATAATGTTCCCATTCGTCATACTTG
GTAACGTAATAATCTTCAGGAAAAGCAAAGGTTAATCTCTTTTCTGTGATTGTAGTCATA
GCTTAACCTCAAATATTCAGATACCTGTCTGCCTGCATAATGTTTTCATCTAACAATATC
AATGTGTTCAAATCATTAATACTGTTCCCTTGCTCCACTTTTGTTCCATCATCGGAAGCA
ATCAACGAGAAAAACGTACAGGTAAATCCGTGTTATTTTCAAGCTTCAAAAGTTCCAAT
TCTCTCAATAAGAATAAAGAGTGTGTTGCAATAAAAACCTGAATACCCTGTTGAGATAAA
GACCAAATAATACGGGCAGCCACTTTGATCAATTTAGGATTCAGATTAGCTTCCGGTTCA
TCCCAAAATAGATAGCCTTTATCCAGCAATGCCCCTGTTGCGATTAACCGGGCAATCATG
ACAAATTTCCGCAAACCCTCTGCTACCAAAGGTGCTTCAATCTTACCGCCCGTATTTGTC
AGCGATAGATAAAACCTTCCTTGTTCTTCAGATACTTTTCCGCCCATCGCGTTCTCAATA
GGTTCGAGCAATTCTCGAATTTTTGTTTCTCTGGGGCCTTTGGCAAGCGGGTGATTTAAT
TGCATACAGGTATCAAACCAAGTTTCTTCGAAAGGGATGCTTTGGTTTTGATACAAAGAA
GTGAACCAAGGGCAAAGTGTAATTAATTCGCGGCTGGGTAAGAAGATAGGTGTCGGAGTA
TATTCATTTTCTTTCAATCCGATGCTTTGAACATTGACTTGCGATGATGAGTTACTGGAA
AAATTCAGACTACTATGCGTAGTGCCGTTTGCAGTTTTAAAACGATTTCCGTACGCCCG
CGCCCCTGCAAACGTTTGCTCAACCTACCCAAGGAATCGGGACGGAAAACATTCAGTAAT
TTATCGGCAAAACTTTTTTGCAATTCTGTTTTCAGTAATCTGTTTTTGGTGTTAGATGTT
ACTTCTAGCAGGCTGTATAAAATTTTTAACAAATGTGTTTGCCACAACCGTTTTCGGCA
ACAATAACATTGAGATTTTCAGAAAATTCAAAAGTATCGTTTGGAAGAACGGTAAAGTTT
GTCAACTCAAGCGACTGGATATATTGGTTAGATGACATTTTTAATCCATTTCAATCTTGC
TTTAAAATTGTTTCAAACAACCTTTTGTAGAACAAATATCGTCTGAAACCCTTTCTTTTT
TCACTCCGGCTTAAACACGCCTGTATCCGTTTTAGGCTGCTGTTCGATAATTTCAACATT
TGCCGCTGCTTTCTCCGCTTCTGCTTTTTCAGCTTCGATACGTTTTTTCTCGGTCAGGTA
TTGGTTGATTTGGTGTACCAATTCCTGCGTGCCTTGGTGGGTCAGCGCACTGATTTGGAA
GAGGCGCGGGGTTTCCATGTCAAATTGGAAACGGTCGTCGGGTTTGGGGTAGTCCCAGCC
GACGGCTTCGAGGAAGGCGGCAGTGCGCGTTTGGGCTTCTTCTTCGTCAAGCATATCGAG
TTTGTTCAGTACCAGCCAGCGCGGTTTGCCGTAGAGTTCTTCGTCGTATTTGCGTAATTC
GTTGATGATGGCGAGTGCTTCTTCGGCGGGGTTGACGGTTTCGTCGAAGGGCGCCAAATC
GACGACGTGCAGCAGCAGGCCGGTACGTGATAAGTGTTTGAGGAAACGATGGCCGAGGCC
TGCGCCTTCTGCCGCGCCTTCAATCAGGCCGGGGATGTCGGCCATCACGAAGCTGTGGTT
TTCGTCGATGCGTACCACGCCTAAGTTTGGATGCAGGGTGGTGAAGGGGTAGTTGGCGAT
TTTGGGGCGTGCGGCGGATACGGCGGTAATCAGGGTGGATTTGCCGGCGTTGGGCATACC
CAATAAGCCGACATCGGCGAGGACTTTAAGTTCGAGTTGCAGGGAACGGGCTTCGCCTTC
TTCGCCGGGGGTGGATTGTTTCGGGGCGCGGTTGACGGACGATTTGAAGTGGATGTTGCC
CAAGCCGCCTTTGCCGCCTTTGGCGAGGCAGACGCGCTGTCCGTGATAAGTGAGGTCGGC
AACGGTTTCGCCGGTGTCGAGGTCGCGGATAAGGGTGCCGACGGGCATTTTGAGGACGAT
GTCGTCCGCACCTGCGCCGTAACGGTCGGAACCGTGGCCTTTTTCGCCGTTTTTGGCTTG
GTAGCGTTTAACGAAGCGGTATTCGACGAGGGTGTTGGTGTTTTCGTCGGCTTCTGCCCA
GACGCTGCCGCCTTTGCCGCCGTCGCCGCCGTCCGGGCCGCCGCGCGGTACGAATTTTTC
GCGGCGGAAACTGGTTGCGCCATTACCGCCTTTGCCTGCGGCGACTTCGATTTTTGCTTC
GTCGATGAATTTCATTCAATGCTCTTGTTTGTTGGTTTCAAATGGGGGGTTCAGACGGAT
TACCGTGTGTTTTGATGCCGTCCGAACAGAATTTCGGACGCTATTATAAGGGATAAGCGG
TATTTCAACACGCCGTACCCAAACTATTTGTTCCGCCCATCTTAATGAATTTTAAGCAA
ATCTTCAGCCTGCAAACAAAATTATGTCCAACTTCTTTGGTACAATCGCGCCTTTTTGAC
ATTCCGACCCGACGGAATGTCCGTTCAAACCGTTACATATAATAAGTTTTTTATGAACAC
AAACCAACCTGCCGTTTACGACCCGTTGACACGCGCGCTGCACTGGCTGACCGTTGCCGG
CTTCATCGGCATTCTGACCACCATTGTCCTGTGGACGATTTATAGTGGATTAACAAAAAT
CAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGCAAGGCGAGGCAACGCCG
TACTGGTTTTTGTTAATCCACTATACGAAGAGGCGGAATGGGTGGGCAGCCTGTTCGGCC
TGCACAAATCTTTCGGTTTCCTTACGCTGACGGTGATTACATTGCGCATCGTGTGGGCGG
TTGCCAACCGCGCCAAGCGTCCGCAAAGCGACTGCAAGGCTGCGGCGGCAGGCCACGGCA
TTCTGTATCTGCTCATGCTTGCTGTTCCCGTTATCGGCATGATCCGCCAATACGGCAGCG
GCCGCGGCCCGTTGAAAGTGTTCGGCGTTGAAGTGATGCAAGGGTTCGCCGGAAAAAATC
GAGTGGATGGCAAACTTGGGCAACACGTTCCACGGCAATTTGGGCTTGCTGCTGTTTGCC

-617-

GCCGTCGCCGGACACGTCGCCATGGTCGTCGCCCACCGTGTTCAGGGTAGAGATGTTCTG
TGCCGCATGACGGGTCGTGTCCGCTGATTCCGTTCACACTATGGTGCCGGCTCGTCCGGC
ACTATTTGTTTTTCCAAGACAGAGCCAGATCGTACAAAGCTTTCTTTCCCTCGCCCGTGA
TTTTGGCAGCAAGCTCCGCCGCCTGTTTGGTCGGCAGCTCGGCTGTGAGGATTTTCATGA
TGTTTTGCGCGGACTCGGACAAGCCTTCGTGTTTTTCATCCTGCGCCGGATAAAGCACCA
ACACCATCTCGCCGCGCGATTGGTTGCCGTCGGCAGACAATGCCGTCTGAATTTCCCCAA
CCGTGCCGCTTAAGAACGTTTCAAACGTTTTCGTAATTTCGCGCGCCAGCATTAATCGGC
GTTCGGGGAACAGTTCCGCCATATCGGCAAGCGTCGCACCGATGCGGTGCGGCGTTTCAA
ACATGACGATAGGAAACGCCGCCCGCACCCATTTGGCAAACAGTTTCCTGCGTTCTCCCG
ATTTCGGCGGTACAAAACCGTTGAAATAAAAATCGGATCCTTCCACACCGGCCACGCTCA
AAGCCGCCATCACCGCGCTTGCGCCCACGACGGGAACGACTTTAAACCCGGCCTCACGCA
CGCGGCGGGCGAGTTTCGCGCCCGGGTCGCACACGGCCGGCGTACCCGCATCGGAAACCT
GTGCCACAACCATGCCGTCTGAAAGATAGCCGACAATCTTGTCCGCCATCTGCCGTTCGT
TGTGTTCGCGCACACTGACGAGTTTGCCCTGAATGCCGTACGCGCTCAAAAGCTGTGCGG
TAACGCGCGTGTCTTCGGCACAGATGATGTCCGCCTTTTGCAATACCGCCAAAGCGCGCA
GGGTAATGTCCGCCAAATTGCCGATGGGCGTGGCAACCACGTATAATGTCCCTCCGACGA
CGCTGTCGGAGGCTTTCTGCAAATGTTTCTGAAACATAAGAATGCCGTCTGAAAAACAAA
CATTATAAAGGTTAAACCGATTATGCGCCTAAACCACAAACAGGGCGAGGCAGGGGAAGA
TGCCGCGCTTGCCTTCCTCCAATCCCAAGGCTGCACGCTGCTTGCCCGCAACTGGCACTG
CGCCTACGGCGAAATCGACCTGATTGTCAAAAACGGCGGCCATGATTCTGTTTGTTGAAGT
AAAATACCGCAAAAATCGGCAATTCGGCGGTGTCGCATACAGCATTTCCCCATCCAAATT
ATTGAAACTGCAACGAAGTGTAGAGTATTATCTGCAACAGAACAGGTTGACAAACGTACC
GTGCCGCCTCGATGCGGTACTTATCGAAGGCAGCCGCCCGCCCGAGTGGATACAGAATAT
TACAGGTTGACGATATGACGACATTACAAGAACGCGTTGCCGCCCATTTTGCCGAAAGCA
TCCGTGCCAAGCAGGAAGCCGGAAAAGTATTGGTCGAGCCGACCGTACAGGCTGCCGAGC
TGATGCTGCAATGCCTGATGAATGACGGCAAAATCCTGGCCTGCGGCAACGGCGGTTCGG
CTGCCGACGCGCAACACTTCGCCGCCGAAATGACCGGCCGTTTTGAAAAAGAACGCATGG
AACTCGCCGCTGTCGCGCTGACAACAGACACTTCCGCGCTGACAGCCATCGGCAACGACT
ACGGTTTCGACCACGTATTCAGCAAACAGGTGCGCGCGCTCGGACGTGCAGGCGATGTAT
TGGTCGGCATTTCCACCTCCGGCAATTCCGCCAACGTCATCGAAGCCGTCAAAGCCGCAC
ACGAACGCGATATGCACGTCATCGCCTTGACCGGCCGCGACGGCGGCAAAATCGCCGCCA
TACTCAAAGACACCGACGTTTTGCTCAACGTTCCCCATCCGCGCACCGCCCGTATTCAAG
AAAACCACATCCTGCTGATACACGCCATGTGCGACTGTATCGACTCCGTACTGCTGGAAG
GAATGTAACCCTTTTCAGACGGCATGGCGCAAAGCAATGCCGTCTGAAACGCCCAAGAAA
GGAAGCACCCGATGAAACCCAAACCGCACACCGTCCGCACCCTGATTGCCGCCATTTTCA
GCCTTGCCCTTAGCGGCTGCGTCAGCGCAGTAATCGGAAGCGCCGCCGTCGGCGCGAAAT
CCGCCGTCGACCGCCGAACCACCGGCGCGCAAACCGACGACAACGTTATGGCGTTGCGTA
TCGAAACCACCGCCCGTTCCTATCTGCGCCAAAACAACCAAACCAAAGGCTACACGCCCC
AAATCTCCGTCGTCGGCTACAACCGCCACCTGCTGCTGCTCGGACAAGTCGCCACCGAAG
GCGAAAAACAGTTCGTCGGTCAGATTGCACGTTCCGAACAGGCCGCCGAAGGCGTGTACA
ACTATATTACCGTCGCCTCCCTGCCGCGCACTGCCGGCGACATCGCCGGCGACACTTGGA
ACACATCCAAAGTCCGCGCCACGCTGTTGGGCATCAGCCCCGCCACACAGGCGCGCGTCA
AAATCGTTACCTACGGCAACGTAACCTACGTTATGGGCATCCTCACCCCCGAAGAACAGG
CGCAGATTACCCAAAAAGTCAGCACCACCGTCGGCGTACAAAAAGTCATCACCCTCTACC
AAAACTACGTCCAACGCTGACTCGGCAATGCCGTCTGAACCGCCTTCAGACGGCATTGCC
CGACACCCCAAAAGCACAATCAAAATGGCAAAAAAACCGAACAAACCCTTCAGGCTGACC
CCCAAACTCCTGATACGCGCCGTATTGCTCATCTGTATCGCCGCCATCGGCGCATTGGCA
ATAGGCATCGTCAGCACATTCAACCCGAACGGCGACAAAACCCTTCAAGCCGAACCGCAA
CACACCGACAGCCCCGCGAAACCGAATTCTGGCTGCCAAACGGCGTAGTCGGACAAGAT
GCCGCCCAACCCGAACACCACCACGCCGCCTCATCCGAACCCGCACAGCCGGACGGCACA
GACGAAAGCGGCAGCGGACTGCCGTCCCCTGCCGCACCCAAGAAAAACGGGTCAAACCG
CAACCTGCCGACACAGCTCAAACCGACAGGCAGCCGGACGACGCCGGAACACAAGCTGAA
AACACACTCAAAGAAACCCCCGTACTGCCCACAAACGTCCCCCGTCCCGAACCCCGAAAA
GAAACACCCGAAAAACAGGCGCAGCCCAAAGAAACGCCCAAAGAAAACCATACCAAACCG
GACACCCCGAAAAACACGCCGCCCAAACCCCATAAAGAAATTCTCGACAACCTCTTCTGA
CCCGGCACGGCAGGCACACCCGCAATCCAAGGAAGCATTATGAACGGCATCATCATCAAA
ACCCCCGAAGAAATCGAAAAAATGCGCGAGCTGGGCAAACTCGTCGCCGAAGCCCTCGAC
TACATCGGACAATTCGTCAAACCCGGCGTAACCACCGACGAAATCGACAAACTCGTTTAC
GACTACCACGTCAACGTCCAAGGCGGCTATCCCGCCCCCCTGCACTACGGCAACCCGCCC

```
TACCCCAAATCCTGCTGCACCTCCGTCAACCACGTCATCTGCCACGGCATTCCCGACGAC
AAGCCGCTCAAAGAAGGCGACATTATCAACATCGACCTCACCATCAAAAAAGACGGCTTC
CACGGCGACTCCAGCCGTATGTTTACCGTCGGCAAAGTCTCCCCCATCGCCCAACGCCTG
ATCGACGTAACCCACGCCTCCATGATGGCGGGCATAGAAGCCGTCAAACCCGGCGCGACA
CTGGGCGACGTAGGTTACGCCTGCCAACAGGTTGCCGAAAACGCCGGCTATTCCGTCGTA
CAGGAATTCTGCGGACACGGCATCGGGCGCGGTTTCCACGAAGCCCCGCAAGTGTTGCAC
TACGGAAAAAAAGGACAGGGCCCCGTTCTAAAACCGGGTATGATTTTTACCGTCGAACCG
ATGATCAACCAAGGCAAACGCCACCTGCGTATCCTCAACGACGGCTGGACGGTGGTTACC
AAAGACCGCTCCCTCTCCGCCCAATGGGAACACGAAGTCTTGGTGACCGAAACCGGCTAC
GAAATCCTCACCGTCAGCCCCGCCTCCGGCAAACCCTGAAACCGGACGTATCCGCCCCAT
AAAAACAAACAATGCCGTCTGAAAGAAACGGCAGATATGATATATAATATAAAAACAGGC
TTGACCCGGCACATTACGAAAACAAAGCAAATCGGAATTTGCCCCGCAACCAGACAAACT
TAAAGGAAGTTTTATGAAAATATTTGAAAATATAGAAGATGTTAAAGCCATCCGTAAAAA
GACCGGGCTGAACCAGATAGACTTCTGGGGCAAGGTCGGCGTTACCCAGTCCGGAGGATC
GCGCTACGAAACCGGCCGCAAAATGCCCAAACCCGTACGCGAACTGCTCCGCCTCGTCCA
TATCGAATGCATCGATTTGGCGAAGTCAACAAAAAAGATATGGAAATCGCCGCCCTGTT
GAAAAAACACCATCCCGACCTGTATGCCGAGTTGTCCAAACAGACCAAGTCCGAAAGAAA
AAAACAAAGTTAAACCGCAACCTCCGGATGCCCGACAGTTTTTCATTTCCGAAAAACGCA
AACAATGCCGTCTGAAACACCGGACAGGTCGCCGTATCCCGCCTGCCGCCCCTGCCTCAA
ACCGCCGAACCGCCCGAACCCGCCTTTTTACAAACTTTATCCAATTTCCTGTTTATTTCG
GGATACGCCGACATTAGAATGTCAAACAGCTCGAAACGGGCAAACTCCACATCCATCCAA
AGGAATAAAAATGAAACTTCTGACCACCGCAATCCTGTCTTCCGCAATCGCGCTCAGCAG
TATGGCTGCCGCCGCTGGCACGGACAACCCCACTGTTGCAAAAAAAACCGTCAGCTACGT
CTGCCAGCAAGGTAAAAAAGTCAAAGTAACCTACGGCTTCAACCAAACAGGGTCTGACCAC
ATACGCTTCCGCCGTCATCAACGGCAAACGCGTGCAAATGCCTGTCAATTTGGACAAATC
CGACAATGTGGAAACATTCTACGGCAAAGAAGGCGGTTATGTTTTGGGTACCGGCGTGAT
GGATGGCAAATCCTACCGCAAACAGCCCATTATGATTACCGCACCTGACAACCAAATCGT
CTTCAAAGACTGTTCCCCACGTTAATCAGGCAACAAAAAACAGCGTTTTCAGAAATGAAA
ACGCTGTTTTTTTGACCGTTCCATTATTCACAAAAGGGAAAAAACGATTACCTGCCCCGT
GTATCAAAACCTGCCCTGCCGGATGAAGGGCATAACCGGCAGGGACGGCGTCAACACCAT
ATGGGGGTACGGCTTTTCTTGAAAGATTCGGCTTAAATATCCAATACTTTCGCGGTATAG
GCGATAATTTCATCCGCCCTTTCAGGGTTTTCGTTCAACTTGATGCCGTAACCCGGTACC
AGCTCTTTCAGACGGTCTTCCCAAGACGGGGCGCGCTCGGGGAAGCATTGGTGCATCAGC
CGGATCATCAGCGGCACAGCGGTCGATGCGCCCGGCGACGCGCCCAGCAATGCGGCGAGT
GAGCCGTCGGCGTGGGCGACAATCTCCGTACCAAACTGGAGCACGCCGCCTTTTTCGGAG
TCTTTTTTAATGATTTGGACGCGTTGCCCTGCGGTGATGAGTTCCCAGTCGTCGGGGTTT
GCCTCGGGGTAGTATTCCAGCAGGGAGGCGAAGCGTTCTTCTTTGGTTTTACGCAATTCG
CCCAGCAGGTATTTGGTCAGCGGCATATTCGCCCAGCCGGCGCACAGCATAGGATAGAGG
TTGTCCATATGGATGGACAGCGGCAAATCCATAAGCGAGCCTTGCTTGAGGAAGTTGGAA
CGGAAGCCTGCGTAAGGGCCGAACATAAGGTGGCGTTTGCCGTCCACGTTGCGTGTGTCG
AGGTGCGGGACGGACATCGGCGGCGCGCCGACGGAAGCCTGCCCGTACACTTTGGCGTTG
TGTTGTTCGGCGGTTTCGGGGTTCTGTTGCGGAAGAACAGGCCGGACACGGGGAAGCCG
CCGTAGCCTTTGCCTTCGGGGATGCCGGATTTTTGCAGCAGGGTCAGCGCGCCGCCGCCC
GCGCCGAGGAAGAGGAAGCGGGTACGGAGGGTGAGCTGCCCGTCGGGGTTGCGGGTATCG
GCGGTTTTGAGCACCCACGCGCCGTCGGATTCGCGTTTGATGTCTTCGACGTGGCGGTTG
AACTCGGTTTTTACGCCCTTGCCCTGCAAATATTTCACCATTTGGCGCGTCAGCCGTCCG
AAAATCGACATCCGTACCTTCGGCGGAGTAGTTGGCGGCGACGGGTTGGTTTTCGTCCCGG
CCGCGCATCATCAGCGGAGCCCAATCGGAAATTTTGTTCCGATCGGTGGAAAATTCCATA
TTTTCAAAAAGTTTTTGGGTTTTAAACGCGTCATAACGTTTTTGAAGATAAGAACAATGG
TCTTCATTCATCACCAAAGACATATGCGGCACGGCATTGATGAAGGAATTGTCTTCCAAC
TTGCCTTCCGCGACCAGCGTCGCCCAAAACTGGCGGCTGACATGAAACTGTTCGGCAATA
TTGAGGGCGCGCGCCGGATCGATAATCCCATTTGCACCCAACGGCGCATAGTTCAATTCG
CACAGCGCGGAATGCCCCGTGCCGGCGTTGTTCCACGCGTTTGACGATTCCAACGCCACA
TCTTCCAAGCGTTCAATCAGGGTGATTTCCCAAGACGGTTCGAGTTCTTTGAGCAAAACG
CCCAAAGTCGCGCTCATAATGCCGCCGCCCACCAAGACAACGTCTGTCGCTTCAGCCATG
GTTTACTCCTAAAAAACAGGCATCTTCTGCCCTTATGGTTATTTGCCGTACTACAAACGC
CTGAATCGCAAAAGCAGGGAAAACCGGCAATGGTGTGTGTCCGAGTATGCTGTTTCGGGG
TTGGAATGCGTTGCAAGCATGGCTTCCGACACCGCTTCAGGGGCTTGTAATATGTTATCG
TGAATGTAGTGGATTTTACTGGGAAATGCAAAGTTTTTCTGTCGCCCGCCAAGTCGGGAA
```

```
ACTGCGAAATGAAAAATAAAAATAGTTATTTATCTATATATATCAAATTTTTAATAGATA
AAAAATCAAAATTGTTTATATATTAATTTTTAAAAGATTGTCAGCATATTGCGTTAAGTT
TTTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAG
TACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGG
CGAGGCAACGCTGTACTGGTTTTTGTTAATCCACTATAAATTTGAAAATACTGCCTCACA
CCTGCACGCCATACCCTGCCAACCTGCCGGTCAGGATTTCCCTGTTTTTGCACCAATCTT
CCCTCAGCATACTGTACACGACCGTATCGCGCACACTGCCGTCTTTACGGAGCATATGCA
TACGCAGCACGCCGTCTTTTTCCGCACCCAGCCGTTCGATGGCACGTTGCGAGGCAAGGT
TCAGAATATCCGTGCGCCATCCCACGCAACGGCAAGCCAAAACATCAAATGCGGAATCCA
ACAGCATGATTTTGCAACAGGTGTTTATCCGTGTCCGCCGTGCCGATGCCGCATACCATG
TGAATCCGATATCCAAACGCGGAATCTGCGGTTCAAAATGATAATACGCCGTTGTCCCGA
CCACCCTGCCCGCCTCTTCATCGACAACCGCAAACGCCAAACGCGTTGCCAATGCTGTCC
CGATATAGTCTGCCACCCTATCCGGATGGGGCGCGGACGTTACCCCCAGCTTCCAAACCT
CCCCATCGCAAACCGCCTCGCGCAAACCCGTTTCATGATGCACATCCAACGGTTCGAGAC
GAACGCCGCCCAACGACAAGACCGGCAGTATTATCTTTTCCGACATCCTTTTCTCCCAAT
ATTCCGCCTTCAGACGGCATTTCCGCCCGGAATGCCGTCTGAACGGCTAAAAACACAATA
TCCCCGCCTCCGACACAAAACCGTCCAAAGACCGGTCGTGCGCCTCGACCGGCAGCCTGT
CCACCAACTGGCAGGCAAAGCCCACGCCCACGGTTTTTGCCTGCAAACGGTATTTCATCG
CTGAAAGCGTCGCATCGTAATAGCCGCCTGCCTGTCCCAAGCGGTAGCCCAGCCTGTCCA
TACCGACCACTGGCACAAGCAGGAGGTTCAAATCATGCACACGCTTTTTCCGACCTGCAA
ACTGAGGGACATGCAGCTTCGCCCTACCGCGCTTGCGTTCTTGTTTTACTCCATCGGCAG
GATACGGCGTAAACCACATCCGCCGCGAACGCGGTTCGATATAAGGCAGGTAGAGTTCCG
CACCGCGTTTTTGCGCCGCGCGGACAAAGCCGTCCAAACGCAATTCCTTGCCCATCGGCC
AATACACGCCGATTTTCCGCCCTTTTTTAATATAACGTTTGAGCAGGTGGTTGATTTTTA
CCGTTGCCGCCGCCCGCACGTCCCGCCCCATTTGCGAACGCCGCCCGCGCAATTCGCGGC
GCAGGGCGCGTTTTTCCTCGTTCCTCATTTCAGACGGCCTTTCAGGATTGCGGTAGAATG
TTGCGATTATAACGATTTTGTTAACATTCAAACAGGACGCACACAATGTGGCACATCGTC
GCCATCGGCTATCTTTTTGTTGCCGTTATGTATTCCGCCGCGCAGCCGAGTATTGCGCGC
GCCTTGATTTATTTGGTTTTTTGGGCGGTGCTGCCCACCGTGTTCACGGTTTTCACCATT
ACCGTCCGCCGCCGCAACCACCTGATGAGGCAGCAGGAACAGGCGGAATCCGAACAGCAG
CGCGCACAACGGCAAAAAGACAGCGGCACAAAACCCTGAATCCCTTTTCAGACGGCATCT
TATCCGCTATAATCCGTCAGTTTTCCATTTCGGAAACACACTATTTTTTAAAACTTATGC
CCACTTTCGCCGAAGGGTGCTTGACAATAGGCGTGACCTATCAAGTTCTATGCGATTGAA
TGTGTGCTCTTAACCCTTTCAAGGAAATAAAATGTCTCAAATTACTATGCGTCAGATGAT
TGAAGCCGGTGTTCACTTCGGCCACCAAACCCGTTTCTGGAACCCGAAAATGGCACAATA
CATTTTCGGTGCGCGCAACAAAATCCATATCGTCAACCTGGAAAAAACCCTGCCGATGTT
CCAAGACGCGCAAGAAGCCGTACGTCGTCTGGTTGCCAACAAAGGTACAGTATTGTTCGT
AGGTACCAAACGCCAAGCCCGCGACATCATCCGCGAAGAAGCGACCCGCGCCGGTATGCC
TTTCGTCGATTACCGCTGGTTGGGCGGTATGCTGACCAACTACAAAACCGTTAAGCAATC
CATCAAACGCCTGGAAGAAAAAACCGCAGCCTTGGAAAATGCTGCCGAAAGCGGTTTCAG
CAAAAAAGAAATTCTGGAAATGCAACGCGATGTTGAAAAACTGGAACGTTCTTTGGGCGG
TATCAAAAACATGAAAGGCCTGCCTGACGCGATTTTCGTTATCGATACCGGCTACCAAAA
AGGTACTCTGGTTGAAGCTGAAAAATTGGGCATCCCTGTTATCGCCGTAGTCGATACCAA
CAACAGCCCCGACGGCGTGAAATACGTTATCCCCGGCAACGACGACTCCGCCAAAGCCAT
CCGCCTGTACTGCCGCGGCATCGCTGACGCAGTTTTGGAAGGCAAAAACCAAGCGCTGCA
AGAAACCGTAGCCGCTGCCCAAGAAGCCGCTGCCGAGTAATCCGGCAAACCGAAGAGGGG
CGTTATGCCCCTTTTCTCAAATATGCCGTCTGAACGTCCGTTCGCGGCACACGATTCCCG
AATGCGGAAAATCCTTTCCGTATTTCCCAAAAATCTAGGAGATTCAAAATGGCAGAAATT
ACTGCAAAAATGGTTGCCGACCTGCGCGCCGCTACCGGCCTGGGCATGATGGAATGCAAA
AAAGCCTTGGTTGAAGCCGAAGGCAACTTCGACAAAGCCGAAGAAATCCTGCGTATCAAA
TCCGGTGCGAAAGCCGGTAAACTGGCCGGCCGTACCGCTGCCGAAGGCGTATTGGCTTAC
GCGATCAACGGCAATGTCGGCGCATTGGTCGAAGTAAACTGCGAAACCGACTTCGTTGCT
AAAGACGCGGGCTTCGTAGAATTTGCCAACTTCGTTGCGAAAACTGCTGCCGAGAAAAAA
CCGGCTTCTGTTGAAGAACTGAGCGAACTGGTTGAAGCAGAACGCAAAGCCATCATCGCC
AAATTGGGCGAGAATATGTCTGTCCGTCGCTTCCAAGTGATCGACACTGCCAACCAACTG
GTTGCCTACATCCACGGCGCATTGGCGACCGAAGGCGTATTGGTTGAGTACAAAGGCTCT
GAAGACGTAGCACGCAAAATCGGTATGCATATTGTTGCCGCTAAACCACAATGCGTAAGC
GAAGCCGAAGTAGATGCCGAAACCGTTGAAAAAGAACGCCACATCTACACCGAGCAAGCC
ATCGCTTCCGGCAAACCTGCCGACATCGCCGCTAAAATGGTTGAAGGCCGCATCCGTAAA
```

```
TTCTTGGCTGAAATCACTCTGAACGGCCAAGCATTCGTGATGAACCCCGATCAAACTGTT
GCCCAATTCTCTAAAGAAAACGGCACTGAAGTGATCAGCTTCGTACGCTACAAAGTAGGC
GATGGTATTGAGAAAAAAGCCGTCGATTACGCAGCCGAAGTTGCTGCCGCTGCTAAAGTG
TAAGGCACTTATGAAAAAGAAAGCACCTGGATTCCAAACGAATCAGGGTGCTTTTTTTTG
AGAAAACCGTTTACGGTACCTATTTTAAGACGACCGAATATTCAGACCGTCTTAAAACAA
AACAATAATAAACCGACACACCCTATCATTAATATTCCGACCGTTGGAAATTCAGACGGC
CCAACTCCGACCGACGACATTCAAGAAAGCAAGGTATCCATGACACAGCAAATCAAATAC
AAACGCGTATTACTGAAACTCTCCGGCGAATCCCTGATGGGTTCCGATCCGTTCGGCATC
AATCACGATACCATCGTTCAAACTGTCGGCGAAATTGCCGAAGTCGTTAAAATGGGCGTG
CAAGTCGGTATTGTTGTCGGCGGCGGCAATATTTTCCGGGGCGTATCCGCCCAAGCAGGC
AGCATGGATCGCGCCACCGCCGACTACATGGGCATGATGGCGACCGTGATGAACGCGTTG
GCACTCAAAGACGCATTTGAAACTTTAGGCATCAAAGCGCGCGTACAATCCGCACTGTCT
ATGCAGCAAATCGCTGAAACCTACGCCCGCCCCAAAGCCATCCAATATTTGGAAGAAGGC
AAAGTCGTGATTTTTGCCGCCGGTACCGGTAACCCGTTCTTCACGACCGACACTGCCGCC
GCATTGCGCGGTGCGGAAATGAACTGCGACGTGATGCTCAAAGCCACCAACGTCGACGGT
GTGTACACCGCAGACCCGAAAAAAGACCCGTCCGCCACGCGCTACGAAACCATTACTTTT
GACGAAGCCTTGTTGAAAAACCTCAAAGTCATGGACGCGACCGCTTTCGCCCTCTGCCGC
GAACGCAAGCTCAATATTGTCGTCTTCGGCATCGCCAAAGAAGGCTCGCTCAAACGCGTC
ATTACCGGCGAAGACGAGGGAACGCTGGTTCACTGCTGATTGACCATAGTGTCGGCAGAT
ATAGTCGCATATGGGCTTCAGACAGCCATTTATTATATGGAGATTATAGTGGATTAAATT
TAAACCAGTACGGCGTTGCCTCGCCTTGCCGTACTGGTTTAAATTTAATCCACTATATTT
ACAATTTTGATACAATTTGTTTTTCATCAAAGGAGAAAATCTATGCAAGCACGGCTGCTG
ATACCTATTCTTTTTTCAGTTTTTATTTTATCCGCCTGCGGGACACTGACAGGTATTCCA
TCGCATGGCGGAGGTAAACGCTTTGCGGTCGAACAAGAACTTGTGGCCGCTTCTGCCAGA
GCTGCCGTTAAAGACATGGATTTACAGGCATTACACGGACGAAAAGTTGCATTGTACATT
GCCACTATGGGCGACCAAGGTTCAGGCAGTTTGACAGGGGGGTCGCTACTCCATTGATGC
ACTGATTCGTGGCGAATACATAAACAGCCCTGCCGTCCGTACCGATTACACCTATCCACG
TTACGAAACCACCGCTGAAACAACATCAGGCGGTTTGACAGGTTTAACCACTTCTTTATC
TACACTTAATGCCCCTGCACTCTCTCGCACCCAATCAGACGGTAGCGGAAGTAAAAGCAG
TCTGGGCTTAAATATTGGCGGGATGGGGGATTATCGAAATGAAACCTTGACGACTAACCC
GCGCGACACTGCCTTTCTTTCCCACTTGGTACAGACCGTATTTTTCCTGCGCGGCATAGA
CGTTGTTTCTCCTGCCAATGCCGATACAGATGTGTTTATTAACATCGACGTATTCGGAAC
GATACGCAACAGAACCGAAATGCACCTATACAATGCCGAAACACTGAAAGCCCAAACAAA
ACTGGAATATTTCGCAGTAGACAGAACCAATAAAAAATTGCTCATCAAACCAAAAACCAA
TGCGTTTGAAGCTGCCTATAAAGAAAATTACGCATTGTGGATGGGGCCGTATAAAGTAAG
CAAAGGAATTAAACCGACGGAAGGATTAATGGTCGATTTCTCCGATATCCGACCATACGG
CAATCATACGGGTAACTCCGCCCCATCCGTAGAGGCTGATAACAGTCATGAGGGGTATGG
ATACAGCGATGAAGTAGTGCGACAACATAGACAAGGACAACCTTGATTCACACTACCATA
ACCGCTTGCTACCAAGGAAAACAAAATGAATTTGCCTATTCAAAAATTCATGATGCTGTT
TGCAGCAGCAATATCGTTGCTGCAAATCCCCATTAGTCATGCGAACGGTTTGGATGCCCG
TTTGCGCGATGATATGCAGGCAAAACACTACGAACCGGGTGGTAAATACCATCTGTTTGG
TAATGCTCGCGGCAGTGTTAAAAAGCGGGTTTACGCCGTCCAGACATTTGATGCAACTGC
GGTCAGTCCTGTACTGCCTATTACACACGAACGGACAGGGTTTGAAGGTGTTATCGGTTA
TGAAACCCATTTTTCAGGGCACGGACATGAAGTACACAGTCCGTTCGATCATCATGATTC
AAAAAGCACTTCTGATTTCAGCGGCGGTGTAGACGGCGGTTTTACTGTTTACCAACTTCA
TCGAACAGGGTCGGAAATCCATCCGGAGGATGGATATGACGGGCCGCAAGGCAGCGATTA
TCCGCCCCCCGGAGGAGCAAGGGATATATACAGCTATTATGTCAAAGGAACTTCAACAAA
AACAAAGACTAATATTGTCCCTCAAGCCCCATTTTCAGACCGTTGGCTAAAAGAAAATGC
CGGTGCCGCCTCTGGTTTTTTCAGCCGTGCGGATGAAGCAGGAAAACTGATATGGGAAAG
CGACCCCAATAAAAATTGGTGGGCTAACCGTATGGATGATGTTCGCGGCATCGTCCAAGG
TGCGGTTAATCCTTTTTTAATGGGTTTTCAAGGAGTAGGGATTGGGGCAATTACAGACAG
TGCAGTAAGCCCGGTCACAGATACAGCCGCGCAGCAGACTCTACAAGGTATTAATGATTT
AGGAAAATTAAGTCCGGAAGCACAACTTGCTGCCGCGAGCCTATTACAGGACAGTGCTTT
TGCGGTAAAAGACGGTATCAACTCTGCCAAACAATGGGCTGATGCCCATCCAAATATAAC
AGCTACTGCCCAAACTGCCCTTTCCGCAGCAGAGGCCGCAGGTACGGTTTGGAGAGGTAA
AAAAGTAGAACTTAACCCGACTAAATGGGATTGGGTTAAAAATACCGGTTATAAAAAACC
TGCTGCCCGCCATATGCAGACTTTAGATGGGGAGATGGCAGGTGGGAATAAACCTATTAA
ATCTTTACCAAACAGTGCCGCTGAAAAAAGAAAACAAAATTTTGAGAAGTTTAATAGTAA
CTGGAGTTCAGCAAGTTTTGATTCAGTGCACAAAACACTAACTCCCAATGCACCTGGTAT
```

```
TTTAAGTCCTGATAAAGTTAAAACTCGATACACTAGTTTAGATGGAAAAATTACAATTAT
AAAAGATAACGAAAACAACTATTTTAGAATCCATGATAATTCACGAAAACAGTATCTTGA
TTCAAATGGTAATGCTGTGAAAACCGGTAATTTACAAGGTAAGCAAGCAAAAGATTATTT
ACAACAACAAACTCATATCAGGAACTTAGACAAATGAATGAACACAACCTGTTAATTTTC
TGTTTAAAAGACAATGTTTCAATTAGTGAATATACTGAAATGGTTGATTGGGCTTATGAA
AACATTCAATCTGAAACAGTTGTAGAAATTACGGAAATCAAATTATTGAATATCAAAAT
CGTGGATTATGGGGGCTTGTTTCTGAAATTACCGATAATTGGTTATTTGGACCAAGTGAG
GGGGATTGGCTAATAGATAAGGAAAGTATTTTGGCTGTAAAAGAAAAATTACAAAATTCA
GATTTTTCTACAGAGCCCTTAGTGAAAAATATTATTCATGTACTTGAATATGCTATAAAG
AATGAAAAAACAGTAATTTTTCATTTTTGAAACTAATCTAATTTTTAGCAGCCGTAGGTC
GGATTCTCGAATCCGATATTTTCCAACAGCGGCATTTCGGAAACGATAGATGCGTCAAAT
ATTTTTGTCGGATACAAATATCCGACCTACATCTCTGCGCAGCAAACTTTACAAGATATT
AATGAATTAGGAAATTTAAGTCCGGAAGCACAACTTGCTGCCGCGAGCCTATTACAGGAC
AGTGCTTTTGCGGTAAAAGACGGCATCAATTCCGCCAGACAATGGGCTGATGCCCATCCG
AAATATAACAGCAACAGCCCAAACTGCCCTTGCCGTAGCAGAGGCCGCAACTACGGTTTGG
GGCGGTAAAAAGTAGAACTTAACCCGACCAAATGGGATTGGGTTAAAAATACCGGCTAT
AAAACACCTGCTGTTCGCACCATGCATACTTTGGATGGGGAAATGGCCGGTGGGAATAGA
CCGCCTAAATCTATAACGTCCAACAGCAAAGCAGATGCTTCCACACAACCGTCTTTACAA
GCGCAACTAATTGGAGAACAAATTAGTAGTGGGCATGCTTATAACAAGCATGTCATAAGA
CAACAAGAATTTACGGATTTAAATATCAATTCACCAGCAGATTTTGCTCGGCATATTGAA
AATATTGTTAGCCATCCAACAAATATGAAAGAGTTACCTCGCGGTAGAACTGCGTATTGG
GATGATAAAACAGGGACAATAGTTATCCGAGATAAAAATTCTGACGATGGAGGTACAGCA
TTTAGACCAACATCAGGTAAAAAATATTATGATGATTTATAGGAAAAAGCCATGAATATA
CTATCCATAAATAATCAAAACTCAACTATTTCACTAACTCAAGATGAAGTTTTTGTTTTA
CGAGCTATCTTGAATGAGATATATGCGGGCGTATGTGTAGATTCAAGAGAATTTGAAAAT
GTATCTGGTGTTAGAAAACATGAAGTAGATAATTTACAACAACAGTTTGCTGGAATTTAT
AAAAAAATGACAACTTAACAACCCAAATTTTTGTCAGAGCCTAGTGCAAATTACAACTAT
GATTCTATTGTAGCCGAAATGAAAGAAAAAAATCATGGGTTGGCGACAGGGTTGATGTTG
TTAATATGCCTGATGGAGCACCTACTAGTATGGATAACACGCGTATTATGGCAGCACGTG
AAGCAGGAGTAAAAGTGGAAGCGAATGTTCATAATTTTAATGACCGATTATCATCAAAAG
AGAGAATCAGGTTTAAGCATGATGGTATTGAGCCTCAAACTTGGGGAGAAGCTATCCAGC
TACGAATTAGAAAGCAAGAAACACAAAAAGGAGTTCCAGAAGGGTGGAGCAAAAGATTTC
CTAACGGAAGTATTTATGATGTAAAGGTACTTAGGAAATGATAAAACAAAATAGTTTTGT
TCCGTATCCTGAAGCAATGCTTCCTAAAGGATTTAAATATCCGCAAAGTTATTTAAAATT
AGCTCAATCCACTCATGCCATTAACTACGATGAACAATATTCTTTTCCTTGGTGGTTTGA
AAATGCAGAAAGCAATATATCAGAAGTAATTGACATTTATTTTGAAATAACTGGCATTCC
AAAACCTATTACCTTTTGCTAGAAACCAAGAGTGGGCTGCCTGTTTTGATATTTCAGATAA
ATCAGGTAATCCTAAAATTATAGTAGTTAATTTAGATAATACAAAATATTACGAGACTTT
TGAAAATTTTGATACTTGGCTAAAAGAAGCTGAAAATGATGGTTGGTAGCAACCGTAGGT
CGGATTCTCGAATCCGACATTTTTCAACAGCGGCATTTCGGAAACGATAGACGCGTCAAA
TATTTTTGTCGGATACAAATATCCGACCTACATCTCTGCGCAGCAAACTTTACAAGATAT
TAATGAATTAGGAAATTTAAGTCCGGAAGCACAACTTGCTGCCGCGAGCCTATTACAGGA
CAGTGCTTTTGCGGTAAAAGACGGCATTAATTCCGCCAGACAATGGGCTGATGCCCATCC
GAATATAACTGCAACAGCCCAAACTGCCCTTTCCGTAGCAGAAGCCGCAACTACGGTTTG
GGGCGGTAAAAAGTAAACCTTAACCCGACCAAATGGGATTGGGTTAAAAATACCGGCTA
TAAAACACCTGCTGCCCGCCCTATGCAGACTTTAGATGGGGAGATGGCAGGTGGGAATAA
GCCACCAAAACCAAGTACGCAGCAACACCCTACACACTCTGATAACAATATCGGCTTACC
TGCCTCATATGTTAAACCTGATACATCTATTTCTCCGACAGGAACAATTCAAGACCGCAT
CAGATGGACAAAGTCCAAGTTTCCTACTGAGAAATCTTTAAATGGACATTTCAAAGCTCA
TGGAAAAGAATTTGGCGATATAACCATTGAAGACTACCAAAAAATGGCGTCTGATTTGTT
ATCAAAACAGACATCGGACAAGATATTAGGTTATCAGACGGAACATAGACGAGTGCGCTA
TGATATCAATAACAATATCTATGTTTTGGCCAATCCAAAAACATTCAAAATCAAAACAAT
GTTTAAACCAAACTTAGGAAAGAAGTATTATGATGGAGAATTCAAAAAAGACATGGGAAA
TTGACGGAGAAATATGGCTACATTGTCCTGTTTGCGGAACTGAAGTTATGGACTATGATA
TCTGTGACGTTTGTCAGTGGCAAAATACAGGAGAAACTAATATAGATGGTGGCCCTAATG
AAATGACACTTGCGGAGGCGAAAGAAGCTTACGCAAAAGGCTTACCAATCAGATAAATAA
GCACCTAGAGAAATCAATGATGACGGAATCCCATGGTTACCTATCAAATAATTTACCTGT
TAAAATCATAAATGATATTATTTATGCAACCCAGTTAGTCGAAGATTTGGTTTTAGGAAA
AATAAAAATTGTTGATTTTTTAAAATCATATAACAATTTTTATTGTTGGCTTGGTTTTGA
```

```
TGAGTTGCCTCAATCTGAGAAAATAAAATTCCTAAGCTATCTTAATATATTAAGTATTCA
TAAAGAAATACAAGATGAAACTGTGAATAGGGTTTATACCGATTGAAAAATAGTAGATAG
AGATTAACATGTTAAATGAAATTTTTGAAATTTATTCGAGACAAGGGGAATCTTTGATAG
GAATTGGAATTAGAGAAGCCGCATTACCCGTCCCTATTGCAATAGATATATTAAATTTAT
TTATCAATGAGAGAATACTTGTATTGGGGGGAGATATTTATATCAAGAAAGATAATTATT
TTTATCAAACATATGATAATTGGTATTACGAGGGAAGTAATTTATTTAACAGTATCGACA
AAGCAATGCATTATTTATCTCAAATAAAATTAGAGAATGCATACGTATCTTTTGTGTTGA
AATTTATCTAACAAAGGAAGCACAAGAATAGATTTATAGTAAAACATCAAGATGTTGAAA
ATGCTGGGTTTTAATCCAACCTACACTGACCGGCTCAGATACAGCCGCTCAGCAGACTCT
ACAAGGTATTAATGATTTAGGAAATTTAAGTCCGGAAGCACAACTTGCTGCCGCGAGCCT
ATTACAGGACAGTGCTTTTGCGGTAAAAAACGGCATTAATTCCGCCAGACAATGGGCTGA
TGCCCATCCGAATATAACTGCAACAGCCCAAACTGCCCTTTCCGTAGCAGAGGCCGCAGG
TACGGTTTGGCGCGGTAAAAAAGTAGAACTTAACCCGACTAAATGGGATTGGGTTAAAAA
TACCGGCTATAAAAAACCTGCTGCCCGCCCTATGCAGACTGTAGACGGGGAAATGGCTGG
GGGAAACAAATCATTAAAAATAGGGACACAATCTGTTGAAAAATCAACCGGTCGTACAAT
ACCTAATAATTTAAAGGAACAATTAGCAATGGAAGAAGTTAAGGCAAACCCACAGGGCAA
AACTCCTGCGAGAATACCTCCTATGTCCGATACTAAAAATGGTTGGTTAGCAAAAGACGG
TTGGGTTAAGCGTGTTCAAAACGTAAACAAAATTGAAATACATTACATTGAAAACTCAAG
AACCGGTGAGAAACAGATTTTAAGTTTAAGGATTAGTCATGTTTTTAGATGATGTAAAT
GTTTTTTTAGATGATTTAAATGTTTTTTTTAGATGATTTAAATACTAATCCAATCACTGAC
GAATGGTATATGTCCAATTTTGCCGATAAACATATTAAAATTTTGGAAAGTTACGAAGCC
TTTGATATTCTAAAACAATTTGTTGATTACATGATTGAAGAATATGATGAAAAATCAGAA
TATGAAATCATGGAAATATTGAGACAATTAAAATATCAAGCAGATACCAACGAAAAATTT
TATACAAATACACAGAAACAGAAAATTGTAGAATTATATAAACAAGAAATTAGTCAGGAT
ATTTTAAATGAAATCTTTAGATAAACTATCAATATAGAAGGAAATCCTTGGAAAAAATAA
AATGATAATCGAACACAATGGAAATATACATAAAATAGCCAGAATGACTGGAAATAAAAA
TAATTTTTTAGAAATAATCCTATCAGATATTCATGAAAACATAAAAATCAAACCATTAAC
TATAAAAGTAAAAGGAGAGAATGTTATAAATATCCTTCCTGAGGAAGTTAGTTTTTATGT
AAAACAAGGTGTTGATTTAATTTATGAAAAATATAAACGGAAATTCTTTATCTCCGAAAT
TTCTTTTTGCCAATCAGATAGCCGGCCTTCAAGTATCTACGCTTTTCTTACATTTCACTT
GCTTGAAGATATTATTAAAAATGAATCCCCATCCAACTACACCTGACTGGCTAATAGCAG
GTATGAACCGTGTATTCATATCAATATAAGATTAATTACGGCAGAATTTGATGAAATTAG
ACAAAAACTTATCGTAAGATTTTATTTAGACAGAGAAGTAACTGATGATGGCAAAGAAGA
TATGGAAACAGCACGAACAGAATTACTTCCAGGAGGATATGCTTCATCTCTGGTAGTTTG
ACAGATTTGACCGCTTCATAAACTTAGAACATTAATTAATGATGATAATGTTTATATGAT
TGGTTCTAAGGATAGCAAAAGCAAATTCAGAAGGAACATGAATGGCTATTTATGACTTAA
ACGAAATAGCCGTAGGTCGGATTCTCGAATCCGACATTTTCCAACAGCGGCATTTCGGAA
ACGATAGATGCGTCAAATATTTTTGTCGGATACAAATATCCGACCTACATCTCTGCGCAG
CAAACTTTACAAGGTATTAATGATTTAGGAAATTTAAGTCCGAAAGCACAACTTGCTGCC
GCAAGCGCATTATAGGACAGTACTTTTGCGGTAAAAGACGGTATCAATTCCGCCAGACAA
TGGGCTGATGCCCATCCGAATATAACTGCAACAGCCCAAACTGCCCTTGCCGTAGCAGAG
GCCGCAGGTACGGTTTGGAGAGGTAAAAAAGTAGAACTTAACCCGACCAAATAGGATTGG
GTTAAAAATAACGGCTATAAAACACCTGCTGCCCGCCCTATGCAGACGTTGGACGGTGAG
ATGGCAGGAGGAAACAAGCCAGTTGTTAAATCTATCAGACCAACTACGCGAGATGAATTA
CGTCAAGCATTGCAAGAACAAGGTTTTAGACGTACTGGTTCAGATGCGGCTCAATATGAA
ACATGGAAAGGTCCTGATGGCGTGAAAATAGATATTCGTCCAAATGGAGAGGTTATAAGA
ACCCAAAGAGTGCCGCGAACCGATGGTGTACAGGGAAAATATCCGCAACGACAAGATTAT
GAAGGCAATCCATTGCCAAATAATCATCATCATTCTGGATATTTTGTCAAATGAAAAAAA
ATATTTTTCACAATGTAAGCCTTTATGAAATAATCTTTTCCGATAATGGAAATACCCTTA
CATTATCTTTTACAGATACAATTGAAGGTAATTATTTCGGATATATCAAATGCAGTAATA
TTTTGAATTTTAAATTAGATACAAATAATTTCGTAGATTATGAGGATAAGGAAGATAGCT
TGTTTCCCTTGTTTATACCCGAAATAGAGCTATATAAATACCAATTTTATAGTGAAATTA
TTATTGATGTAGGGATTATTATAAAAATATCTGCTGAAACAATTAATTTTGAGCCACTGG
GAAAATAGTAACTGCTTTCCCAGCAGCCGTAGCAACTGTATTTTTACCCGACGGGGTAAA
AATACAGTTGCTACATCTCTGCGCAGCAGACTCTACAAGGTATTAATAATTCAGGAAAAT
TAAGCCCGGAAGCACAACTTGCTGCCGCGAGCATATTACAGGACAGTGCTTTTGCGGTAA
AAGACGGCATCAATTCCGCCAGACAATGGGCTGATGCCCATCCGAATATAACAGCAACAG
CCCAAACTGCCCTTGCCGTAGCAGAGGCCGCAGGTACGGTTTGGAGAGGTAAAAAAGTAG
AACTTAACCCGACCAAATGGGATTGGGTTAAAAATACCGGCTATAAAAAACCTGCTGTTC
```

GCCATATGCAGACTAAGGCGTTAGGTACGGTAGATGAAATTGGCGATACAGTACAGCAGG
TTGGGAAACAGGCTAGCGGACAAAAAACCAGCGGTGGTAATCCTGCGATTGATAGCGACC
CCTATAGCCCGAGTAGTGTGGCAGCTCGCATAGAAGCCGGTAAGGCGCGCAGTGATTTAC
AAATCAAAGACATTTTGAGCAATACTACTCAAAGGAGTAAAACAAAAGGTCCCGCTGTTC
AGTATGATAAAGTGGGGGATTACAATGACGCACTAAATGATTTAATAGTCTGAATGTTC
GAAATGTACAAACACGTCCTAATGGAACGATAACGGGCAATTTACCTGATGGGCGTGCGG
TTAATGCTCGTAATGATAGTAGTGGTGGAGAACCAACACTTGAAATAACAATTAGTAATA
ACCGAAAAATAAAAATCAGATATGGAAATACACGATAAATTATGAAATTAAAAAGCTTAG
ATTTCCCAACTGGCTATTTCTATTTTGATAATGCAGCAATAAACTCTGATAAAGTAGAAG
TTATAGCAGTTGGTTATAGAAATACGGATAAAACCATAAAAATTTTTATTGAAGATGTTA
TTCATTTTAGGGTTGTTGATGAATCGTATTTTATAGATACTTTTATGGATTTAATTTCGG
AAGATGCAGATAGAGCTTTGCTTCATGAAAATGGTGGTCAATCTTTTTTTGAACTTCTTG
ATGAGTGTTATGCGGAATGGATATTGAAAGAAAGTTATTTTCCTTTGAATAGAGAATTCT
TTAAATACTATATTTTTATGTTTGAGCAAACATTCATAGAAATAATTGGTTCTAGTGCAA
CGTATTCAATTATTGAGGGCTAGCGTAAGATGAGTAATAAGTTGCCTATCTTTCTTTCAG
GCAGCCTGAAAATAAAACTACCCAAGTTGATGGTGTACCTGTATCAGTGAAGGGAAATTT
TGTTGATGGTAAATTTCGCATTGGTACGGCAACAATGAAATCATTTTAAATTGAGCTAGA
AATGAACCTAGAAAATTATGAAAACATTTTAATAAAATTACTTTTTTATCATAACAACTT
AGTAAATGAATATTCTTATTTTATTGAAAATAAAAATTTATTTAAAATAGTATCTCGAAC
GAAAACGAGTAAGGGCTTTTTTTTCACTATAGAAAAACCATTAAATTTTCTAAGCAAAAA
AACTTATTTTGAGTTTAATTTTAAATATTTACACTCAGGGAAAGAACGCTTTGGTTCGTT
TATGTGCTGGATAAATACTAATTTAATGGAATTTGAGGGGGTTTTTTTTAACGACCTGCT
CCCTGATAATATGATAATAAATAACTTTTTTGAAATAAATGATTAACGATACACCAATAA
AAATTGGTGGGGTAACCGTATGGATGATATTCGCGGCATCATCCAAGGTGCGGTTAATCC
TTTAATTTACAAGGTAAGCAAGCAAAAGATTATTTACAACAACAAACTCATATCAGGAAC
TTAGACAAATGAATGAACACAACCTGTTAATTTTCTGTTTAAAAGACAATGTTTCAATTA
GTGAATATACTGAAATGATTGATTGGGCTTATAAAAACATTCAATCTGAAACAGTTGTAG
AAATTACGGAAAATCAAATTATTGAATATCAAATCGTGGATTATGGAGACTTGTTTCTG
AAATTACCGATAATTGGTTATTTGGACCAAGTGAGGGGGATTGGCTAATAGATAAGGAAA
GTATTTTGGCTGTAAAAGAAAAATTACAAAATTCAGATTTTTCTACAGAGCCCTTAGTGA
AAAATATTATTCATGTACTTGAATATGCTATAAAAAATGAAAAAACAGTAATTTTTCATT
TTTGAGACTAATCCAATTTTTAGTAATATTGATGCAGAGCAAGCAGCATTAGATGCCGCA
AACATGGGGAGAAGCTATTCAATTTAGAATTAAAAAACAAATTGAAAATGAACTAGCACC
ACCAAATTGGTCTACCCAGTTTCCTAATGGTAGTATTTATGATCCTAAGGTAACGAAATG
ATTATTCAAAATGAATTTAATTTATATCCTAGTAATATGCTTCCTGAAAGGTTTTGTTAT
CCTGAAAAGTATGTTCGTATCTCTAACGATACATCTTTAATACCTTATATTCAGCCACAT
AATTTTCACTGGTGGTTTGAGAATTATGGAACAGAAGGGGCAGAAGTAGCTTATATATTT
AGAAATTCTATCCTGCCTGATTTAAATCTTATCCCATTCGCTAGTAATGGAGAATGGGAA
GCTTATTTTGATGGTAATGATGTAACAGGAAATTCTAGGGTTATTGTCATTAATTTAGAT
AATATAGAAAACCATGAATTTTTTAATAGTTTTGAAGATTGGCTTGAATTAGCAATTAAG
GATACTTGGTAAGCAGCTATCTATAAAGAGATGAGGCTGCCCTGGACAACTAGGATAAAC
TCGATTTACTAATTGTTTTAAAATGGAACAAGAACTTTTATTTCACTGTTGTTAAAACG
CCATTCGCACTCCTTTAAATACAGCTCAAAATGCGCTTTGGGAATGCCGTTAAACTTGCG
TAAATGACGTTTTGCTTGATTCCAAAAGTTCTCAGTTCCATTAATATGGTTTTGTCGTTC
GGCAAAATGTGTGCTGTGATTGATACGGAAATGGCTAAATTCGCCCGCATCCAATACATC
ATAGCCACGATAACAAAATGAGTTTATTTTGTTTATACCGTCTTAGACGACTTTCTCTCA
TAGGGATAATTCTAACTTAATTTGAATTTCCCTAGTGATCTAGGGCAGCCCCTAAATTAA
TAAAGCAGCACAACTCCTTTTGCCGATGTTCCGGACTGTCAAACGACTGTTCCTCATGCC
ACATCTCCATCAAGGTACGGATAACCCGCTCCGCCTTACCGTTGGTCTGCGGACAAGCAA
ATCGGGCAAGCCTCCAACCAATCCCATTATCATAACAAGCTGCACCGAAAGCATGTTGGA
CGGCTCTTTATATTACCTATCATTGTCAGAGTAAACGTACTCAATCAGGTACAAGCAGGG
GTCGGACAGATGTTCGGTCAGAAACTTGGCAGCACTGTCTGCGGTTTTGTCCGGCAAAAT
GGCAGAGTATAAAAATCGTCAATAGCGACAAACAGGTAATCTCGTTTATCAGCGGCCTTC
TGTCCTTTGAGCAACAACAACCGATCGGTATCAGGATGCACAAAACCTCCCGGGGACAAC
CTGCCTTTTACGGCTTTAAGTGCACGGTAAATAGTGACGCGGCTGACTTAGTGGCAGCAT
ACTGGGGAGGTGAGTGTTTTTGTGTATATTTTTATTTTGGTATTCCCTTAGAAATACTGT
AAACAACGCTACCGGACGGCCTGCAGGGCTTCGCGCACGCTTGCTTTGAGTTCTGCGCCG
AAGCGTCTGCCCAAGATTCTGCCGAAATCGTCCTTCGGAGTGTAATCCACCACATCGGGG
GCTTTGACCACGTCTCGCGCCACGCTGTAAATATTGCCGAGTCCGTCCACCAGCCCGACT

```
TTCAGCGCATCCGCGCCTGTGTACACGCGACCGCTGAACACGTCGGGATATTGTCGGAAT
TTGAGGCGGCCGCCGCGTCCGGTTTTGACGGCTTTGATGAACTCGCCGTGTATGCCGGTC
AGCATTTCTTCCCAGATTTTTGACTGTTCGGGCGTTTCGGGCGAAAACGGATCGCCCATG
CCTTTGTTGCTGCCTGCAATTTTAACCCTGCGTTTCACGCCGATTTTTTCCATCAGGCCG
GTCGCGTCGAAACTGCTGCCGATAACGCCGATGCTGCCGACGATGCTGGACGGGTCGGCA
TAGATTTTGTCCGCCGCCGCCGCGATGTAGTAGCAGCCGGACGCGCACATATCTTCCGCC
ACGAGATAAACGGGAATGCCGGGGTGCTGCGCCTTCAGACGGCGTATTTCTTCAAAAGCG
GTGTTGGACACGACGGGCGAACCGCCGGGGCTGTTGGCGCGGATGACGATGGCTTTTGCC
TGCGGGTTTTTGTAGGCGGCCTCCATACCGTCTTTGAGTTTTTTGACCTGGTCTTCTACA
CCGTTGCCGATTTCGCCGTACAGATTGACGACTGCGGTATGCGGCGTGTTGCCCGCCAAC
TGCAATGCGGCTTCGTCTTTTCGGAAAATGCCTGCAATCAGGGCAACCAGAATCAGGGTG
CTGACGGCGCGCCAGATGTTTTTCCACATCCGCTCCCTGCGCCTGTCCTGATAGGCGGAC
AACAGCACTTCGCGCATGATGTCGCGCTCCCATAAGGTTTCCCCCGCATTTTTTGCTTCG
GGTGCTTCGTTTTCTCTTCTGATTCGGTATTGCATGGTTTTCCTTAAATATTGTCCGATT
TGGGCAAACGGTTTTCAGTTTACCCGATTTTTCAGCTCTGCTCCCAATCCGTCCAAGCTG
TGCAACACTTCCGCCCACGCCGCGTCCAAAAGGTTGACGGCTTCTCCTTCGGCTTTGATG
CCGAACTCAATGTGCGGTTTGACCTGCGTGCCGTCTGAATGCGTCCAACCGACGCTGGGC
AGGCTGTACGAACGCACGCCGGGATAAGTTTGCTCGATATGCTCCATAAGCGGCGTAATG
CGCGATTCGGGCTGCTCAAACACATACACGCTGCGGCTGCCGCGTTCGGTTTGGTTGAAG
CGGTCGGCGTAATAAGTTTCCAATACCCATTCCGCCATCGGGTGCGCCATCACAGGAAAG
CCGGGGAAGAAATAATGCTCGCGGATAGAAAATCCGGCGATGTTGTTAAACGGATTGGGC
ACCAATTCCGCGCCTTCGGGAAAATCTGCCATTTTCAGGCGTTGGGCGTGTTCCGGCGAA
TCAAGCGGCTCGCCGCGTTTCTGGGTTATGCCTTCGATAAACTTGGCGGCTTCAGAATGG
CGGACGACGGGCAAATCCAAAGCAGCGGCTGCGGCTTGGCGGGTGTGGTCGTCGGGCGTG
GCGCCGATACCGCCGGTAACGAAAGTTGGCATGCCGTCTGAAAAGCTGCGGCGCAGTTGC
CTGACCAGCAAATCGGGTTCGTCGGGCAGGTATTGCACCTGATTGAGCTTCAGCCCTTTG
GATTCGAGCAGGGATTTGAAAAAGGCGAAATGCTTGTCTTGGCTGCTGCCGTGTAAGATT
TCGTCGCCGATGATGATGAGGTTGAACGCGTTCATAGATGGTTTCTTTACCGATGCCGTC
TGAAAATGTCGATGGTGCTGTGATTTGTTCCCTCTCCCGTGGGAGAGGGTTAGGGAGAGG
GTCGAGCTTGCGTTTTTCAGGCAGCGTTTGCTTAAGGCCTGCTGTCTGTACCCTCTCCCC
AACCCTCCCCCGCAGGGGAGGGAGTCAGGTTGAGGATGGCGTAAAGACCGTCTGAAAAGA
TTTTCAGCGAAACGGGCAAAGCTTCTTTTCAGACAGCCTTAACGGCTGACAATGGGTTAT
ATTTATAAGATAATGAACTCCTTTTTTCAAGTCCGAAGGATACCCTTATGAGCCAAAACC
ATACCATTCTGCAATCCCTCCCCGTCGGTCAGAAAGTCGGCATCGCCTTCTCCGGCGGTC
TTGATACCTCTGCCGCGCTGTTGTGGATGAAACTCAAAGGCGCGCTGCCTTATGCCTACA
CTGCCAACCTCGGCCAGCCCGACGAAGACGACTACAACGCCATTCCCAAAAAAGCGATGG
AATACGGTGCGGAAAACGCCCGCTTAATCGACTGCCGCGCGCAGTTGGCACACGAAGGCA
TCGCCGCCATCCAATGCGGCGCGTTTCACGTTTCCACCGGCGGCATCGCCTATTTCAACA
CCACGCCTCTGGGCCGCGCCGTAACCGGCACTATGCTTGTTTCCGCAATGAAAGAAGACG
ATGTGAATATTTGGGGCGACGGCAGCACCTACAAAGGCAACGACATCGAGCGTTTCTACC
GCTACGGTTTGCTCACCAATCCCGCGCTGAAAATCTACAAACCCTGGCTCGATCAGCAAT
TTATCGACGAACTCGGCGGCCGTCACGAAATGAGCGAATTTCTGATTGCCAACGGCTTCA
ACTACAAAATGTCGGTGGAAAAAGCCTACTCCACCGATTCCAATATGTTGGGTGCCACCC
ACGAAGCCAAAGACTTGGAATTTTTGAACTCGGGCATCAAAATCGTCAAACCCATTATGG
GCGTTGCCTTTTGGGACGAAAACGTCGAAGTCAGCCCGGAAGAAGTCAGCGTACGCTTTG
AAGAAGGCGTGCCGGTTGCACTAAACGGCAAAGAATACGCCGATCCCGTCGAACTCTTCC
TCGAAGCCAACCGCATCGGCGGCCGCCACGGCTTGGGTATGAGCGACCAAATCGAAAACC
GCATCATCGAAGCCAAATCGCGCGGCATCTACGAAGCCCCGGGTATGGCGTTGTTCCACA
TCGCCTACGAGCGTTTGGTCACCGGCATCCACAACGAAGACACCATCGAACAATACCGCA
TCAACGGCCTGCGCCTCGGCCGCCTGCTCTACCAAGGCCGCTGGTTCGACAGCCAAGCCC
TGATGTTGCGCGAAACCGCACAACGCTGGGTTGCCAAAGCCGTTACCGGCGAAGTTACCC
TCGAACTGCGGCGCGGCAACGACTACTCAATTCTGAACACCGAATCGCCCAACCTGACCT
ACCAACCTGAACGCCTGAGTATGGAAAAAGTCGAAGACGCTGCGTTCACTCCGCTCGACC
GCATCGGACAGCTCACGATGCGCAACCTCGACATCACCGACACCCGCGTCAAACTGGGTA
TCTACTCGCAAAGCGGTTTGCTCTCGCTGGGCGAAGGTTCGGTATTGCCGCAGTTGGGCA
ATAAGCAATAAGGTTTGCTGTTTTACATCATTAGCAACTTAAGGGGTCGTCTGAAAAGAT
GATCCCTTATGTTAAAAGGAATCCTATGAAAGAATACAAAGTCATCATTTATCAGGAAAG
CCTGTTGTCCAGCCTGTTTTTCGGCGCGGCAAAGGTCAACCCCATCAAAATTCAGCGAGTT
CCTCAATAAACAAACCCCCGAAGGCTGGCGGGTTGTAACGATGGAAAAAGATTTGCGCCG
```

```
TATGCTGCTGTTTTTCAAACGCGAGGCCTACGTCGTCATTTTGGAGCGGGATCGTGTTTA
AGCTCGGCGTTTATACCTGTCTCGGACTGTTTGCCGGCTGGGTGCTGCTGCTGATCGTGC
AACTCTGGTTTTCTTTTCTCGAAGCGGAATTGTTCTTCAAAATCACACTGACTATGGCGG
GGCTGTTTGTCATCATCCTCGCCGGCCTTACTGGTATGCGGTCAGTATTTTTCCGAAAAGA
AAATGAAAGACGACGGGTTTATCAACTGATGCGGACTTGAACCGGACCCGCGACCCAAAC
ATCACAATGCCGTCTGAACGCCCTCGCTTCAGACGGCATCAACATCAATCCTGCTCTTTT
TTGCCGGCAAACACGCCGAATCCGCCCTTTTCCGCATCTGTCGGGCGATAGCTGTATTTT
CCCGCCACTTCCTCGCCGGCCGGGCCGTAAAACTTTCCGGAAACATCCCCGCTGCCATTT
TCCGTCCAAGTCCCCTTAAAGCCGTTTCCATCGATGGCGGCTTTGAATTTTTGCGTACCC
ATATGCAAATCATCGCCGCTGTCGATAATGCCGTCCACAGATTTGCTGCCGAAATCGACT
TTTGCGGCAAACCTGCCCCTGGTCGGGTACGGACGGCCGTTTTCCGTATGGAAATGCAGT
ACTTCGCCGTTGTACACGGCCGCGCCCGCAAGCATTTCGCCTTTTGCCGGTTCGCCTTGA
ACACGAAGGGCATACGATCCGCCGGGCAATTTTTCCGCCCCGTAAGTCAGATACCGGTAA
TTCCCTTCGGGCGCGAAGATATTGCCGGAATGCCCCGTCAGGCTGACCGCTTCCCCATCG
ACAATCAGCGTATCCGCCTGATTGACGGGAATCAGCGGCATCTCGGCCGGAAGCGACCGC
CTCGACCGTGCAGAACGCCTAAATCGCGCAAATGAAGTGGGTTTAGGTTTATAAAAGATA
ATATATTGATTGATTCCCTTCATCTGCACACTATCGGCAACCAAACCGACAAATTTATCA
TTCTTCCCATCTTTCTTGTAATTACTTATTTTGTCTGCATCACTTAATTTTTCAAATTCT
GATTTTAGCTGTACTTCTTCATCCAAGAAATTATTGCCACTACAAGAATCGCCTTTACAG
TGGGTCAACGTTATATTTTGCGACGGCCCGTCAATCAAAACGCCATTAGCCAAATCAACC
CTTCCAAAATTGCTACCGCCATTCGCAGGTGCAGGGTTTGACGCGGGGATGGGATCTGAA
GAACCGGCGGCTTGATTGTTTCCGGCTTGATTTGCACCTTGGGCAGCCGTATTGCCGGCA
TTTTGCCCGCCTGCCGACGGATCGTCCCCCTGCATTCCGTCCGCCGCATTTGCCATATCC
GGTTGGTTTGCCGGCTGAGACGATTCCCCGGCATCCGTTGCTTGATTTTCCATATTTCCG
GCAAGCATATTCGGATCCGGGGTGTGATTCGGTGTCGAACTATCTGTACCGGCGGCATTT
TGCGGCATATCATTTTGTGCCACCTCGTCTTCATTTTTGGGATTATCCGCTGTTACCGCA
CCGCCATTGCCTGTATTTTCTTCCGAAACCGCCGCCATATCTTGACTGCCTTGTGCGGAT
GGCGCGCCCTGTCCTTGAGAACCTGCCTGTGGCGCATCTTCCTTTGCCTCTGTCTCTTTT
TCAGAAACAACAGGGGCGGCAGGTTTTGACAGCGTGTCCGCCGACTTGACATCGGGCGAT
CCGCCACCGCCGCCCCCGCAGGCTGAAAGGGCAAAAATACAAGCCATTGCGATTACGCTG
CGTTTAAACATCATCATCTCCTTCATCGTATTTCCTTTTTGGTTTAAACCCCGCCACTTG
GACATCCGTCCTTCGGGGCGGTGGAATCAGCTTTATTTGGGAAGAGCGCAACCTTTCCAA
ATCAGGGCGACACATAGGGCTGTGCTTTATGTGCCGCCCTGTGTGTTGAAACATATTCAA
TAAATATTGTTTCCGCCGTATGCCTATAAAATTGTAAAAATATGCCGTCTGAACGCCAAA
CGGGCTTCAGACGGCATAGCTTGGTTTATTCCGCCCGGTTCCTCTGTCGGCCCAAATCGG
CGGCAGCGGTAAACAAAACGTCGGTCGAAGAGTTCAGCGCAGTTTCCGCCGAATCCTGAA
TCACGCCGATAATGAAGCCGACGGCAACCACCTGCATGGCCACATCGTTATCGATACCGA
ACAGGCTGCACGCCAAAGGAATCAGCAGCAACGAGCCACCGGCCACACCGGATGCACCGC
ACGCGCTAACGGTAGCCACCAGGCTCAGCAGCAGGGCAGTGGCGAAGTCAACCGTAATGC
CTTGCGTGTGCGCCGCAGCCATCGCCAAAACGGTAATGGTGATTGCCGCACCGGCCATAT
TGATGGTTGCACCCAATGGAATGGAGATGGAGTAAGTGTCTTCGTGCAAACCCAGCTTTT
TCGCCAATGCCATGTTCACAGGGATATTGGCGGCGGAAGAACGGGTAAAGAAGGCATAAA
CGCCACTTTCACGCAGGCAGGTAAACACCAGCGGGAAAGGGTTGCGGCGGATTTTCCACC
ACACGATGGCGGGATTGACCGCCAGCGCGATAAACGCCATACAGCCCAACAGCACTGCAA
GCAGCTTCGCGTACCCCGCCAGCGCGCCGAAACCCGTCTCCGCGATTGTGGACGACACCA
GCCCGAAAATGCCCAAAGGGGCAAAACGGATAATCCATTTCACGACGGTGGAAACCGCTT
CCGCCAAATCGGCAACGACCTGCCGCGTAACGTCCGAACCGTGATTCCGCAACGCCGCGC
CCAAAACCAAAGCCCAAGCCAAAATGCCGATATAGTTGGCATTGGCAATCGCGTTAATCG
GGTTGGCGACCAGGTTCATCAGCAGCGATTTCAATACTTCCACAATGCCGGAAGGCGGCG
CGGCGGACACATCGCCCGCGCCCGCCAAAACAATGTGCGTCGGGAAAACCATACCGGCGA
TGACGGCGGTCAGGGCTGCGGAAAACGTACCGATGAGGTAAAGGACGATAATCGGCCTGA
TATGCGCCTTGTTGCCTTTTTGGTGCTGCGCGATTGTGGCCGCCACCAAAATAAATACCA
AAACCGGCGCGACCGCTTTGAGCGCACCGACAAACAGGCTGCCGAACAAGCCTGCCGCCA
AGCCCAGTTGCGGGGAAACCGAACCGATTACGATGCCCAACGCCAAACCGGCGGCAATCT
GCCTGACCAGGCTGACGCGGCCGATCGCATGAAATAAGGATTTGCCGAACGCCATAATTC
TTCCTTATGTTGTGATATGTTAAAAAATGTTGTATTTTAAAAGAAAACTCATTCTCTGTG
TTTTTTTTTATTTTCCGGCTGTATTTTATAGTGGATTAACAAAAATCAGGACAAGGCGAC
GAAGCCGCAGACAGTACAAACAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGA
GAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTAT
```

```
AAGGTTGCGTTGATTTGCCCTATGCAGTAGTGCCGGACAGGCTTTGCTTTATCATTCGGC
GCGACGGTTTAATTTATTGAACGAAAATAAATTTATTTAATCCTGCCTATTTTCCGACAC
TATTCCGAAACGCAGCCTGTTTTCCATATGCGGATTAGAAACAAAATACCTTAAAACAAG
CAGATACATTTCCGGCGGGCCGCAACCTCCGAAATACCGGCGGCAGTATGCCGTCTGAAG
CGTCCCGCCCCGTCCGAACAGTGTTAAAATCGAAAGCCGCCACACCGATGCACGACACCC
GTACCATGATGATCAAACCGACCGCCCTGCTCCTGCCGGCTTTATTTTTCTTTCCGCACG
CATACGCGCCTGCCGCCGACCTTTCCGAAAACAAGGCGGCGGGTTTCGCATTGTTCAAAA
ACAAAAGCCCCGACACCGAATCAGTCAAATTAAAACCCAAATTCCCCGTCCTCATCGACA
CGCAGGACAGTGAAATCAAAGATATGGTCGAAGAACACCTGCCGCTCATCACGCAGCAGC
AGGAAGAAGTATTGGACAAGGAACAGACGGGCTTCCTCGCCGAAGAAGCGCCGGACAACG
TTAAAACGATGCTCCGCAGCAAAGGCTATTTCAGCAGCAAAGTCAGCCTGACGGAAAAAG
ACGGAGCTTATACGGTACACATCACACCGGGCCCGCGCACCAAAATCGCCAACGTCGGCG
TCGCCATCCTCGGCGACATCCTTTCAGACGGCAACCTCGCCGAATACTACCGCAACGCGC
TGGAAAACTGGCAGCAGCCGGTAGGCAGCGATTTCGATCAGGACAGTTGGGAAAACAGCA
AAACTTCCGTCCTCGGCGCGGTAACGCGCAAAGCCTACCCGCTTGCCAAGCTCGGCAATA
CGCAGGCGGCCGTCAACCCCGATACCGCCACCGCCGATTTGAACGTCGTCGTGGACAGCG
GCCGCCCCATCGCCTTCGGCGACTTTGAAATCACCGGCACACAGCGTTACCCCGAACAAA
TCGTCTCCGGCCTTGCGCGTTTCCAGCCCGGTATGCCGTACGACCTCGACCTGCTGCTCG
ACTTCCAACAGGCGCTCGAACAAAACGGGCATTATTCCGGCGCGTCCGTACAAGCCGACT
TCGACCGCCTCCAAGGCGACCGCGTCCCCGTCAAAGTCAGCGTAACCGAGGTCAAACGCC
ACAAACTCGAAACCGGCATCCGCCTCGATTCGGAATACGGTTTGGGCGGCAAAATCGCCT
ACGACTATTACAACCTCTTCAACAAAGGCTATATCGGTTCGGTCGTCTGGGATATGGACA
AATACGAAACCACGCTTGCCGCCGGCATCAGCCAGCCGCGCAACTATCGGGGCAACTACT
GGACAAGCAACGTTTCCTACAACCGTTCGACCACCCAAAACCTCGAAAAACGCGCCTTCT
CCGGCGGCGTCTGGTATGTGCGCGACCGCGCGGGCATCGATGCCAGGCTGGGGGCGGAAT
TTCTCGCAGAAGGCCGGAAAATCCCCGGCTCGGCTGTCGATTGGGCAACAGCCACGCCA
CGATGCTGACCGCCTCTTGGAAACGCCAGCTGCTCAACAACGTGCTGCATCCCGAAAACG
GCCATTACCTCGACGGCAAAATCGGTACGACTTTGGGCACATTCCTGTCCTCCACCGCGC
TGATCCGCACCTCTGCCCGTGCAGGTTATTTCTTCACGCCCGAAAACAAAAAACTCGGCA
CGTTCATCATACGCGGACAAGCGGGTTACACCGTTGCCCGCGACAATGCCGACGTTCCTT
CAGGGCTGATGTTCCGCAGCGGCGGCGCGTCTTCCGTGCGCGGTTACGAACTCGACAGCA
TCGGACTTGCCGGCCCGAACGGATCGGTCCTGCCCGAACGCGCCCTCCTGGTGGGCAGCC
TGGAATACCAACTGCCGTTTACGCGCACCCTTTCCGGCGCGGTGTTCCACGATATGGGCG
ATGCCGCCGCCAATTTCAAACGTATGAAGCTGAAACACGGTTCGGGACTGGGCGTGCGCT
GGTTCAGCCCGCTTGCGCCGTTTTCCTTCGACATCGCCTACGGGCACAGCGATAAGAAAA
TCCGCTGGCACATCAGCTTGGGAACGCGCTTCTAAACCGATATGGCCACTTCAGACGGCA
TTGCAGCAAACCATTTTGAAACAGACATTATGACCGATACCGCACCGACAGATACCGATC
CGACCGAAAACGGCACGCGCAAAATGCCGTCTGAACACCGCCCCTACCCCGCCGGCAAAAA
AACGCCGCCCGTTGCTGAAGCTGTCGGCGGCCACTGCTGTCTGTCCTGATTTTGGCAGTAT
GTTTCCTCGGCTGGCTCGCCGGTACGGAAGCAGGTTTGCGCTTCGGGCGTGTACCAAATCC
CGTCTTGGTTCGGCGTAAACATTTCCTCCCAAAACCTCAAAGGCACGCTGCTCGACGGCT
TCGACGGCGACAACTGGTCGATAGAAACCGAGGGGGGCAGACCTTAAAATCAGCCGCTTCC
GCTTCGCGTGGAAACCGTCCGAACTGATGCGCCGCAGCCTGCACATTACCGAAATTTCCG
CCGGCGACATCGCCATCGTTACCAAACCGACTCCGCCTAAAGAAGAACGCCCGCCGCTCA
GCCTTCCCGACAGCATAGACCTGCCTGCCGCCGTCTATCTCGACCGCTTCGAGACGGGCA
AAATCAGCATGGGCAAAGCCTTTGACAAACAAACCGTCTATCTCGAACGGCTGGATGCTT
CATACCGTTACGACCGCAAAGGACACCGCCTTGACCTGAAGGCCGCCGACACGCCGTGGA
GCAGTTCGTCGGGGGCGGCCTCGGTCGGCTTGAAAAAACCGTTTGCCCTCGATACCGCCA
TTTACACCAAAGGCGGACTCGAAGGCAAAACCATACACAGTACGGCTCGGCTGAGCGGCA
GCCTGAAGGATGTGCGCGCCGAACTGGCGATCGACGGCGGCAATATCCGCCTCTCGGGAA
AATCCGTCATCCACCCGTTTGCCGAATCATTGGATAAAACATTGGAAGAAGTACTGGTCA
AAGGGGTTCAACATCAATCCGGCCGCCTTCGTGCCTTCCCTGCCCGATGCCGGACTGAATT
TCGACCTGACCGCCATCCCGTCGTTTTCAGACGGCATCGCGCTGGAAGGTTCGCTCGATT
TGGAAAACACCAAAGCCGGCTTTGCCGACCGCAACGGCATCCCCGTCCGTCAGGTTTTAG
GCGGCTTTGTCATCCGGCAGGACGGCACGGTGCATATCGGCAATACGTCCGCCGCCCTGC
TCGGACGGGGCGGCATCAGGCTGTCGGGCAAAATCGACACCGAAAAAGACATCCTCGATT
TAAATATAGGCATCAACTCCGTCGGCGCGGAAGACGTACTGCAAACCGCGTTCAAAGGCA
GGTTGGACGGCAGCATCGGCATCGGTGGCACGACCGCCTCGCCCAAAATCTCTTGGCAAC
TCGGCATCGGCACGGCGCGCACGGACGGCAGCCTCGCCATTGCAAGCGACCCAGCAAACG
```

```
GACAGCGGAAACTGGTGCTCGACACCGTCAACATCGCCGCCGGGCAAGGCAGCCTGACCG
CGCAAGGCTATCTCGAGCTGTTTAAAGACCGCCTGCTCAAGCTGGACATCCGTTCCCGCG
CATTCGACCCTTCGCGCATCGATCCGCAACTTCCGGCAGGCAATATCAACGGCTCAATAA
ACCTTGCCGGCGAACTGGCAAAAGAGAAATTCACAGGCAAAATGCGGTTTTTACCCGGCA
CGTTCAACGGCGTACCGATTGCCGGCAGTGCCGACATTGTTTACGAGTCCCGCCACCTTC
CGCGTGCCGCCGTCGATTTGCGGCTGGGGCGGAACATTATTAAAACAGACGGCGGCTTCG
GCAAAAAAGGCGACCGGCTTAACCTCAATATCACCGCACCCGATTTATCCCGTTTCGGTT
TCGGACTCGCGGGGTCTTTAAATGTACGCGGACACCTTTCCGGTGATTTGGACGGCGGCA
TCCGAACCTTTGAAACCGACCTTTCCGGCGCGGCGCGCAACCTGCACATCGGCAAGGCGG
CAGACATCCGTTCGCTCGATTTCACGCTCAAAGGTTCGCCCGACACAAGCCGCCCGATAC
GCGCCGACATCAAAGGCAGCCGCCTTTCGCTGTCGGGCGGAGCGGCGGTTGTCGATACCG
CCGACCTGATGCTGGACGGCACGGGCGTGCAGCACCGCATCCGCACACACGCCGCCATGA
CGCTGGATGGCAAACCGTTCAAAATTCGATTTGGACGCTTCAGGCGGCATCAACAGGGAAC
TTACCCGATGGAAAGGCAGCATCGGCATCCTCGACATCGGCGGCGCATTCAACCTCAAGC
TGCAAAACCGTATGACGCTCGAAGCCGGTGCGGAACGCGTGGCGGCAAGTGCGGCAAATT
GGCAGGCAATGGGCGGCAGCCTCAACCTGCAACACTTTTCTTGGGATAAAAAAACCGGCA
TATCGGCAAAAGGCGGCGCACACGGTCTGCATATCGCCGAGTTGCACAATTTCTTCAAAC
CGCCCTTCGAACACAATCTGGTTTTAAACGGCGACTGGGATGTCGCCTACGGGCGCAACG
CGCGCGGCTACCTCAATATCAGCCGGCAAAGCGGCGATGCCGTATTGCCCGGCGGGCAGG
CTTTGGGTTTGAACGCATTTTCCCTGAAAACGCGCTTTCAAAACGACCGCATCGGAATCC
TGCTTGACGGCGGCGCGCGTTTCGGGCGGATTAACGCCGATTTGGGCATCGCCAACGCCT
TCGGCGGCAATATGGCAAATGCACCGCTCGGCGGCAGGATTACCGCCTCCCTTCCCGACT
TGGGCGCATTGAAGCCCTTTCTGCCCGCCGCCGCGCAAAACATTACCGGCAGCCTGAATG
CCGCCGCGCAAATCGGCGGACGGGTAGGCTCTCCGTCCGTCAATGCCGCCGTCAACGGCA
GCAGCAACTACGGGAAAATCAACGGCAACATCACCGTCGGGCAAAGCCGCTCTTTCGATA
CCGCGCCTTTGGGCGGCAGGCTCAACCTGACCGTTGCCGATGCCGAAGTATTCCGCAACT
TCCTACCGGTCGGACAAAACCGTCAAAGGCAGCCTGAATGCCGCCGTAACCCTCGGCGGCA
GCATCGCCGATCCGCACTTGGGCGGCAGCATCAACGGCGACAAACTCTATTACCGCAACC
AAACCCAAGGCATCATCTTGGACAACGGCTCGCTGCGTTCGCATATCGCGGGCAGGAAAT
GGGTAATCGACAGCCTGAAATTCCGGCACGAAGGGACGGCGGAACTCTCCGGTACGGTCG
GTATGGAAAACAGCGGACCCGATGTCGATATCGGCGCGGTGTTCGACAAATACCGCATCC
TGTCCCGCCCCAACCGCCGCCTGACGGTTTCCGGCAACACCCGCCTGCGCTATTCGCCGC
AAAAAGGCATATCCGTTACCGGGATGATTAAAACGGATCAGGGGCGTGTTCGGTTCGCAAA
AATCCTCGATGCCGTCCGTCGGCGACGATGTCGTCGTATTAGGCGAAGTCAAAAAAGAGG
CGGCGGCACCGCTCCCCGTCAATATGAACCTGACTTTAGACCTCAATGACGGCATCCGCT
TCGCCGGCTACGGCGCGGACGTTACCATAGGCGGCAAACTGACCCTGACCGCCCAATCGG
GCGGAAGCGTACGGGGCGTGGGCACGGTCCGCGTCATCAAAGGGCGTTATAAGGCATACG
GGCAGGATTTGGACATTACCAAAGGCACGGTCTCCTTTGTCGGCCCCGCTCAACGATCCCA
ACCTCAACATCCGCGCCGAACGCCGCCTTTCCCCCGTCGGTGCGGGCGTGGAAATATTGG
GCAGCCTCAACAGCCCGCGCATTACGCTGACGGCAAACGAACCGATGAGTGAAAAAGACA
AGCTCTCTTGGCTCATCCTCAACCGCGCCGGCAGCGGCAGCAGCGGCGACAATGCCGCCC
TGTCTGCAGCCGCAGGTGCGCTGCTTGCCGGGCAAATCAACGACCGCATCGGGCTGGTGG
ATGATTTGGGCTTTACCAGCAAGCGCAGCCGCAACGCGCAAACCGGCGAACTCAACCCCG
CCGAACAGGTGCTGACCGTCGGCAAACAACTGACCGGCAAACTCTACATCGGCTACGAAT
ACAGCATCTCCAGCGCGGAACAGTCCGTCAAACTGATTTACCGGCTGACCCGCGCCATAC
AGGCGGTTGCCCGTATCGGCAGCCGTTCGTCGGGCGGCGAGCTGACATACACCATACGTT
TCGACCGCTTCTCCGGTTCGGACAAAAAAGACTCCGCCGGAAACGGCAAAGGAAAATAAG
CGGTTTTCAGACGGCGCGCCGCCAAACCGGACATTTGAAAACCTGCTTTTCCACCGTCCG
CCGCCGCCGTCCGCCTGCAAGGGAACAGAATCGATATAGTGAATTAACAAAAATCAGGAT
AAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTCGGTGCTTGAGC
ACCTTAGAGAATCGTTCTCTTTGAGCCAAGGCGAGGCAACGCCGTACCGGTTTTTGTTAA
TCCGCTATATTCCGCCATCTCTAAGATTTACAGCGATACACAGGTAATTTAAGGAATGCC
CGAACCGTCATTCCCGCCACTTTCCGTCATTCCCGCGAAAGCGGGAATCTAGGACGCAGG
GTTAAGAAAACCTACATCCCGTCATTCCCGCGAAAGTGGGAATCTAGAAATGAAAAGCAA
CAGGCATTTATCGGAAATAACTGAAACCGAACAGACTAGATTCCCGCCTGCGCGGGAATG
ACGGCTGCAGATGCCCGACGGTCTTTATAGCGGATTAACAAAAATCAGGATAAGGCGACG
AAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTCGGTGCTTGAGCACCTTAGAG
AATCGTTCTCTTTGAGCCAAGGCGAGGCAACGCCGTACCGGTTTTTGTTAATCCGCTATA
TTCCGCCATCTCTAAGATTTACAGCGATACACAGGTAATTTAAGGAATGCCCGAACCGTC
```

```
ATTCCCGCCACTTTCCGTCATTCCCGCAAAAGCGGGAATCTAGAATCTCGGACTTTCAGA
TAATCTTTGAATATTGCTGTTGTTCTAAGGTCTAGATTCCCGCCTGCGCGGGAATGACGA
TTCATAAGTTTCCCGAAATTCCAACATAACCGAAACCTGACAGTAACCGTAGCAACTGAA
CCGTCATTCCCACGAAAGTGGGAATCTAGAAATGAAAAGCAACAGGCATTTATCGGAAAT
AACTGAAACCGAACAGACTAGATTCCCGCCTGCGCGGGAATGACGGCTGCAGATGCCCGA
CGGTCTTTATAGCGGATTAACAAAAATCAGGACAAGGCGGCGAAGCCGCAGACAGTACAA
ATAGTACGGAACCGATTCACTCGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCT
AAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCTCTATAATGCGCCCTTCGGCGTGG
CGGATATATAAGGAAGTGATTTTCCATCTAAGTAAAAACCGCCCTATCGGATAAGCCCTT
AACAGAAAAGGCTTTACCCGCGCCGTATCGGAACACATCCTCTAAAATACAATCCGTTGA
ATTGAAAAAAATATAAAAACATCCGCCCGCGAAAAACGGCAGCGCGTCGTTTGACAAAGA
ATGAAAATATCGGTTAAAAACCGATTTTCATACAAAAAACACCGCTGCCGTCCGCATCCG
TTTCAGACGGTATTGAGAGAAATCTTTTAGGAGAACCTTTATGTCCCGGCATCCCGCCC
CCACCGGAGAAAAAACATTCTTCGGCCACCCCTTCCAGCTTTCCACCCTCTTCCATATCG
AATTGTGGGAACGTTTTTCATTTTACGGAATGCAGGGCATCCTGCTGATTTACCTCTACT
ACACCGCCGACAAAGGCGGCTTGGGCATAGACAAAACCCTCGCCGGCGGCATTGTCGGCG
CATACAGCGGCAGCGTGTACCTGTCCACCATTTTGGGGGCGTGGTTTGCCGACCGAGTAT
GGGGTGCGGAAAAAACCCTCTTCCTCTCGGGCATCGTCGTGATGCTCGGACACATCGTCC
TTGCCGCCGCCCCGGGCCTGTACGGCCTTTTAATCGGGCTGATATTCATCGCATTGGGCA
GCGGCGGCGTGAAATCTACGGCCAGTTCTATGGTGGGCGCATTATACGAACAGGACGAAA
TGCGCCCGCTGCGCGATGCGGGATTTTCCATTTTCTACATCGCCATCAACATCGGCGGCT
TCCTAGGCCCGCTGCTGACCGGCCTACTGCAGGAAAACATCGGTTTCCATTATGGTTTCG
GCGCGGCGGCGGTCGGTATGGCATTCGGCTTGTGGCGTTATTCCCTGGGACGTAAAAACC
TGCCCCACCCCACCGTCCCCCATCCGCTTTCAAAAGGACAGGGCAAAACTGCGGCCGCCG
TCGGCATCGCCCTCATCGCCGCACTTGCAACCGCCATCAAAACCGGGCTTGTCAACCTCG
ACAATTTCTCCGGCATCCTATTATCTACCGTCATCCTTGCCGTCATCGCCTATTTCGCCC
GCCTGCTGACCAACCCCCGCGTCAGTTCCGACAACAAACGGCACATCATCGCCTACATCC
CGCTTTTCCTGACCATCTGTATGTTTTGGGCCGTCTGGTTTCAGATTTACACCGTGGCAA
CCGTCTATTTCGACGAAACCGTCAACCGCACCATCGGTTCGTTTACCGTGCCCGTCGCTT
GGAAAGATTCTATGCAAAGCCTGTGGGTCATCCTGTTTTCCGGACTGATGGCGGCAATGT
GGACAAAAATGGGGCGCAAACAGCCCAAAACCCCGCTGAAATTCGCTATGGCGGTATTTG
TTACCGGCGCGTCGTTTTGGGATTCGTCCCCTTTATTTCCTCCGGTACGCCGATGCCTA
TTGCGGTTTTCGCACTGATCGTCCTCGCCATCACGATAGGCGAACTGATGATTTCCCCGA
TTGCGCTGTCCATCTCCACCAAAATCGCACCGCCTTTATTCAAAACCCAAATGGTCGCCC
TTAATTTCCTTGCCTTTTCATTAGGCTTCACTTTGGGCGGCGTATTGTTTGAAAAAGGCT
ATCAGGCGGGCGACGAAATCGGCTTCTATCGGCTGCTGTTCTACATCGGCGCAGCCACAG
GCTTCCTGCTGCTCCTGCTCGTCCCCAAATTGAACAAAATGCTCGAAGGCACAGACTAAG
TCCCGCCCCGATGCCGTCTGAACCCTTCAGACGGCATTTTTCCGCATAATGAAACCAAAC
CGTTTCCACCCGACAGGACAGGCTCCCGCCCAACCGGAAGGCAGCCTGCCGATTGTCATT
TGAATAACGCAAGGGAAAGCCGTTGATTTCCGTTTGTATGGAAACAGTTTGGTTTCATTG
GAAAAAGGCATTTTGTCCGACTAAATTAGTGCTGCATCAACGAAATATATAGTGGATTAA
CAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCAC
TTGGTGCTTGAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTAC
CGGTTTTTGTTAATCCACTATAAAAACACAACCTAAATAAAAATGCCGTCTGAACCATAT
TTCAGGTTTCAGACGACATTTGCGTGTCGGATGCACACCGGACAGGCGGTAAGCCGGGTT
CTGTCTCGGACAGTCATTCCTCTAGGCATACCGTTACCGGTATGCTCAAGCAACCTACCC
GAACGCTCGGCGGGCAGCGTCATTGCGTTCTGTTTGGTCTTGCTCCGAATGGGGTTTGGC
CTGCCGCATATTGTTACCAAATGCGCGGTGCGCCCTTACCGCACCTTTTCACCCTTACCT
GTGCTGCCAAAGCAGCCATCGGCGGTTTTGCTTTCTGTTCCACTTTCCGTCGCGTTACCG
CGCCCGGCCGTTAACCGGCATTCTACCCTGCGGAGCCCGGACTTTCCTCCCCGTATGCCT
TACGCGATACGCGGCGACTGTCTGCCCGTCCCGTGTGCGGCGCGGATTATAACACGAAAC
ACAAAAATGCCGTCTGAAACGGTACAGGTTTCAGACGGCATACAGCCTAAACTACACGCC
CTGTTTCAGGCTGGCTTCGATGAAGCCGTCCAAGTCGCCATCCAATACGGCTTTGGTGTT
GCCGACTTCGTAGCCTGTACGCAAGTCTTTGATACGTGAGGAATCCAAAACATACGAACG
GATTTGGCTGCCCCAACCTACATCGGATTTACCTTCTTCCAACGCCTGTTTCTCTTCATT
GCGTTTGCGCATTTCCAATTCATACAGTTTGGACTTCAACATTTCCATCGCAGCGGCTTT
GTTGGCGTGTTGCGAACGGTCGTTTTGACATTGCACCACAATCCCCGTCGGCTCGTGGGT
AATGCGCACGGCGGAGTCGGTTTTATTGATGTGCTGACCGCCCGCACCCGATGCGCGATA
GGTGTCGATGCGCAAATCGGCGGGGGTTGATTTCGATTTCGATGGAATCGTCGATTTCAGG
```

GTAAACGAACACGGAGGCAAACGAGGTATGGCGTTTGTTGTTCGAGTCAAACGGCGAGTA
ACGCACCAAGCGGTGAACGCCGGTTTCGGTACGCAGCAAACCATAAGCGTATTCGCCTTC
CACACGGATGGTGGCGCGGTTGATGCCTGCGATTTCGCCGTCGTCTTCTTCAAGGATTTC
GATTCTGAAGCCTTTGCGCTCGGCGTAGCGGCTGTACATACGGAACAGCATACCCGCCCA
GTCTTCCGCTTCCGTACCGCCCGCGCCTGCGGTGATGTCGATAAAGCAGTTGTTCGGGTC
GGCGGGCTGGTTGAACATCCGTTTGAACTCCAAATCCGCCATCGTTTTTCCAGCCCCGC
TACGTCTTCCTGCACGGCGGCAAAACCTTCTTCGTCGTTTTCTTCGACGGTCATTTCAAT
CAGCATGCGGTTGTCTTCGATGCCCGAAGCGATGTTGTCGAGCGTCAACACGATGCCTTC
GAGGATTTTGCGCTCTTTGCCGATTTCTTGGGCGCGTTTCGGGTCGTTCCAAAGTTCGGG
GTCTTCGGAAAGACCGATAACTTCTTCCAATCGGTCTTTCTTACCCTGATAATCCATATA
AACTCGGATGTCTTCGCTGCGCTTTTCCAAATCGTTCAGGGTATTGTTGAGCTGGTTGAT
TACTTCGGCTTCCATGATTCTTTTGTTCTTTCAAAATTTTAGGGGCGTATTGTACGGGAT
TCGGGTATTTTTTTCTATGGATAAAGCCTTCTGGAAACACGTTCAGACGGCATAGCGTCA
ATAACGGTATGCCGCCAGTTTGCGTTTGATTTCAGGCAATGCGGCACGTGCTGCCTCCTC
ACCCAACCGGATGGCGCGTTTTTTCTGATCGAATCCGCCGACTGCACCCAAATCCAAAAC
CTGCGGTTTGATAACCACATCCGCCTGCCCCAACTCATTTTGCAACGCAGAAACGCTCAT
TACGTTCAGCGTCTGATCGAGATAAGAGAAGAAACCTTGGCTGATGTTTTTGCCCGGACG
GGCGGAAATATCGACGGCAATCACGAAATTCGCCCCCTGCCGCCGGGCGGCACTGACGGG
CACGGGCTGCGACAGACCGCCGTCAACATATGTATGCCTGCCGATGATAACGGGTTGGAA
CACATTGGGAATGGCGGCGGAAGCGCGCACAGCCTGCCCGGCATTCCCCTGATTGAAAGC
GACGGCCTTGCCGGTTTCAAAATCAGTAGCAACGGCGGCAAATTTGATGGGAAACTGCTG
AATCTGCCTGCCGCCGACTTTTCGGTTGATGTAATTTTGCAGCTTTTCGCCTTTGATAAA
ACCACTGGTGGACAAGGTTAAATCGACCAAATCGGTTTTGCCTAAAATTTCGGCTTCCAA
TTCGAGGCGGTCGGGCGACATACCCGATGCAAAAAGGCTGCCGACAATCGAACCTGCCGA
TGTGCCGGTAACCACCTTCACAGGAATACCGTTTTCTTTCAAAACCTTAATAATACCTAC
ATGGGCAAATCCTTTAGATGCGCCGCCACCGAGTGCCAAACCGACCACTGCGGCGGGTTT
GGCGGTTTGCACCGGCTTGCGGACAGCATTATTTCCCGCCGTGCCGCAGGCGGCAAGCAA
CGCGGCGGCGGCGATTGCCAAAAGCGGTCTGATTTTTGAAAACGTTACCATATTTTCCAT
TCCTTTATATATCGCACCCCGTCAAAAAGAGGGATTGCTTTTCTTAACACCCCCCTTTGA
CAGCCAAGCAAATGGGGGCTTTGTTAAGTCATCATCAAAATTAATATTTCTTTTTTTTTT
CCTTTACGGAAATTATATTTGAAGGCATACTATCCAAGGCGGGAATTATCTCACAACACC
GCCGTTATCCAAATATCCCGCCTTTTTCCCTTTCTTTCCATCAAAATACTTTCTTTTTAT
ATTCATTAACTTGTTAAATCATTGGCTGCCGGGTGTCAGTTTTTCCGACAAAATCCGTCT
AATGGGGTATCAACAGAACCAAAACAGGAACACTTATGAAAATCGGAACAACTTGGCAGA
CGGCATCCGCTATGCTGGTTTTGCGTCTGTTTGCCGCATATGAATTTTTGGAATCGGGTT
TGCAAAAATGGAACGGGGAGAATTGGTTTTCCGAAATCAACGATCAGTTTCCATTCCCGT
TCAACTTGCTGCCGGACGCGTTAAACTGGAATCTCGCCATGTATGCGGAGCTTTTGCTGC
CCGTATTGTTGCTTTTGGGTTTGGCAACGCGTCTGTCGGCATTGGGGCTGATGGTCGTTA
CCGCCGTCGCTTGGGCTGCGGTTCACGCCGGTTCGGGTTACAATGTCTGCGACAACGGTT
ATAAAATGGCTTTAATTTATATCGTGGTATTAATCCCGCTGCTTTTCCAGGGTGCGGGCG
GATGGTCGCTGGATACGCTGCTGAAAAAACGGTTTTGCCCCCGATGCCGTCTGAAACAAG
ATTGATTCAGTCGTGGAATCTGACTTTAAACATTCCAACCTTATCTCGTTAACTTGATAT
TTTGAAAAGGAAATGACATGAACAAAAACATTGCTGCCGCTCTCGCCGGTGCTTTATCCC
TGTCTTTGGCCGCCGGTGCAGTTGCTGCCAACAACCGGCAAGCAACGCAACAGGCCGTTC
ATAAAATCCGCCCATGGCTCTTGCGGCGCGTCCAAATCTGCCGAAGGTTCGTGCGGCGCGG
CTGGTTCTAAAGCAGGCGAAGGCAAATGCGGCGAGGGCAAATGCGGTGCGACCGTAAAAA
AAACCCACAAACACACCAAAGCATCTAAAGCCAAGGCCAAATCTGCCGAAGGCAAATGCG
GCGAAGGCAAATGCGGTTCTAAATAATCCCACCCCTTCAAACCAAGCCGCGTTTTTCAGT
AAAATGCGGCTTTTTTAACGGCAAACAAAGATTTTTTAACAAGCACATCATTCTTTTGTG
CCATCCGAACCGGGTAAAAATATGATTCAACACGCAGGCTTGGGCTACCGCCGCGACTTG
GCGGAAGACTTTCTCTCGCTTTCCGAAAACAGCCCGATATGCTTTATCGAAGCCGCACCG
GAAAACTGGCTGAAAATGGGCGGCTGGGCGCGCAAACAGTTTGACCGTGTGGCGGAACGG
CTGCCGCTGGCGTTGCACGGATTGTCTATGTCGCTGGGCGGGCAAGCACCGCTGGATACT
GATTTGATAGACGGCATCAAAGAAATGATGCGCCGTTACGATTGCACGTTTTTCTCCGAC
CATTTGAGCTACTGCCACGACGGCGGTCATCTTTACGATTTGTTGCCGCTGCCCTTTACC
GAGGAAATGGTGCATCATACGGCGCGGCGTATCCGCGAAGTGCAAGACCGTTTGGGCTGC
CGCATCGCCGTGGAAAACACGTCCTACTATCTGCATTCCCCGCTTGCCGAGATGAACGAG
GTCGAGTTCCTCAACGCCGTCGCACGTGAGGCCGATTGCGGCATTCATCTGGATGTGAAC
AATATCTACGTCAACGCCGTCAATCACGGTCTGCTGTCGCCGGAGGCTTTTTTGGAAAAT

```
GTGGATGCAGAGCGCGTGTGCTATATCCATATTGCCGGACATGACGTGGAAACGCCGGAA
TTGTTGATTGATACACATGGCGCGGCAGTTTTGCCGACTGTTTGGGACTTGCTCGAACTT
GCCTATGCCAAGCTGCCGACGATTCCGCCCACCCTGTTGGAACGCGATTTTAATTTCCCG
CCTTTTTCCGAACTCGAAGCCGAAGTCGCCAAAATCGCCGATTATCAAACGCGTGCCGGA
AAGGAATGCCGCCGTGCAGCCTGAAACCTCCGCCCAATACCAGCACCGTTTCGCCCAAGC
CATACGCGGGGGCGAAGCCGCAGACGGTCTGCCGCAAGACCGACTGAACGTCTATATCCG
CCTGATACGCAACAATATCTACAGCTTTATCGACCGTTGTTATACCGAAACGCTGCAATA
CTTTGACCGCGAAGAATGGGGCCGTCTGAAAGAAGGTTTCGTCCGCGACGCGTGCGCCCA
AACGCCCTATTTTCAAGAAATCCCCGGCGAGTTCCTCCAATATTGCCAAAGCCTGCCGCT
TTTAGACGGCATTTTGGCACTGATGGATTTTGAATATACCCAATTGCTGGCAGAAGTTGC
TCAAATTCCGGATATTCCCGACATTCATTATTCAAATGACAGCAAATACACACCTTCCCC
TGCGGCCTTTATCCGGCAATATCGATATGATGTTACCGATGATTTGCATGAAGCGGAAAC
AGCCTTGTTAATATGGCGAAACGCCGAAGATGATGTGATGTACCAAACATTGGACGGCTT
CGATATGATGCTGCTAGAAATAATGGGGTTCTCCGCGCTTTCGTTTGACACCCTCGCCCA
AACCCTTGTCGAATTTATGCCTGAGGACGATAATTGGAAAAATATTTTGCTTGGGAAATG
GTCAGGCTGGACTGAACAAAGGATTATCATCCCCTCCTTGTCCGCCATATCCGAAAATAT
GGAAGACAATTCCCCGGGCCAAAACCATCTATCCGCATAAAATTACCTTGTTCCCGATAC
TATGCCGCTACCCGACCTGACCGATGCCGAATTAATAGAGTCGCGTAAACTGCTTCTGCA
TTTTGCGCGGCTTCAGTTGCCCGACCACCCTGATTGGCTGAAGATTAGTGCAGGAAAC
ATTGCTGTCCGCATACAGCGCAGGCGACAGTTTTCAAGGCAGGGCACTTGTCAACAGCTG
GCTTTTTGCCATATTGAAAAACAAAATTATTGACGCATTACGTCAAATCGGAAGGCAGAG
GAAAGTCTTTACCACACTGGATGACGAGCTACTGGATGAAGCATTTGAAAGCCATTTTTC
CCAAAACGGGCATTGGACGCAGGAAGGGCAGCCGCAACATTGGAACACTCCGGAAAAATC
ATTAAACAACAACGAATTCCAAAAAATTCTGCAAAGCTGCCTATACAACCTGCCTGAAAA
CACCGCACGGGTATTTACCCTGAAGGAAATACTCGGTTTTTCATCCGACGAAATACAACA
AATGTGCGGTATCAGCACGTCCAACTACCACACCATTATGCACCGCGCCCGAGAATCATT
GCGCCAATGCCTGCAAATCAAATGGTTCAACCAAGAAAACCCGAAGTAAACGTTATGAAA
AAATGCCGCGATATCGCCCTGCTTCTTTCCAAACATCAGGACCGGGAAACCACCCCGGGC
GAGAAGATTTCCATATACACACACCTGCTGTTCTGTCCGTATTGCCGTGAATATAAAAGA
CAACTTCAAACCATCAAAAGATCACTGGCAAAAACAACCAGAACTTCAAAATAAATGCCG
TCTGAAAAGGCTTCAGACGGCATAAGCTGACGGAAACAAATCAAACCGATTTACTGTTAT
CTGCAGTTCATCCATAATACACACTTCAAAAGCAGCATATTTCCCCATACGGAATGTATA
AATACGCAAAATACGAAGGCTGCATCAATTTGCCATATTTGCTTTATTTGCCTTATTTCA
CAGACGGCGCTACCCCTCCCGCCCAACCCGTTCTTTCTGAATGAGCAGATTTCAATGATT
AAGGAAACCCTAATGCGCCCAATCTTCCTATCTTTCGTTTTATTCCCTATTTTGATAACC
GCCTGCAGCACACCGGACAAGTCTGCCCGATGGGAAAATATCGGCACAATCTCAAACGGC
AATATTCATACATATATCAATAAAGACAGCGTGAGAAAAAACGGAAATCTGATGATTTTC
CAAGATAAAAAAGTTGTTACCAATCTAAAACAAGAACGTTTTGCCAACACCCCCGCATAC
AAGACTGCCATTGCCGAGTGGGAAATCCACTGCAACAACAAAACATACCGCTTAAGTTCG
CTACAGTTGTTTGATACAAAAAAACACGGAAATTTCCACACAAAACTACACAGCCTCTTCC
CTCCGCCCGATGAGCATCCTGTCCGGGACATTAACCGAAAAACAATATGAAACCGTATGC
GGAAAAAAACTCTGATTGCAACTTATACACAAACTTACCCACAAACCTTATCATAAAAAT
GCCGTCTGAAATACTGAAATATCAGCATTTCAGACGGCATTTTGCCATTCCCTGAAAATT
ATCCACAAAGTTATCCACATTATTTTTTAAAACCGGCTTCCATCCGAAATATAGTGGATT
AACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGCAAGGCGAG
GCAACGCCGTACTGGTTTAAATTTAATCCACTATATAAACTCGCTATACAATTTCACTAT
CCAAACGTAAATTGTTCCATTGATACACAAAACTGCTTACCCCCATAATTTTGATAAAGC
ATTTCTTACATTCCCGGCTCCGTCCCGTAACCAACACAGCGGCGGATTCGCATTTGAAGT
GCAACTTTCCCTAACAGAAAAAGGCCAGTATGCGGTAGCATACGACCTTTCCTGCAAGAA
AGATTGCCATGAGCTACACGCAACTGACCCAGGGCGAACGATACCACATCCAATACCTGT
CCCGCCACTGCACCGTCACCGAAATCGCCAAACAGCTGAACCGCCACAAAAGCACCATCA
GCCGCGAAATCAGACGGCACCGCACCCAAGGGCAGCAATACAGCGCCGAAAAAGCCCAGC
GGCAAAGCCAGACTATCAAACAGCGTAAGCGACAACCCTATAAGCTCGATTCGCAGCTGA
TTCAGCACATCGACACCCTTATCCGCCGCAAACTCAGTCCCGAACAAGTATGCGCCTACC
TGTGCAAACACCACCAGATCACGCTCCACCACAGCACCATTTACCGCTACCTTCGCCAAG
ACAAAGCAACGGCAGCACGTTGTGGCAACATCTCAGAATATGCAGCAAACCCTACCGCA
AACGCTACGGCAGCACATGGACCAGAGGCAAAGTACCCAACCGTGTCGGCATAGAAAACC
GACCCGCTATCGTCGACCAGAAATCCCGTATCGGCGATTGGGAAGCCGACACCATTGTCG
GCAAAGGACAGAAAAGCGCATTATTGACCTTGGTCGAACGCGTTACCCGCTACACCATCA
```

```
TCTGCAAATTGGATAGCCTCAAAGCCGAAGACACTGCCCGGGCAGCTGTTAGGGCATTAA
AGGCACATAAAGACAGGGTGCACACCATCACCATGGATAACGGCAAAGAGTTCTACCAAC
ACACCAAAATAACCAAAGCATTGAAAGCGGAGACTTATTTTTGTCGCCCTTACCATTCTT
GGGAGAAAGGGCTGAATGAGAACACCAACGGACTCATCCGGCAATACTTCCCCAAACAAA
CCGATTTCCGTAACATCAGTGATCGGGAGATACGCAGGGTTCAAGATGAGTTGAACCACC
GACCAAGAAAAACACTTGGCTACGAAACGCCAAGTGTTTTATTCTTGAATCTGTTCCAAC
CACTAATACACTAGTGTTGCACTTGAAATCCGAATCCAAGAGCCTCTAAAAAATAATCGC
TTGTTTTGACACCGATACACTCATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAA
GCCGCAGACAGTACAAATAGTACGGCAAGGCGAGGCAACGCCGTACTGGTTTAAATTTAA
TCCACTATACAAATACAGAAACTCAAGAAAATAACCTTGTGTATTGACCATCTCAAGCAA
TTCAGAAAAATCAAGAAATTTTCTGACCGTAAACAAACGTTTCCCTAAAAAAACGATGTC
TTCAAAAATATCGAACAAATAGAGACCTTTGCAAAAATAGTCTGTTAACGAAATTTGACG
CATAAAAATGCGCCAAAAAATTTTCAATTGCCTAAAACCTTCCTAATATTGAGCAAAAAG
TAGGAAAAATCAGAAAAGTTTTGCATTTTGAAAATGAGATTGAGCATAAAATTTTAGTAA
CCTATGTTATTGCAAAGGTCTCAAATAATCATCTTCGGCGTTTTCATTTTTATGGATTAA
AACAACACGGGAAAAATCTGTTTTCAGATGCTTGCCCGCTTGATTGTTCGGATTATTGTC
CGGAACGACAAAACCGTCCTCAAAATTAAAGCAGACGTTGCGTCCTTCTACCTTTATCTC
TGTGCAATAACAATCATGTAGAGAAATGCTATCCGAAAAATTTTTTCTTTGTGTATGCAA
AAAAAGTTTTCATTCAAGTACCCATATCTAACGCAAACGTTTACCTGTTTCCCCGTCAAT
AATCTGACTCGGCGATTTCTGCCTGCCGATTCTCCCACCAACAATCCACACATCGCGTCC
GAATTGCCTTCTGACTTCCCTCTCCGTCCGACACGCGCGTTTGCCTGCGCGGTTGCACGA
AGTCGAGACCAAAGGCGTTTGCAAAGCCTGACACAAGCGGCGCGCACCTACATGGGCGGG
AACCCTGACCGCCAACTTGCTGCGCTGTTTCCCGCGTAACTCGGGTAAGACACAGGATTT
GGCGGATAATAGGAACGTTTTAGGGGCGGGCCATTCTTTTCTAAGCATATCCTGAAGATT
TTCAGACGGCATTTGAAGTAAAGGCTGCAATTGTTCAAATTGATTCCCGATGACAATCAT
ACCCTTGTGTTGCGGTCTTTTTTTCAAATGCGCCAACTTACCGAGTGCTTTGGCTAATGT
CGGAAGACACCCCAAGCCATAACAAGATTCGGTCGGATAAGCGACCAAACCACCTTTTTT
CAAATAAACGCTTAACTTACGTTGCGCTGATGCTGCGATAATTCTCGGAAATAACATAAT
ATAAAATACCGTCTGAAGCACATTAGTCATACTTGGCTTCAGACGGCATCATCCTCTTTC
TAATTAACGGTTAATCGCTTTATCGGCAATGTCTTTACGGTATTGCATCCCGTCGAAACT
GATTTTTTCCAACGCGCCATATGCCTTAGCTTTCGCTTGCGCCACATTATCGCCCAATCC
CACAACACACAATACGCGTCCGCCGTTGGTCAATACGTCACCTTTCTCGTTTGCCGTTGT
ACCTGCATGGAAAACTTTGCCGATTTGGTTGGCAGCATCCAGACCGGAAATAATATCGCC
TTTTTTGGGCGTTTCGGGGTAATTTTGCGCCGCCAGTACCACGCCCACGGCAGTTTGCGG
GCTCCATTCCGCGGTTACGCTATCGAGTTTGCCGTCTATTGCCGCTTCAACCAAATCCGA
TAAGTCGCTGTTCAGTCGGCTCATAATCGGCTGGGTTTCAGGATCGCCGAAACGGCAGTT
AAACTCAATCGTATAGGGTGCACCGCTTTGATCAATCATCAAACCTGCGTACAGGAAACC
GGTGAACTCATGCCCCTCCGCTTTCATCCCTGCTACGGTCGGCAAAATAATTTCATTCAT
CGCGCGTTCGTACACAACAGGCGTTACCACAGGCGCAGGGCTGTACGCACCCATACCGCC
CGTATTCAGACCTTTGTCGCCGTCTAAAAGACGCTTGTGGTCTTGGCTGGTTGCCATAGG
CAGTACATTATTGCCATCAACCATGACGATAAAACTCGCTTCTTCGCCTTGCAGGAAATC
TTCAATTACAACACGCGCGCCGGCATTGCCCATTTTGTTGTCCAGCAGCATATCATCAAT
CGCAGCATGCGCTTCATCCAAAGTCATCGCCACAATCACGCCTTTACCTGCCGCCAAACC
ATCGGCTTTGATAACGATAGGCGCACCTTTCTGATTGACGTAATCATGTGCGGCATCGGC
GTTTTCAAAGGTTTGATATTGCGCGGTCGGAATATTGTATTTCGCCATAAATGCTTTGGC
GAAATCTTTGGAACTTTCCAACTGCGCCGCATATTGTGTCGGACCGAATATTTTAGTCC
TGCAGCACGGAAATCATCCACAATACCTGCCGCCAAAGGCGCTTCAGGGCCGACGACGGT
AAAAACAATATTTTCTTTACGACAGAATTCAATCAAATCCTGATGCGCAGTCAAGTCGAT
GTTTTGCAACTTGGGTTCAATCGCTGTACCGGCCATTACCAGGCGCAACAAATACTGTTTC
CACTTTAGGCGACTGCGCCAATTTCCAAGCCAGCGCGTGTTCGCGACCGCCATTACCGAT
AACCAGCAGTTTCATACCATCTCCTTGACAAATATGTACTTTTAACGAAAACTCGATACA
AAGGGACTTTTATCCCATCTGAAGAAATTTTAGTAGAATCAAACAAAAGACCGCTTCATT
CCACTCTGCAACCTATTCAACTTATCCATAAATTAAAAAAGGACAAGCAACCATGCAAAA
ACGTATTGATGAAATCCAAAGCAAATACCGCGAATGGTGTCATTTACTACCGCAACTGGA
AGAAGACATCCGCCGTTGGAAACATGTCGTCACTTTAATTCGCGACATGGACAATTTCTA
TACCCACGAGTATCAGGCGTGTCATCAGGCTATTGAAGACGGGGTAGAACTGGATTTGAG
TACGGAAGGCGAATACAGCATTATGAGTGAAGATGCGCTATGGAACGCGCTGGGCGAATT
CCATCAATTGGCTTGGTTATATTTGCGCTCCAGCGTCGATGCCTTAGACAAATATACACA
AGAAGATTAGTCAGCGAAGAGGTCGTCTGAAATACCATCACAAAGCATTTCAGACGACCT
```

```
TTCATTCAAAAGGCTTTTCCGTATTTACTTCAATCTGCCGAGTATTCTTCCAAGCCGCAA
CACAGGCCTCATAATTTACCAACGACAAACTGACCGTCAATCGGCAATCCAACTGCAAAT
CCCGCTCCAATATATCCGCCTGATATTGTTTGGCAATGCGTATCGCTTCATTCAAAAACG
GATATTCACATTTCAGCCAAACAGTTTTTTCAATATTCTTTTCAACTACTTCTGCAACTG
CCAACGCTTGAGCCGTCGCCTCTTTGTACGCATGTATCAGACCTGGAACACCTAACAAAG
TACCACCGAAATAGCGGACGACCACAACCAAAACGTCGGTAATACCCACCGAATCAATCT
GTCCCAAAATTGGTCGTCCAGCACTTCCTGATGGCTCTCCATCATCGTTGGCACGAAATT
GCACACCATCCACACCCAAACGATAGGCATAGCACCAGTGTCGTGCTTTATGATGCTCTT
CCTTTAACGGATCGAGGTATTTTTTCACATCAGCCAATGTCCGAATCGGATAGGCAAATG
CAATAAAACGGCTGCCTTTATCTTTAAACTCAGCCTGCGTCAAGGAAGTAATGGTTTTAT
AAGTCGTAATCATGCTGAAATGTTTTCAGACGACCTCATTAATAACAAGGTCGTCTGAAA
GTTTCACGTGAAACATCAATTTTTCAATACTTCTGTTAATTGTGGAACGATTTCAAATAA
ATCGCCAACCAATCCGTAATCGGCTACATTGAAAATCGGCGCATCAGCATCTTTATTGAT
TGCAACAATCACCTTACTGTCTTGCATACCGGCAACGTGTTGAATTGCACCTGAAATACC
GATTGCAAAATAGAGTTGCGGCGCAACCACTTTACCGGTTTGTCCGACTTGAGCATCGTT
TGGCGCATATTCGGCATCAACTGCTGCACGGGATGCACCGATTGCCGCACCTAAAACATC
CGCCAACGGTGTCAGCACTTCATTGAATTTTTCCGCACTACCCAACGCACGACCACCGGA
AACAATCACTTTTGCCTGAGTCAGTTCAGGACGATCGGAATGGGAAAGCTGACGGTTAAC
AAAACGACTCAGGTTTTGGGCAGGGGTTGCTTCAACATTAATTACCTCAGCATTACCACC
TTGCGCCGCCACTGCGTCAAAAACCGTCGCACGGAAGGTCAGCACCAATTTTTCTGAATC
AGCTTGCACGGTTTCAAATGCATTACCCGCATAAATGGGGCGCACAAAAGTCGTGTTATC
CACAATTTCGGTCAAATCAGAAATTTGCGGTACGTCTAATAAGGCTGCTACGCGGGGCAA
AAGGTTTTTACCGAATGTGGTTGCCGTTGCTGCAACATAGCGGTAATCGGCCGCCAATTT
AACAACCAGCGGAGCCAACTCTTCAGCCAAACCTTCGGCATAATGAGCAGCATCTGCAAC
CAAAACTTTTTTCACCCCCGCTACTTGCTTCGCGAATTCCACTACAGCAGATGCGCCGTT
TCCGGCAACCAATAAATCGACTTTGCCCAGTTTGGCGGCAGCGGTAACAGCATGCAAAGT
GGTAGGATTCAACTGTTTGTTGTCGTGTTCGACAATAATCAATACACTCATTTCAGCCTC
CTCAAATCACTTTGGCTTCGTTTTTCAATTTTTCAACCAATTCGGCAACGCTTGCTACTT
TTACGCCTGCCTGACGCGCCTTAGGTTCGGCAAATTTCACCGTTTTCAAACGAGGTGAAA
TGTCGGCAACCAAATCGTCAGGAGTCAGTTTTTCCAAAGGTTTTTTCTTTGCCGCCATAA
TATTGGGGAGTTTGACAAAGCGCGGCTCGTTCAAACGCAAATCCGCGCTGATAACAGCAG
GCAGTTTCAATGCGATGGTTTCTTCGCCGCCATCGATTCCCGCACAATCTGCACTTCGT
CGCCTTCAATTTGTACTTTGGACGCGAACGTACCTTGCGCCGCATTCAGCAAAGCTGCCA
GCATTTGCGCCACTTGATTGGCATCATCATCAATCGCTTGTTTGCCCAAAAAGAAAATTT
GCGGATTTTCTTTGTCCGCAACGGCTTTCAGCAACTTAGCAACGGCCAGAGACTCCAGTT
TAGTATCGGTTTCAACATGAATGGCACGGTCGGCACCCATCGCCAAAGCTGTACGCAAGG
TTTCTTCGCATTTTTTCTCACCCAAAGAAACCGCTACGATTTCGCTTACTTTTCCGGCTT
CTTTCAAACGGACAGCTTCTTCCACAGCGATTTCGTCAAACGGATTCATCGACATTTTGA
CATTGCCGATATCCACATCCGAACCATCGGCTTTTACACGAACTTTGACGTTGTAGTCCA
CTACGCGCTTTACTGCGACCAGTGCTTTCATTGAACCCTCCTAAAAAGAACGCTGCTTTC
ACCATCCAGCGAAACCAAACCTTCTTCCCTATAAAACCAAATCCGTTTTCCTTAAAAACG
AATTCATTCAAAAATCTTTCGGATAATGCTTGCCGATTATACCATTTTTAAAGCATTTAC
TCAGACTAGCGGATATACATTCCTGTATCTAATAAATTGGAAAATATCATGCCGCCATAT
CAGTTTTAGACGACCCTTTAGCCTTTATCTGCTGCAACACAATCCATCAGCGCTTGATAA
ACCAAATCTGCGGTCGGAATCTGCCCGATATTGCCCAAATTTTTTGCAATTGGCGAAACC
TGAACGCCTGTTTTAATCGGATCGGTATCGGTATAAATGCCGACCACAGGTTTTTCCAAG
GCATTTGCCAAATGCAGCAAACCGGTATCCACGCCGACAATTCCGACCGCGTATTTCAGC
AGATACGCTGCCTGCAATAAATTTATTTTGTCGCACACAATAGCAAACGGCAGCCCATCT
GCAATTTGTTTGGCACGCGTTTTTTCATCTTCATTTCCCCAAGGCAGGTAAATATTGCAT
TGCTGTTCTTCATTCAACTTTTGCAGCAACGACCGCCAGTTTTCCACAGGCCATAACTTA
CTGTCCCGACTGGTCGCATGCAAAGCCGCATAATACGGCTGCGCTAAATTTTTCAGACGG
CCTGCTTCAGGAACAGTCAAGCCAAATACCTGCGTTTCCGGCATTACATACCCAAATACT
TGGGCAAACAGTTCACGGTTGCGCCAAACGGCATTTTTTCCCTTCGGTACAGCGTATGTT
TTTACATACGCCAAAGCAGCCCATCCCTCGCGCGCACTGTTTTATCCAAACCACAAATC
GGGGATTTTGCCATTTTAGCGAAACACGCGCTTTTAATCAGACCTTGACTGTCCAATACG
AAATCAAATACTTCCTGCCGCAAAGTCTGTTTCAGATGACCCATTTCCCGCCAAGTTTCA
GCCCGAAAGAGATGTTTGCGCCCATTGCCGCCGCCATTTCATCACATGGATTTTTTTTACAAAC
GGATGCAGGCGCGCAATATCTGCAAATCCAGCCTCACATAGCCAATGCAGTTCTACATCA
GGACATTGTCGCGCCAAATCTTCGATTGCGGGCAAAGTGTGAATTAAATCGCCCATACTA
```

```
GACAAGCGGACAAGCAAAATTTTCATATTTAGGAAGGGGGTTTCACGTGAAACAATTTTA
ACTTATTGATTATTAATATATTTATTTATTTCATCAGCGTTTTTTAAGATGATTGCCCCA
GCAGAATGCATTTCCTGCCATGCTGTTTCGATGGTTTCCGGCGCAATACCCCGACAAGCC
GCTTCATTGACGACAACCTGCCAACGACCGCCTTTGAGTAACTGCAAAACCGTTGTTTTA
ACACAATAATCCGTAGCTAACCCACCGATAATAACCGTATCCGTATTTTGACAACGCAGC
CATTCAATCAGCCCTGTGCTTAGTTTTTCCTCAATATCGTGAAAACACGCGCCGTAAGGA
TGCAATTCAGGATCAACACCTTTCCAAACGCAATAATCGTATTCTTTAGCAGAAGGCAGC
CCGTCCAATAATTCATAGCCGCGCGTACCGACCATCGCATGAGCCACCCAAGTCAAATCC
GCATCAGGCAAACCTGTCGGCTTCAACATATCAACAGGGTTATCCACAAGCCATTTCGCT
ACCATATGATGCGCATCTTTCGTCATCACGCGCAAATCCGCCAAAGCGGCTTGCGCATTC
AACTCCTCGACAATCAAATGCCCCTCGTTCACGGGCAGTTCGTCAGGACACAGTGGCGTA
AACGTTTTTTGTGCATCAACATCAATGGAAACAATCATCTCATTATTTCAACGCGATTAA
AATGCCCTGTATTATAACAAATTACTGCCCAAAAGCGGTAAAACCGATTGTGATAAGATA
AGGTTTTTCCAAAAAACTTATCCACAACCTTATGACTTATACCATTACCCCCATCGGCAC
CGCCCGCTCGCCCTACAAACAGAAATTCGGCATCGCCCGCCAGCCCGGTTTGGTCTCCGC
CGCAAAAGCCTGCATCGAGCTGAATCCCAAATTCACCGCAGACAGCGTGCGCGGGCTGGA
AGATTTCGATTATGTGTGGATAAGTTTTATTTTTCACGGCGTATTGGATGAAGGCTGGGC
GCAAATGGTGCGCCCGCCACGGCTCGGCGGCAAACAAAAAATGGGCGTGTTCGCCACGCG
CAGCCCCCACCGCCCCAACCATCTCGGACTCTCGCTCCTGAAACTCGAACGCATCGAAAC
CGGCAAACCCGTCCGCCTCTATTGCAGCGGCGCAGACCTGCTGGACGGCACACCGATTGT
GGACATCAAACCTTATATCCCCTTTGTCGAATCCAAACCCGATGCCGCATCCGGTTTCGT
CAGCGGCAAACCCGTAGAGTTGGAAGTCGTTTGGCAGGAAAACATCGGCGCGGAAAATTT
ATCTGCAAACACCAAAAACCTTATCAGCCAAAGCATTGCCCAAGATCCGCGCCCCGCCTA
TCAGAATATTCCCGAACGGATTTATGTGATGAATATTGCAGATTACGAAGTCAGATTTCA
AATCGAGGAAAACCGTGCAACCGTTATTGATCTTTCCCCAACCCCGCTTTAAATCGGGCA
AAAATCCGGTTTTGCCGCATAGCAGTTGAACAAACGGCTGTTGTTTGTTCGCCATAAGCC
GCAATATCAAGTTATAGCGGATTAAATTTAAATCAGGACAAGGCAACGAAGCCGCAGACA
GTACAAATAGTACGGCAAGGCGAGATAACGCCGTACTGGTTTAAATTTAATCCACTATAC
AGATAAACAATGCCGTCTGAACGCAATGTGTTCAGACGGCATTTACTTATCCACAGGTTT
GTTCAAGCCTTAGATTTTGCCTGCGAAGTATTCCAAAGTGCGGACGAGTTGGCAGGTGTA
GGACATTTCGTTGTCGTACCAGGCAACGGTTTTCACCAATTGTTTGCCGCCCACGGTCAT
CACGCGGGTTTGGGTCGCATCGAAGAGCGAGCCGTATTCGATGCCGACAACGTCGGAAGA
AACGATTTGATCTTCGTTGTAGCCGTAAGATTCGCTGGCGGCGGCTTTCATCGCGGCGTT
GATTCTTCTTTGGTTACAGGGCGTTCGAGGATGGAAACCAATTCGGTCAGCGAGCCGCT
GGCAACAGGGACGCGTTGGGCGGAGCCGTCGAGTTTGCCGTTCAATTCGGGGATAACCAG
ACCGATGGCCTTGGCGGCACCGGTGCTGTTGGGCACGATGTTGAGCGCGGCGGCTCGGGC
GCGGCGCAAATCGCCTTTGCGGTGCGGCGCGTCAAGGGTGTTTTGGTCGCCGGTGTAGGC
GTGGATGGTGGTCATCAGACCTTCGACTACGCCGAACTCTTTTTGCAGGACTGCCGCCAT
CGGGGCAAGGCAGTTGGTGGTGCAGGAAGCGGCGGAGATAACGGTTTCGCTGCCGTCCAA
AATGTCTTGGTTTACGCCATATACGACGGTTTTCACATCATTGCCGCCGGGTGCGGAAAT
CACGACTTTGCGCGCGCCGGCCCTGATGTGTGCTTCGGCTTTGGTTTTATTGGTAAAGAA
GCCGGTACATTCGAGGATGACATCCACACCCAACTCGCCCCAAGGCAATTCTTCGGGATT
CGGATTGGCAAAAACTTTGATCTCTTTGCCGTTTACCACGATGGCATCGTCTTTTAATTC
GGCAGTACCTTGGAAACGGCCTTGTGTGCTGTCGTATTTGAAAAGGTGCAGCAGCATTTC
GGCAGGGGTCAGGTCGTTGACGGCGACGACTTCGATGTCGTGGGCTTTTTCAATTTGACG
CAATGCGAGGCGGCCGATGCGGCCGAAACCGTTAATCGCTACTTTAATGCTCATGTATAT
ACTCCAAGCTGTGAAACGAAATTTCAATACCTGTATTGTATTCTGAAATAAAGTTACATT
CCACTATTACATCTAACTACTTGCCGCTTATTTGATATAGATGAATTTTACTGTTTGCAC
AGATTTCCAAAACTTTTACCATCAATATTTGAATTTAAAATTTTAATGATGATTTTGATG
ATTGCCAACCTGCTTGTGCGTAAGTAGCAAATATCCAATATTTTCATTACCTTTTTGTCA
AATAAGTTTGAGTTTAAGACTTGCTGTATAAGACAGATAAGCGTGGATGTTTTTTGACTT
AATAATATTTCTGTGGATAACTTTGCTGTTTTCCTAGTTGTCTCCACAACCTTATTGACA
GGCTTACGGTCAGTCTCATTCCGTCGAAGACAAAACCTTTTGCTACAATACCGTTTTCCT
AATGATAAGGCAGCCCCATGTCCAAATCCGCCGTTTCCCCAATGATGCAGCAATACCTCG
GCATCAAAGCGCAACATACCGACAAACTGGTGTTTTACCGTATGGGCGATTTTTACGAGA
TGTTTTTCGACGATGCGGTAGAAGCGGCAAAACTTTTGGATATTACCCTGACCACGCGCG
GACAGGTGGATGGCGAGCCGGTCAAAATGGCAGGCGTGCCGTTTCACGCCGCCGAACAAT
ATCTGGCGCGCCTGGTCAAGTTGGGCAAAAGCGTGGCGATTTGCGAACAGGTCGGCGAAG
TCGGCGCGGGCAAAGGGCCTGTGGAGCGCAAAGTCGTGCGCATCGTAACGCCCGGCACGC
```

-634-

```
TGACCGATTCCGCATTGCTGGAAGACAAGGAAACCAACCGCATCGTTGCCGTGTCCCCCG
ACAAAAAATACATCGGTTTGGCGTGGGCATCGCTGCAAAGCGGCGAATTCAAAACCAAGC
TGACAACTGTGGATAAATTGGACGACGAACTGGCGCGCCTGCAGGCGGCGGAAATTCTGT
TGCCTGACAGTAAAAACGCACCGCAACTTCAGACGGCATCGGGTGTTACGCGCCTGAACG
CGTGGCAGTTTGCCGCCGACGCGGGGGAAAAACTGCTGACGGAATATTTCGGCTGCCAGG
ATTTGCGCGGCTTCGGTTTGGACGGCAAAGAACACGCCGTTGCGATTGGCGCGGCAGGTG
CACTGTTGAACTATATCCGTCTGACGCAAAACCTGATGCCGCAACATTTGGACGGCCTGT
CGCTCGAAACCGACAGCCAATATATCGGTATGGATGCCGCCACGCGCCGCAATCTCGAAA
TCACGCAAACCCTCTCCGGCAAAAAATCGCCGACCCTGATGTCCACGCTCGACCTTTGCG
CTACCCATATGGGCAGCCGCCTCTTGGCTCTCTGGCTGCACCACCCTTTACGCAACCGCG
CCCACATCCGAGCGCGCCAAGAAGCCGTTGCCGCGCTGGAAAGCCAATACAAACCCCTCC
AGTGCCGTCTGAAAAGCATTGCCGACATCGAACGCATCGCCGCCCGTATTGCCGTGGGTA
ACGCCCGCCCGCGCGACCTCGCCGCCCTGCGCGACAGCCTGTTTGCCCTGTCCGAAATCG
AATTGTCCGCCGAGTGCAGCAGTCTCTTAGGAACCCTCAAAGCCGTTTTCCCGGAAAACC
TATCCACAGCCGAACAGCTCCGCCAAGCCATTTTGCCCGAACCTTCCGTCTGGCTGAAAG
ACGGCAATGTCATCAACCACGGTTTTCATCCCGAACTGGACGAATTGCGCCGCATTCAAA
ACCATGGCGACGAATTTTTGCTGGATTTGGAAGCCAAGGAACGCGAACGTACCGGTTTGT
CCACACTTAAAGTCGAGTTCAACCGCGTTCACGGCTTTTACATTGAATTGTCCAAAACCC
AAGCCGAACAAGCACCTGCCGACTACCAACGCCGGCAAACCCTTAAAAACGCCGAACGCT
TCATCACGCCGGAACTGAAAGCCTTTGAAGACAAAGTGCTGACTGCTCAAGAGCAAGCCC
TCGCCTTAGAAAAACAACTCTTTGACGGCGTATTGAAAAACCTTCAGACGGCATTGCCGC
AGCTTCAAAAAGCCGCCAAAGCCGCCGCCGCGCTGGACGTGTTGTCCACATTTTCAGCCT
TGGCAAAAGAGCGGAACTTCGTCCGCCCCGAGTTTGCCGACTATCCGGTTATCCACATCG
AAAACGGCCGCCATCCCGTTGTCGAACAGCAGGTACGCCACTTCACCGCCAACCACACCG
ACCTTGACCACAAACACCGCCTCATGCTGCTCACCGGCCCCAATATGGGCGGCAAATCCA
CCTACATGCGCCAAGTCGCGCTGATTGTTTTATTGGCACACACCGGCTGTTTGTGCCTG
CCGATGCCGCCACAATCGGGCCCATCGATCAAATCTTCACCCGCATCGGCGCATCGGACG
ACCTCGCCTCCAACCGCTCCACTTTCATGGTCGAAATGAGCGAAACCGCCTACATCCTGC
ATCACGCCACCGAACAAAGCCTTGTTTTAATGGACGAAGTCGGACGTGGTACTTCCACTT
TCGACGGCCTCGCCCTCGCGCACGCCGTTGCCGAACACCTGCTGCAAAAAAAACAAATCCT
TCAGCCTGTTTGCTACCCACTATTTCGAGCTGACCTACCTGCCCGAAGCCCACACCGCCG
CCGTCAATATGCACCTTTCCGCGCTCGAACAGGGACAGGACATCGTTTTCCTGCACCAAA
TCCAACCGGGTCCCGCCGGTAAAAGCTACGGCATTGCCGTCGCCAAACTCGCCGGCCTGC
CTGTACGCGCATTGAAATCCGCCCAAAAGCATTTGAACGGACTGGAAAACCAAGCCGCCG
CGAACCGTCCCCAACTGGATATTTTCAGTACCATGCCGTCTGAAAAAGGAGATGAACCGA
ATGTGGGCAACTTTGTGGATAAAGCAGAGGAAAAACATTTTGAAGGTATATTGGCAGCAG
CCTTGGAAAAACTCGATCCCGACAGCCTGACCCCGCGCGAAGCATTGTCAGAACTGTACC
GTCTGAAAGATTTGTGCAAATCCGTATCTTAATTTCCGTTGTCGGAACAGCATCAAACCA
TATGGAAAAATCTGTGGATAAACATTATCTGACAGGAAATTTCCAAACATAAAAAATGCC
GTCCGAACAGCTCAGACGGCATCCGTCCATTCGGCT
```